NW Natural®

250 SW Taylor Street
Portland, OR 97204

503-226-4211
nwnatural.com

May 29, 2020

VIA ELECTRONIC FILING

Public Utility Commission of Oregon
Attn: Filing Center
201 High St SE, Suite 100
Salem, Oregon 97301-3398

Re: UG 388 – NW Natural Request for Rate Revision
Reply Testimony

Northwest Natural Gas Company, dba NW Natural, hereby files its Reply Testimonies and Exhibits for docket UG 388.

Confidential information will be provided pursuant to Order No. 19-437 and will be distributed consisted with the instructions by Chief Administrative Law Judge Moser in his March 26, 2020 memo to stakeholders providing new procedures for filing confidential information.

Please address correspondence on this matter to me with copies to the following:

Eric Nelsen
NW Natural
Senior Regulatory Attorney
250 SW Taylor Street
Portland, Oregon 97204
Telephone: (503) 610-7618
eric.nelsen@nwnatural.com
OSB # 192566

eFiling
NW Natural
Rates and Regulatory Affairs
250 SW Taylor Street
Portland, Oregon 97204
Telephone: (503) 610-7330
eFiling@nwnatural.com

Lisa Rackner
Jocelyn Pease
McDowell Rackner & Gibson PC
419 SW 11th Ave, Ste. 400
Portland, OR 97205
Tel: 503-595-3620
dockets@mrg-law.com

Sincerely,

NW NATURAL

/s/ Zachary Kravitz

Zachary Kravitz
Director, Rates & Regulatory Affairs

Enclosures

NW Natural

CERTIFICATE OF SERVICE
UG 388

I hereby certify that on May 29, 2020, I have served by electronic mail the foregoing redacted version of the REPLY TESTIMONIES AND EXHIBITS upon all intervening parties of record for docket UG 388, NW Natural's Request for a General Rate Revision. The unredacted, confidential documents have been served to those who have signed General Protective Order No. 19-437.

OPUC DOCKETS
OREGON CITIZENS UTILITY BOARD
dockets@oregoncub.org

WILLIAM GEHRKE (C)(HC)
OREGON CITIZENS' UTILITY BOARD
will@oregoncub.org

MICHAEL GOETZ (C)(HC)
OREGON CITIZENS UTILITY BOARD
mike@oregoncub.org

MARIANNE GARDNER (C)(HC)
PUBLIC UTILITIES COMMISSION
marianne.gardner@state.or.us

STEPHANIE ANDRUS (C)(HC)
PUBLIC UTILITY COMMISSION
stephanie.andrus@state.or.us

EDWARD FINKLEA
ALLIANCE OF WESTERN ENERGY CONSUMERS
efinklea@awec.solutions

CHAD M. STOKES (C)(HC)
CABLE HUSTON LLP
cstokes@cablehuston.com

TOMMY A BROOKS (C)(HC)
CABLE HUSTON LLP
tbrooks@cablehuston.com

ERIC NELSEN
NORTHWEST NATURAL
eric.nelsen@nwnatural.com

LISA RACKNER (C)(HC)
MCDOWELL RACKNER & GIBSON PC
dockets@mrg-law.com

NW NATURAL
efiling@nwnatural.com

DATED May 29, 2020, Portland, OR.

/s/ Erica Lee-Pella
Erica Lee-Pella
Rates & Regulatory Affairs
NW NATURAL
250 SW Taylor Street
Portland, Oregon 97204
503-610-7330
erica.lee-pella@nwnatural.com

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of David H. Anderson

POLICY

EXHIBIT 1200

May 29, 2020

EXHIBIT 1200 - REPLY TESTIMONY – POLICY

Table of Contents

I. INTRODUCTION AND SUMMARY

Q. Please state your name and position with Northwest Natural Gas Company ("NW Natural" or "the Company").

A. My name is David H. Anderson. I am the President and Chief Executive Officer of NW Natural, and member of the NW Natural Board of Directors.

Q. Are you the same David H. Anderson who provided Direct Testimony in this proceeding?

A. Yes, I presented NW Natural/100, Anderson.

Q. Please summarize your Reply Testimony.

A. First, I will address our Company's response to the novel coronavirus (COVID-19) global health pandemic. These have been unprecedented times, but now more than ever, our customers are depending on NW Natural for their natural gas service. The critical investments in our system will ensure this is possible. Second, I give an update on the status of the rate case and update several key projects that were underway when we filed our case. Third, I respond to some of the issues that the parties raised in their Opening Testimony, and provide NW Natural's response to those issues.

II. IMPACT OF COVID-19

Q. Please describe the impact of COVID-19 on NW Natural.

A. The COVID-19 pandemic has resulted in widespread global, national, and local effects, and it has impacted all of our daily lives. On March 23, 2020, the Governor of Oregon issued stay-at-home executive orders. These and subsequent executive orders required the closure of "non-essential" businesses and permitted the continuation of “essential services.” All of the services provided by NW Natural are considered “essential services” under the Oregon executive orders, and we have taken steps to prioritize safety and reliability in providing these services.

During these challenging times, safety remains our top priority at NW Natural. From the start of the pandemic, we have put the safety of our employees and customers first so that we can continue to provide essential services to the communities across the Pacific Northwest. While these have been difficult times on personal and professional levels, I am immensely proud of how our Company and our employees have responded to this unprecedented event. I want to pay special recognition to our field personnel for all they are doing to keep our gas distribution system safe and reliable, so that we can continue to deliver natural gas to our customers as well as be prepared to respond to any immediate customer needs. For our employees whose role requires them to work in the field, we are following CDC, OSHA, and state specific guidance to ensure their protection, and the protection of the customers we serve.

As a critical infrastructure energy company that provides an essential service to our customers, NW Natural has well-defined emergency response command structures and protocols. We implemented our incident command and business continuity plans across the Company in early March, and we continue to operate under these structures and protocols, with a focus on the safety of our nearly 1,200 employees and the 2.5 million people, business partners and communities we serve. While no one can be fully prepared for an event like this, we had an existing business continuity framework in place to respond to large scale disruptions, and to ensure that our operations can continue without diminished quality or service. The incident command team has marshalled our Company's response and provided communications to our employees, customers, and stakeholders to keep them informed as we navigate this fluid situation. The incident command team also worked closely with governmental agencies to ensure that the provision of natural gas was deemed an essential service while "stay-at-home" orders are in place.

Recognizing the hardship that many of our customers faced as a result of COVID-19, on March 13, 2020, NW Natural suspended all disconnections and late fees for all of our customers. We have also been making flexible arrangements for payment plans to prevent customer arrearages from building large balances, which is a concern that we are monitoring. We have also worked with our stakeholders and the Public Utility Commission of Oregon ("Commission") to provide a more simplified enrollment into our low-income assistance programs so that customers can access our programs without requiring in-person interviews with the agencies that help administer these programs. We plan to work with the Commission and our stakeholders to determine the appropriate next steps in moving forward through this crisis by finding innovative solutions for those hit hardest by COVID-19. At the same time, the Company will continue to make the system investments needed to ensure customers have reliable energy when they need it most.

Q. Has the pandemic impacted NW Natural's ability to provide safe and reliable service?

A. No, it has not. As part of our 161-year history responsibly investing and maintaining our distribution and storage system, we have the critical infrastructure and resources to continue to provide service during the pandemic. Likewise, the broader natural gas network continues to prove to be a reliable and necessary component of the energy economy in the Pacific Northwest. With respect to our supply chains, we have not experienced material disruptions for most of our goods and services, but we continue to actively monitor those supply lines. Like many other industries, we have experienced some constraints on our ability to obtain personal protective equipment (PPE) and disinfecting supplies, but currently have sufficient supplies on hand, and we are actively working to procure additional supplies. Additionally, our capital projects are continuing to move forward as planned, and the recent technology investments have allowed us to adapt to our current "work from home" environment. Given the evolving nature of the pandemic, we are continually monitoring our business operations and the larger trends and developments to take additional measures we believe are warranted to continue to provide safe and reliable service to our customers and communities.

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III. UPDATE TO NW NATURAL'S REQUEST FOR A GENERAL RATE REVISION

Q. Please provide an update on the Company's request for a general rate revision.

A. The Company's initial filing on December 30, 2019 requested an increase of $71.4 million of annual revenue requirement based on a capital structure of 50 percent long-term debt and 50 percent equity; a return on equity of 10.0 percent; and a cost of capital of 7.298 percent. Following our filing, Commission Staff ("Staff"), the Oregon Citizens' Utility Board ("CUB"), and the Alliance of Western Energy Consumers ("AWEC") intervened in the case, and we appreciate the time and resources they have dedicated to the processing of this case. On March 12, 2020, all parties entered into a Stipulation resolving the cost of capital components, including return on equity ("ROE"), cost of long-term debt, capital structure, and the aggregate rate of return ("ROR"). Under the Stipulation, the parties agreed to an overall ROR of 6.965 percent, which is based on a capital structure comprised of 50 percent equity and 50 percent debt, with a ROE of 9.40 percent. The Joint Testimony of NW Natural, Staff, and CUB (NW Natural-Staff-CUB/100; Wilson, Villadsen, Muldoon, Enright, and Jenks), Staff's Testimony, and AWEC's Testimony provide the detailed support for this Stipulation. If the Commission approves the Stipulation, the Company's requested increase to revenue requirement will be effectively reduced by $6.7 million.

Additionally, through the processing of the case, the Company has worked with the parties to identify additional adjustments to revenue requirement that are appropriate. Most notably, we have updated our estimates for property tax at our operational headquarters, which reduced revenue requirement by $1.1 million. We first presented this adjustment to the parties at a collaborative workshop in March, and it is now being formalized in the Reply Testimony of Wayne Pipes (NW Natural/1500, Pipes). The Reply Testimony of Kyle Walker (NW Natural/2400, Walker) summarizes several other adjustments that the Company has agreed to in the discovery process, which net to a reduction of revenue requirement of $279 thousand.

Overall, if all of the updates are accepted, and if the Stipulation is approved, NW Natural's updated request for incremental revenue requirement will be reduced from $71.4 million to $63.3 million.

Q. Can you provide an update on the significant projects that the Company sought cost recovery for in its initial filing?

A. Yes. First, our distribution and storage projects scheduled to be completed in 2020 are moving forward as planned. Several of these projects have been planned for years and are needed to reinforce our system in areas that demonstrated low pressures that could eventually cause outages if not timely addressed. These reinforcement projects, which were acknowledged in our recent integrated resource plan, in Hood River, Sandy, Oregon City, and Happy Valley are either currently in-service or will be in-service by October 2020. The Reply Testimony of Joe Karney (NW Natural/1400, Karney) also describes a very important infrastructure project at our Mist Storage Facility to replace our large dehydrator that has reached end of life. Without a dehydrator that removes liquids from the natural gas we withdraw from Mist so that it is safe to inject into our distribution system, Mist cannot operate as needed. This project is on track and scheduled to be completed in October in advance of the next winter heating season. These projects are more fully described in the Mr. Karney's Reply Testimony.

Second, we have officially moved to our seismically resilient operations center located at 250 Taylor Street in Portland ("250 Taylor"). This move was the culmination of approximately five years of research and planning to identify the least-cost and least-risk option to provide a long-term solution to meet the operational needs of our Company, our employees, and our customers. The Company's management of this project resulted in an on-time and on-budget move to 250 Taylor. The Reply Testimony of Wayne Pipes (NW Natural/1500, Pipes) describes the final phase of the move to 250 Taylor that occurred in the first quarter of 2020.

Third, the Company's three largest information technology and services (IT&S) initiatives – the Customer Order Management (COM) project, the Data Center Migration and Modernization project, and the Digital Portal project— are on-budget, and each is either complete or will be completed this Summer. The Reply Testimony of Jim Downing (NW Natural/1600, Downing) provides updates on these projects, and a status update for the Company's multi-year project to implement necessary upgrades to our technology architecture, starting with our Horizon 1 project, which upgrades our Enterprise Resource Planning platform.

IV. ISSUES RAISED BY THE PARTIES

Q. Can you summarize the issues raised by the parties?

A. Yes. Staff has proposed to reduce our incremental revenue requirement, inclusive of the cost of capital settlement, to $38 million. This adjustment includes a $2.7 million increase to base rates as a result of Staff's request to include Oregon's new Corporate Activity Tax in rates in this rate case. We had not originally included this tax in base rates when we filed the case, but we are open to doing so. Among other adjustments, Staff has made several adjustments to our Test Year operations and maintenance ("O&M") expense, including our market-median pay-at-risk compensation. Additionally, Staff has proposed to remove certain projects not yet complete that will go into service prior to the rate effective date in this case, and all capital in the Test Year with the exception of meters and service lines. Staff also has proposed to disallow $3.4 million our pension expense. Finally, Staff provided an alternative to our rate spread proposal.

AWEC has proposed to reduce our incremental revenue requirement, inclusive of the cost of capital settlement, to $46.5 million. AWEC has also proposed several miscellaneous adjustments and a new rate spread proposal.

CUB did not propose an overall reduction to our revenue requirement, but CUB did propose several adjustments to our O&M expense, including our expense related to customer communications and our pay-at-risk compensation policy. CUB also proposed two tariff changes. First, CUB proposed that curtailment revenues be credited to firm sales customers with the Company's annual PGA. Second, CUB proposes to change the timing of our annual storage and optimization credits from our optimization of Mist and upstream pipeline contracts from June to January.

Q. How do you respond to the parties' positions?

A. If the parties' position were fully accepted, the result could significantly impact the financial health of the utility. I will not address all of the issues here, but will note certain issues that have particular negative impacts on the Company. First, the blanket removal of most of the capital projects in the Test Year is not sound regulatory policy if the goal of rate-setting is to match the customers' rates in the Test Year with the costs that the utility experiences. This mismatch diminishes our ability to earn our authorized ROE because our Test Year revenues do not recover for the actual costs we incur. The Reply Testimony of Zachary Kravitz (NW Natural/1300, Kravitz) further explains the Company's position on this issue.

Second, Staff has made a significant adjustment to our pension expense in the amount of $3.4 million. In Staff's adjustment, Staff has not identified that NW Natural acted imprudently or that our pension expense does not actually reflect the costs we will incur. Instead, Staff has substituted two of the main components to calculate pension expense (our discount rates and estimated return on assets ("EROA")) with the discount rates and EROAs of an average of the five other energy utilities in Oregon using out-of-date amounts from the companies' public filings 2019 Forms 10-K, which produce out-of-date and arbitrary results. The Reply Testimony of Brody Wilson (NW Natural/1800, Wilson*)* further explains how these adjustments are not reasonable metrics for

NW Natural to set its pension expense. This adjustment should be rejected in full.

With respect to CUB's testimony, we are open to accepting both of CUB's proposals related to curtailment revenues and the timing of the Mist storage and optimization credits in customers' rates. The Reply Testimony of Kyle Walker accepts CUB's proposal to credit curtailment revenues on an annual basis, but requests that those credits be offset to any incremental costs that the Company incurs during a curtailment event. This small change will provide symmetry to CUB's proposal so that the Company does not bear inordinate risk during curtailment events.

Additionally, the Reply Testimony of Zachary Kravitz accepts CUB's proposal to change the timing of the Mist storage and optimization credits from June when usage is low, but we request a small change to CUB's proposal to have the credit apply to bills for February usage rather than January, when we experience our coldest weather. As a note, the June bill credit has been a successful policy and our customers have grown accustomed to receiving it in the summertime. In particular, this June, our customers will receive their largest credit ever. We will credit over $17 million to our customers, which equates to approximately $17 per residential customer and $77 to small commercial customers. However, we understand CUB's reasoning to propose moving this credit to the Winter so that it gives customers a credit when their bills are generally higher (assuming they are not on our Equal Pay program). It is a sound policy request from our State's customer advocate, and we are pleased to support it.

Q. Does this conclude your Reply Testimony?

A. Yes.

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Zachary D. Kravitz

POLICY

EXHIBIT 1300

May 29, 2020

EXHIBIT 1300 - REPLY TESTIMONY – POLICY

Table of Contents

I. INTRODUCTION AND SUMMARY

Q. Please state your name and position with Northwest Natural Gas Company ("NW Natural" or "the Company").

A. My name is Zachary D. Kravitz. I am the Director, Rates & Regulatory Affairs for NW Natural.

Q. Please summarize your educational background and business experience.

A. I received a Bachelor of Arts degree in English and Government from the University of Texas at Austin in 2005 and a Juris Doctor degree from the University of Florida in 2008. From 2009 through 2011, I worked at the Ohio Attorney General's Office in the Labor Relations Division. From 2011 through 2014, I worked in the energy and utility practice at the law firms of Chester, Wilcox & Saxbe, LLC, and Taft, Stettinius & Hollister, LLP in Columbus, Ohio. I joined NW Natural's Legal Department in 2014 as Associate Regulatory Counsel. In 2018, I joined the Rates and Regulatory Affairs Department in my current position.

Q. What is the purpose of your Reply Testimony in this proceeding?

A. The purpose of my Reply Testimony is to respond to the Opening Testimony filed on April 17, 2020, by the Staff of the Public Utility Commission of Oregon ("Staff"), the Oregon Citizens Utility Board ("CUB"), and the Alliance of Western Energy Consumers ("AWEC") related to:

- Staff's proposal that capital projects completed between July 1, 2020 and October 31, 2020 should not be included in rate base;

- Staff's, CUB's, and AWEC's testimonies that capital projects completed during the Test Year should not be included in rate base;
- AWEC's recommendation regarding the allocation of storage assets;
- CUB's proposal regarding the timing of customer credits related to the Company's Schedules 185 and 186; and
- Staff's proposal to remove from rate base the capitalized portion of executive pay-at-risk.

II. CAPITAL PROJECTS

Q. Please explain the capital projects for which NW Natural seeks recovery in this proceeding.

A. The Company seeks to add to rate base its investment in the following categories of capital projects:

1. All capital projects completed since the Company's last rate case, UG 344, that will be completed and providing service to utility customers as of the rate effective date of this case—November 1, 2020. These projects include both the Company's discrete and non-discrete projects. For these projects, the Company seeks to recover the total investment, less depreciation incurred since the date the project was completed.
2. All capital projects, both discrete and non-discrete, that will be completed during the Test Year. These projects may be completed at various times during that year. The Company used an average of monthly averages method for the Test Year to ensure that customers' rates will reflect those

investments only to the extent that they are providing service to utility customers within the Test Year.

Q. Please summarize the parties' positions on these two categories of capital projects.

A. Staff proposes to exclude from rate base three capital projects that it believes will be completed between July 1, 2020, and the rate effective date of November 1, 2020. As I explain in greater detail below, I believe Staff's proposal is too restrictive and that these projects should be added to rate base. For capital projects in this category that exceed $1,000,000 and that are completed between July 1 and October 31, 2020, the Company is willing to file officer attestations confirming that the projects are providing service to utility customers, as suggested by CUB.[1] NW Natural is also willing to provide attestations as Test Year capital projects in excess of $1,000,000 are completed and operational.

AWEC and CUB also argue that all capital projects completed during the Test Year should be excluded from rate base. Staff generally agrees with this proposal, but makes an exception for "additions of meters and services in the test year."[2] In so doing, all three of these parties are advocating that the Commission use one period to calculate the Company's revenues and operation and maintenance expenses (the Test Year) and a different period to calculate its rate base (the period ending on October 31, 2020). As I explain in greater detail

[1] CUB/200, Gehrke/10-11.
[2] Staff/200, Fox/5.

below, this approach is contrary to the concept of the forward test year and to the matching principle.

A. <u>Capital Projects Completed Between July 1 and October 31, 2020</u>

Q. Please describe Staff's proposal for capital projects completed between July 1 and October 31, 2020.

A. Staff proposes to remove the following capital projects from rate base: 1) BI Strategy/Power BI Deployment, 2) Digital Portal, and 3) Field & Web Mapping Implementation Phase 1.[3] All of these capital projects are scheduled to be completed between July and September 2020, which is well before the rate effective date. Nevertheless, Staff states that "it cannot conclude with reasonable certainty that the plant scheduled to come on line in the months before the rate effective date will actually be on-line when the rates become effective."[4] Staff's proposal would remove $15,383,830 from Oregon-allocated rate base. Specifically, Staff proposes to remove from Oregon-allocated rate base: 1) $1,424,706 for BI Strategy/Power BI Deployment, 2) $10,168,592 for Digital Portal, and 3) $3,790,532 for Field & Web Mapping Implementation Phase 1.[5]

Q. Do you agree with Staff's proposal?

A. No. Staff is recommending against recovery for capital investment in projects that will be providing service to utility customers as of the rate effective date. This position, if adopted, would mark a shift toward an extremely restrictive

[3] *Id.* at 16.
[4] *Id.* at 16-17.
[5] *Id.* at 16.

approach to rate recovery for capital projects, imposing significant regulatory lag, and encouraging more frequent rate cases.

Moreover, as a practical matter, there is no reason to deny recovery for these three projects. First, significant components of the BI Strategy/Power BI Deployment are already complete and are currently in-service.[6] Therefore, even employing Staff's approach, that project should be included in rate base. Second, as explained in the Reply Testimony of Jim Downing, Digital Portal and Field & Web Mapping Implementation Phase 1 are both scheduled to be completed by August of 2020,[7] and it is therefore possible for Staff and the parties to review the final costs for these projects prior to the rate effective date.

Q. Please respond to AWEC's concern that the progress of NW Natural's capital projects may be hindered by the impacts of the COVID-19 pandemic.[8]

A. We appreciate AWEC's concern, but we do not expect that that these projects will be impacted by the pandemic in any material way.

Q. Did the parties make any alternative suggestions as to the treatment of projects completed by October 31st?

A. Yes. CUB recommended that the Company file an officer attestation for any of these projects that are forecast to exceed $1,000,000.[9] AWEC makes a similar

[6] NW Natural/1600, Downing.
[7] *Id.*
[8] AWEC/100, Mullins/15-16.
[9] CUB/200, Gehrke/10-11.

recommendation.[10] Staff also notes that "the utility and parties have agreed that certain projects scheduled to come on-line shortly before the effective date can be included in rate base at a stipulated amount that parties agree is reasonable if the utility can file an attestation prior to the rate effective date that the project is on-line."[11]

Q. Do you agree with these proposals?

A. Yes. NW Natural has agreed in the past to file officer attestations confirming that capital projects were used and useful, and would be willing to do so here for projects that are forecasted to cost over $1,000,000 and that are completed by October 31, 2020.[12] This will ensure that the projects are being used to provide utility service to customers as of November 1, 2020, the rate effective date in this proceeding.

B. Capital Projects Completed During the Test Year

Q. Please explain how NW Natural addressed the costs of capital projects expected to be completed during the Test Year.

A. NW Natural employed a methodology specifically designed to implement the "used and useful standard" in ORS 757.355 by including the costs of Test Year capital projects in rate base only in proportion to the part of the Test Year that these projects provide utility service to customers. Specifically, NW Natural included Test Year capital projects as follows:

[10] AWEC/100, Mullins/16.
[11] Staff/200, Fox/9.
[12] *In the Matter of Northwest Natural Gas Company, dba NW Natural, Request for a General Rate Revision*, Docket No. UG 221, Order No. 12-408 (Oct. 26, 2012).

- ***First,*** in the development of the rate case, we verify that forecasted costs and revenues meet the "reasonably certain" standard for the test year. The Direct Testimony of Tobin Davilla describes in detail the rigorous capital expenditure budgeting process that develops our forecast of capital in the Test Year with a combination of "discrete" and "non-discrete" capital.[13]
- ***Second,*** we pro-rated the costs of Test Year capital investments to reflect their proportional benefit to customers during the Test Year;
- ***Third***, we applied the average of monthly averages approach to normalize the costs for the Test Year; and
- ***Fourth***, we offset forecasted costs by projected revenues for the Test Year, including new customer additions.

Q. Please summarize the parties' response to NW Natural's approach.

A. Staff, AWEC, and CUB all object to including in rate base capital projects that will be placed in service during the Test Year, arguing that the inclusion of any costs associated with these projects would violate the used-and-useful standard.[14] The parties claim that ORS 757.355 prohibits a utility from including any plant in rate base that is not providing service to the utility's customers as of the rate effective date. Staff notes that there is "a limited exception for capital additions related to customer growth."[15] Based on this exception, Staff proposes to include

[13] NW Natural/900, Davilla/24-32.
[14] Staff/200, Fox/8; CUB/200, Gehrke/10-11; AWEC/100, Mullins/15.
[15] Staff/200, Fox/5-6.

"additions of meters and services in the test year," but exclude all other capital projects that are completed during the Test Year.[16]

Q. Do you agree with the parties' interpretation of Oregon's used-and-useful standard?

A. NW Natural agrees that the used-and-useful standard is a key requirement in Oregon's ratemaking framework, however, the Parties define the costs recoverable under the used-and-useful standard too narrowly and fail to consider how the used-and-useful standard applies to the forward test year and to the matching principle.

Q. Please explain the concept of the forward test year.

A. In Oregon, utilities use a forward test year to calculate their revenue requirement. In this proceeding, NW Natural is using a forward test year of November 1, 2020 to October 31, 2021. This means that all costs (including capital and O&M) and revenues should be forecasted over the Test Year using a combination of historical and forecasted data. No party disputes that O&M costs and revenues should be calculated in this way. However, the parties take the position that only capital projects that are completed as of the rate-effective date should be included in rate base, in violation of the matching principle.

Q. Please explain the matching principle.

A. The matching principle dictates that all costs from a test year be compared with all revenues from that same test year. This principle is recognized by the

[16] *Id.*

Commission in rate-setting dockets[17] and also is reflected, to some extent, in the Commission's ratemaking statutes.[18] In order to apply the matching principle, the same time period must be used to identify a utility's expected revenues as well as its anticipated costs.

The matching principle is not unique to Oregon, and its relationship to a rate case's test year was succinctly summarized by the Iowa Utilities Board in a report to its state legislature:

> The fundamental principle in determining rates is the matching principle. Unless there is a matching of costs and revenues, the test year is not a proper one for fixing just and reasonable rates. The inclusion of costs without matching revenues may produce excessive rates. The inclusion of revenues without matching costs may deny the utility reasonable rates. The relationship between costs and revenues for the test period used, whether historical or projected, and the validity of that relationship, constitutes one of the most vital steps in the determination of just and reasonable rates.[19]

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[17] *See, e.g. In re Avion Water Co.'s Request for a Gen. Rate Revision*, Docket No. UW 171, Order No. 17-496 at 3, 14 (Dec. 11, 2017) (recounting Staff's efforts to make sure that company's revenues from rates are comparable to the expenses incurred during the same time periods, and Commission recognition that this was a significant complication in the case).
[18] *See* ORS 757.259(2)(e) (describing that deferrals can be used where Commission finds that they are appropriate "to match appropriately the costs borne by and benefits received by ratepayers").
[19] Review of Utility Ratemaking Procedures, Report to the Iowa General Assembly at 6 (January 2004), available at https://iub.iowa.gov/files/records_center/reports/noi032_FinalReport.pdf.

Q. Please reconcile the used-and-useful standard with the forward test year and the matching principle.

A. All three core ratemaking principles can be effectively harmonized by including future test year capital additions on a pro-rata basis. Specifically, the used-and-useful standard would be satisfied by (a) including only those capital investments that will be placed in service during the future test year, and (b) ensuring that the amount included in rates reflects a proportional share based on the project's in-service date. This pro-rata, normalized approach would also allow for consistent application of the future test year and, by extension, consistent implementation of the matching principle by ensuring that the same time period is being used to analyze all costs and revenues.

Q. If the Commission allows NW Natural to include the pro-rated costs of Test Year capital projects, how can the Commission be assured that these projects actually come on line during the Test Year as NW Natural projects?

A. The capital included in the Test Year can be thought of as falling into one of two categories. The first category consists of "discrete investments" that the Company has proposed and planned to implement to fulfill a specific operational aim, or to address a specific system weakness. These discrete projects tend to fall into subcategories of System Betterments (*e.g.* investments in Newport LNG, Portland LNG, and Mist storage or gate stations), System Reinforcement Projects, Information Technology and Land and Structures. These discrete projects tend to represent "lumpy" investments, and costs associated with these projects can vary widely year over year.

The second category can be thought of as "non-discrete capital expenditures," in which investments are made consistently year-over-year, and over which the Company generally does not exercise much discretion. The consistency of expenditures in this category forms the basis of a predictable "run rate". These investments include Public Works, Relocates, Damages, Transportation and Equipment, Tools, Technical Refresh, Leakage, Customer Growth, Transmission Integrity Management Program, and Distribution Integrity Management Program. A significant portion of the Company's Information Technology investment falls under this category as well, and is very consistent year-over-year, following a clear trend line, and is therefore very predictable.

For the non-discrete capital investment, the Direct Testimony of Tobin Davilla demonstrates that this capital is stable and predictable from year to year. Based on our historical capital expenditures and forecasts, we can say with certainty that this "run-rate" capital will be invested and benefiting customers during the Test Year.

With respect to the "lumpier" discrete capital projects, NW Natural would agree to include those projects in rates at such time they are in service in the Test Year.

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Q. Has the Commission implemented this type of mechanism for discrete projects that reconciles the used-and-useful standard with the forward test year and the matching principle?

A. Yes. In the past, The Commission has reconciled these principles by allowing utilities to increase rates after new plant is placed in service during the test year through a "step-up rider".[20] Under the step-up rider approach, NW Natural would remove all costs associated with discrete Test Year additions from the rates that would go into effect November 1, 2020. As the discrete projects are placed in service, rates would be increased to incorporate the costs of the addition at its net book value, under a tariff rider. Similar to NW Natural's approach of pro-rating capital in the Test Year, the step-up rider approach will reduce regulatory lag and reduce the frequency of rate cases.

III. ALLOCATION OF STORAGE COSTS

Q. Has NW Natural requested recovery of investments in the Mist Storage Facility in this case?

A. Yes. NW Natural has requested recovery for a variety of projects completed at the Mist Storage Facility (or "Mist") since the last rate case.[21] The largest of these projects is the Mist Large Dehydration System Project, which, along with

[20] See, e.g., In *re PacifiCorp's Request for a Gen. Rate Revision*, Docket No. UE 246, Order No. 12-493 at 16-17 (Dec. 20, 2012).
[21] See list of projects in AWEC/102, Mullins/1.

the Phase 2 of the Mist Instrument and Controls Project, were explained in detail in the Direct Testimony of Joe Karney.[22]

Q. Please provide a short explanation of the Mist Large Dehydration Project and the Mist Instrument and Controls Project.

A. The Mist Large Dehydration System Project replaces a large dehydration system at Mist that was placed into service in 1998, and has reached the end of life.[23] The Mist Instrument and Controls Project replaces failing, functionally-reduced, and end-of-life controls with new industry- and Company-standard units.[24] The equipment being replaced and/or upgraded is currently in rate base and is serving core customers.

Q. What recommendation does AWEC make regarding all of this investment at Mist?

A. AWEC recommends that "all ongoing and future Mist Storage investments be split between retail sales customer and wholesale storage services," with 25 percent of the costs being borne by retail sales customers and 75 percent of the costs being borne by wholesale interstate storage service customers.[25] In other words, AWEC is recommending that 75 percent of the costs associated with all of the Mist projects be borne by shareholders—although presumably to be recovered from wholesale storage services customers.

[22] NW Natural/400, Karney/35-41.
[23] NWN/400, Karney/35.
[24] NWN/400, Karney/40.
[25] AWEC/100, Mullins/8, lines 6-7.

Q. What is the basis for AWEC's recommendation?

A. AWEC claims that the Company's investments in Mist "may be better considered to be attributable to the overall betterment of the Mist Storage Facility benefitting all customers of that facility, including wholesale customers."[26] According to AWEC, it would "seem inefficient to undertake an investment of this scale and scope for a joint facility without considering the costs and benefits applicable to the overall storage facility."[27]

Q. Do you agree with AWEC's recommendation?

A. No, for two reasons. First, as explained in Mr. Karney's Direct Testimony, the projects for which NW Natural is requesting recovery are all necessary for NW Natural to continue to provide critical Mist services to its core customers.[28] The equipment that is being replaced is currently in rate base, and it is appropriate that the new equipment receive the same treatment.

Second, the question AWEC is raising as to the proper allocation of Mist costs and revenues is one that the Commission has very conclusively resolved after a thorough investigation that spanned more than seven years across three separate dockets. The final disposition of those investigations resulted in a revenue sharing construct that was intended as a durable and long-term solution, providing customers with fair compensation for the use by wholesale customers of any core customer assets. There is no reason for the Commission to revisit

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[26] AWEC/100, Mullins/7, lines 18-20.
[27] AWEC/100, Mullins/8, lines 1-3.
[28] NWN/400, Karney/35-40.

this issue, and indeed, AWEC has not provided any reason as to why the Commission should do so.

Q. Please provide a brief discussion of the history of Mist, from related operational and regulatory perspectives.

A. The Mist Storage Facility utilizes depleted gas reservoirs located near Mist, Oregon. The facility was originally developed from within the utility and it initially was fully dedicated to serving core utility customers (our utility customers who purchase firm sales service). The original utility storage and related pipeline and facilities development went into service in 1989. The Company completed subsequent Mist expansions for utility customers in 1991, 1997 and 1999, each of which was for the sole purpose of serving core customers, and the capital costs were therefore included in utility rate base.

In the late 1990s, NW Natural decided to develop additional incremental capacity and storage at Mist to serve the broader Pacific Northwest regional market as an unregulated service. Accordingly, in 2001, the Company sought and was granted regulatory authority from FERC to utilize new, non-rate-base assets to provide storage services in interstate commerce (also referred to as "interstate storage service"). The Company then invested shareholder dollars to add storage capacity at Mist in 2001, with subsequent shareholder investments for additional expansions in 2004, 2005, and 2007. This expanded capacity can be "recalled" by the core utility and added to rate base on a just-in-time, as-needed basis, at a depreciated rate. As a result, a portion of the Mist facility is in rate base and regulated, and a portion is shareholder-owned and non-regulated.

While the expansion to provide non-regulated services was fully funded by shareholder dollars, the stakeholders all recognized that, in certain respects, Mist is run as one integrated facility. As a result, the wholesale business benefits from certain utility assets—and vice versa. Therefore, in recognition of the shared nature of the Mist facility, utility customers receiving firm sales—whose rates include storage-related costs—share in the revenues received by the Company for its non-regulated storage service and optimization activities by receiving a storage and transportation credit through Rate Schedule 185. The amount of this credit has long been set at 20 percent of the net margin. And historically, customers received 67 percent of net margin from the optimization of the Mist capacity, which is in utility rate base.

However, in NW Natural's 2011 rate case (UG 221) parties began questioning whether the revenue sharing arrangements remained appropriate. To address these questions, the Commission opened UM 1654, in which it embarked on a lengthy investigation of Mist storage investments and revenues, including multiple rounds of testimony and briefing by the parties, as well as a full contested case hearing. However, at the close of that docket, the Commission determined that it needed additional information and ordered the parties to retain a third-party evaluator to issue a report that would ***"robustly examine the risks, costs, and benefits of NW Natural's optimization activities, the assets being utilitized for those activities, the allocation between regulated and unregulated services, and the various components of NW Natural's system***

that drive the costs and revenues associated with interstate storage services."[29]

In compliance with the Commission's order in UM 1654, the parties hired the Liberty Consulting Group ("Liberty") to perform the study requested by the Commission. Liberty's evaluation culminated in a detailed report referred to by the Commission and parties as the "Liberty Report." That report was filed in NW Natural's subsequent general rate case—UG 344.[30] After reviewing the Liberty Report and full briefing by the parties, the Commission issued an order resolving the disputed issues. Specifically, the Commission made two key decisions: First the Commission decided to maintain the customers' 20 percent share of optimization revenues associated with shareholder assets. Second, the Commission substantially increased customers' share of the revenues associated with optimization of assets in rate base, increasing the customers' percentage from 67 percent to 90 percent.[31]

Q. In determining the revenue sharing percentages, did the Commission fully consider the allocation of assets at Mist?

A. Yes. The Commission's order clearly laid out the framework according to which investment in Mist assets are allocated.[32] That is, the investments in the

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[29] *In the Matter of Northwest Natural Gas Company dba NW Natural, Investigation of Interstate Storage and Optimization Sharing,* UM 1654, Order No. 15-066, at 5 (emphasis added).
[30] *In the Matter of NW Natural Gas Company, dba NW Natural, Request for a General Rate Revision* Final Report on The Liberty Consulting Group's Evaluation of NW Natural's Optimization Activities. UM 344, Exhibit 1301.
[31] *In the Matter of NW Natural Gas Company, dba NW Natural, Request for a General Rate Revision*, Order No. 18-419, at 24-25.
[32] Order No. 18-419, p. 19.

capacity and storage built out to serve core customers is in rate base; the investment in assets intended to serve wholesale customers is borne by shareholders; and finally, given that capacity originally developed by shareholders has been recalled over time, a portion of certain assets are in rate base, while a portion is shareholder owned.[33] This arrangement was also explained in detail in the Liberty Report.[34] In short, the Commission's ultimate decision as to the proper revenue sharing arrangements rested on a clear understanding as to how Mist investment is allocated.

Q. Given this framework, how are the costs associated with equipment replacements and upgrades at issue in this case properly allocated?

A. All of this investment is being made to replace and upgrade equipment that was originally purchased to serve core customers and is necessary to continue to serve core customers. Therefore this investment is appropriately in rate base. To be clear, if the Company were replacing equipment that was acquired to serve wholesale customers, the costs of those replacements would be borne by shareholders. And if we were replacing shareholder equipment that had been partially recalled to serve core customers, then the cost of that replacement equipment would be allocated between core customers and shareholders.

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[33] *Id.*
[34] The Liberty Report at 21.

Q. Has AWEC raised any issue that would suggest that the Commission should revisit its approach for allocating costs and revenues associated with the Mist Storage Facility?

A. No. AWEC has not raised any new facts or arguments that would suggest that the Commission should revisit its previous decision. In fact, AWEC's testimony does not mention the Commission's most recent decision on this matter, or acknowledge the Liberty Report or the current revenue sharing framework. Moreover, in raising questions about revenues associated with our separate North Mist facility under Schedule 90, AWEC appears to erroneously conflate the usage of North Mist to serve Portalnd General Electric with our core and interstate service at Mist.[35] Regardless, AWEC has not articulated any legitimate reason why the Commission should reconsider the current allocation of costs and revenues associated with Mist.

IV. TIMING OF STORAGE AND OPTIMIZATION CREDITS (SCHEDULE 185 AND 186)

Q. Please explain the credits the Company applies to customers' bills under Schedules 185 and 186 of NW Natural's tariff.

A. As previously discussed, the Company is subject to a regulatory sharing mechanism associated with the revenues received from its operations at Mist and from the upstream optimization of pipeline assets. Under Schedule 185, NW Natural applies a credit to customers' bills for interstate storage and related transportation services. Under Schedule 186, customers are credited "for the

[35] This issue is addressed in Mr. Karney's Reply Testimony, NW Natural/1400, Karney.

Oregon share of revenues received by NW Natural for the optimization of core customer Pipeline and Storage capacity."[36]

Q. When do those credits get passed back to customers?

A. Historically, both Schedule 185 and Schedule 186 credits are applied to customers' June bills.

Q. Please explain CUB's proposal to apply Schedules 185 and 186 credits to customers' January bills instead of June bills.

A. CUB believes that aligning credits under Schedules 185 and 186 with the season of highest demand for natural gas—winter—will help struggling customers pay their bills.[37] CUB notes that from January through June 2019 more than 8,000 customers lost service, and that it makes more sense to provide these credits to customers before they are disconnected than providing it in June after most disconnections have already happened.[38]

Q. Does the Company agree with CUB's proposal?

A. Generally speaking, the Company agrees with CUB's proposal. Under CUB's proposal, the amount of revenues that will be shared with customers under Schedules 185 and 186 would not change. However, shifting the date the customers receive these credits from June to the winter would partially offset what is typically customers' highest bill of the year. NW Natural agrees with CUB

[36] https://www.nwnatural.com/uploadedFiles/25186-1(9).pdf,
[37] CUB/100, Jenks/9-10.
[38] *Id.*

that this would help struggling customers pay their bills, and we propose one small change to CUB's proposal and clarify how it would be implemented.

Q. Please describe the small change that NW Natural would make to CUB's proposal.

A. NW Natural proposes that customers receive credits applied to the bills most closely aligned with their February usage. NW Natural prefers February because it is the coldest month of the year in our service territory, which drives space heating usage. It also provides the Company adequate time to create, review and test billing outside of the holiday season. Therefore, providing credits to February usage would help customers and ensure adequate time for the Company to complete billing.

Q. Please clarify how CUB's proposal would be implemented.

A. CUB states that the easiest way to implement its proposal "would be for NWN to hold onto the credit next June, utilizing it for its own credit needs from June to January before passing back to customers with interest in January."[39] By "next June," NW Natural assumes CUB means June 2020. NW Natural does not support delaying the credits it plans to distribute to customers in June 2020 because those are already in process and will provide some relief to our customers who are facing economic hardship during the current COVID-19 pandemic.

[39] *Id.* at 10.

As an alternative to delaying credits to January 2021, CUB proposes that the credits no longer be calculated on a calendar year basis, but rather from July to June. NW Natural agrees with this approach, but with different timing. We have determined that we would be able to calculate the credits on a period ending October 31 of each year, and apply the credits to customers' bills in February of the following year. Using October 31 as a cutoff date would mean that our regulatory stakeholders would be able to do any needed review of the credit prior to its application in bills, and also that the customers would receive their credits without excessive delay.

For the February 2021 credit, our proposal is to provide credits based on the January 2020 through October 31 period. This partial period is necessary to implement the proposed change to the measurement period for the 12-months ending October. The February 2022 credit would then provide a full 12-month credit cycle for the November 1, 2020 through October 31, 2021 period.

Q. Customers are already receiving credits in June 2020. Will they also now receive a credit in February 2021?

A. Yes, the credit will start in February 2021, if approved by the Commission.

Q. Describe the necessary changes to Schedules 185 and 186 to affect the changes described above.

A. Please see exhibit NW Natural/1301, Kravitz for proposed changes to the tariffs. The proposed changes include replacing "June" with "February" in several places, as well as updating the time period upon which the credits will be based and credited to customers.

V. CAPITALIZATION OF EXECUTIVE PAY-AT-RISK

Q, Staff recommends a disallowance for officer pay-at-risk capitalized in plant.[40] **Does the Company agree with this adjustment?**

A. No.

Q. Please describe in general terms how the Company allocates compensation costs between O&M and capital.

A. Many of NW Natural's employees support capital projects, and consistent with Generally Accepted Accounting Principles, NW Natural includes the costs of that labor (*i.e.* salary, bonus, and benefits) in the costs of capital projects themselves. Accordingly, the internal labor that would otherwise be accounted for in O&M is capitalized as a cost of the project. Some of our employees who work on capital projects, such as construction engineers and safety technicians, provide direct support to the capital side of NW Natural's gas utility business. For accounting purposes, the Company allocates the labor costs for those employees primarily to capital rather than to O&M expense. Other employees, such as administrative and regulatory staff, as well as officers, also support the capital side of the utility's business. Consistent with Generally Accepted Accounting Principles, the Company allocates a percentage of the costs associated with those positions to construction overhead, which is applied to our capital projects in order to capture the full cost of the capital project. Specifically, construction overhead is distributed among numerous FERC accounts associated with capital projects,

[40] Staff/400, Cohen/17.

such as mains, services, and meters, each of which has a different depreciation schedule.

Q. Does this accounting treatment extend to officer pay-at-risk costs?

A. Yes, as a component of total officer compensation, the Company treats officer pay-at-risk costs in the same way as officer base pay costs for purposes of this accounting allocation.

Q. How are these compensation costs "capitalized" for ratemaking purposes?

A. When the Commission approves a rate base for the Company in each general rate case, the rate base amount reflects costs allocated to capital projects. In past rate cases, this figure reflected a portion of officer pay-at-risk compensation that was transferred from O&M to capital, reflecting the officers' costs allocated to capital projects, as described above, along with the other capitalized costs of the project.

Q. What is Staff's proposal?

A. Staff proposes to disallow $4.237 million of officer incentives capitalized in plant based on 2015-2019 data that have been allocated to capital.[41]

Q. Has Staff pointed to any Commission policy supporting this approach or provided any explanation for having made this additional adjustment?

A. No.

[41] Staff/400, Cohen/17.

Q. Why does the Company disagree with this approach?

A. For all of the reasons discussed in the Reply Testimony of Melinda Rogers,[42] the Company believes it is appropriate to allow recovery of market-based levels of officer compensation, which are prudently incurred and form a necessary part of the utility's cost of service. This logic extends both to the portion of those costs that are expensed and to the lesser portion of those costs that are attributable to capital projects.

Q. Would it be improper to retroactively apply this adjustment?

A. Yes. If Staff is intending to expand the Commission's practice of disallowing pay-at-risk to capital investments, this new policy should be reviewed by the Commission and, if accepted, implemented on a prospective basis. However, Staff recommends reducing rate base in a sum equal to officer pay-a-risk costs allocated to capital since January 1, 2016. Given that Staff's recommendation spans two rate effective periods (the Commission approved new rates for NW Natural after its last rate case, effective November 1, 2018), the Commission should not reduce rate base that was stipulated and approved in the Company's last general rate case.

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[42] NW Natural/1700, Rogers.

Q. Please explain your statement that capitalized officer pay-at-risk was included in the rate base stipulated to and approved in NW Natural's last rate case.

A. In docket UG 344, NW Natural included capitalized officer pay-at-risk in the rate base requested for recovery. While the ultimate rate base stipulated to and approved by the parties was lower than that requested by the Company, there was no disallowance for capitalized officer pay-at-risk.[43]

Q. Was Staff a party to the stipulation in Docket UG 344?

A. Yes.

Q. Is Staff's recommendation to modify the previously-stipulated rate base in this proceeding consistent with its participation in that stipulation?

A. No. As a signatory to the first partial stipulation in docket UG 344, Staff agreed to the scope of the adjustments to both O&M expenses and rate base for that proceeding, which all parties supported in their representations to the Commission,[44] and that the Commission ultimately approved.[45] Staff's recommendation in this rate case to revisit the rate base established in UG 344 is therefore inconsistent with the substantive terms of that stipulation.

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[43] *In the Matter of Northwest Natural Gas Co., dba NW Natural, Request for a General Rate Revision*, Docket UG 344, Order No. 18-419, at 6-7, 10-11, 12-13, App. A at 3 (Oct. 26, 2018).
[44] Docket UG 344, Stipulating Parties/100, McVay, Gardner, Jenks and Mullins/35-36.
[45] Order No. 18-419, at 6-7, 10-11, 12-13, App. A at 3.

Q. Is Staff's recommendation, which is effectively to modify a Commission-approved stipulation retroactively, consistent with Commission precedent?

A. No. The Commission has previously explained that as a matter of general policy, "only the most compelling circumstances justify retroactive modification of a Commission order adopting a fully negotiated settlement agreement."[46] Examples of such "compelling circumstances" identified by the Commission include "facts constituting mistake, fraud, impossibility, or some other extraordinary basis for modifying an executed agreement."[47] Staff has identified no such extraordinary facts at issue here that would justify a departure from this general policy, and there are none.

Q. Does Staff's recommendation promote constructive regulatory policy?

A. No. Staff's proposed approach would undermine the Company's and other signing parties' confidence in entering stipulations going forward, by calling into question the permanency of any agreements reached in compromise. This would in turn undermine the Commission's policy of encouraging resolution of contested issues through settlement.[48]

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[46] *Wah Chang v. PacifiCorp*, Docket UM 1002, Order No. 01-873, at 6 (Oct. 15, 2001) (quoting *In the Matter of an Investigation into the Deferral of Property Tax Savings Accruing to Cascade Natural Gas Corp. & Northwest Natural Gas Co. as the Result of Oregon's November 1990 Ballot Measure 5*, Dockets UM 729, et al., Order No. 95-857 (Aug. 14, 1995)).

[47] *Id*.

[48] *See In the Matter of a Rulemaking to Adopt and Amend Division 011 Rules*, Docket AR 511, Order No. 07-153, at 2-3 (Apr. 17, 2007) (noting that PacifiCorp "explain[ed] that this Commission has recognized *the strong public policy favoring informal settlement of disputes*, and contends that the disclosure of settlement communications undermines this process[,]" and agreeing with PacifiCorp's recommendations regarding confidentiality in the settlement process because disclosures would not further the public interest in that they "might impede or discourage parties from engaging in frank and open discussions to explore the informal resolution of disputes") (emphasis added).

Q. Do you have any further concerns with Staff's retroactive disallowance?

A. Yes. A portion of the capitalized officer pay-at-risk costs Staff seeks to remove retroactively from rate base have already been depreciated and collected from customers. Staff's attempt to claw back those amounts in this case would also constitute retroactive ratemaking and would therefore be improper. The rule against retroactive ratemaking prohibits past losses or profits from being considered in setting future rates. Instead, the Commission generally sets utility rates prospectively, based on anticipated costs and revenues.[49]

Q. Could the Commission simply remove the depreciated portion of these costs from Staff's recommended disallowance?

A. This would be a difficult and time-consuming calculation to perform. As noted above, officer pay-at-risk costs allocated to construction overhead (which are already a relatively small percentage of total compensation costs to begin with) are distributed among many different FERC accounts, each with its own depreciation schedule. Further complicating matters, the Commission approved a new depreciation study for the Company on January 5, 2018, which has the effect of modifying the depreciation schedules for each of these accounts.[50] Parsing out the depreciated portions from the undepreciated portions of pay-at-

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[49] *In the Matters of the Application of Portland General Electric Company for an Investigation into Least Cost Plan Plant Retirement*, Docket UM 989, Order No. 08-487 at 36 (Sep. 30, 2008) ("Consequently, ratemaking, like legislation, is applied prospectively absent explicit legislative direction to the contrary.).
[50] *In the Matter of Northwest Natural Gas Co., dba NW Natural, Updated Depreciation Study Pursuant to OAR 860-027-0350*, Docket UM 1808, Order No. 18-007, at 3 (Jan. 5, 2018).

risk allocated to each of these individual accounts would be an extremely arduous task.

Q. What would be the impact if Staff's recommendation was applied only from the rate effective date of the last rate case?

A. With this modification, the disallowance proposed by Staff would decrease by $3.322 million.

Q. Does CUB raise issues with respect to capitalization of officer pay as well?

A. Yes. CUB states that it understands the Company has been capitalizing executive compensation over time between rate cases. CUB is still investigating this issue but would like to ensure the Commission's cost recovery policy with respect to pay-at-risk applies equally to pay-at-risk capitalized in rate base.[51]

Q. Does CUB propose any adjustments related to this issue?

A. No.

Q. Does this conclude your Reply Testimony?

A. Yes it does.

[51] *See* CUB/200, Gehrke/8-9.

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Zachary D. Kravitz

POLICY

EXHIBIT 1301

May 29, 2020

NORTHWEST NATURAL GAS COMPANY
P.U.C. Or. 25

Tenth Revision of Sheet 185-1
Cancels Ninth Revision of Sheet 185-1

SCHEDULE 185
SPECIAL ANNUAL INTERSTATE AND INTRASTATE STORAGE AND TRANSPORTATION CREDIT

PURPOSE:
To credit customers served under the below-listed Rate Schedules for the Oregon share of revenues received by NW Natural for (a) interstate storage and related transportation service provided under a Limited-Jurisdiction Blanket Certificate from FERC granted under FERC Regulations, 18 C.F.R. § 284.224 (hereafter referred to as § 284.224 service), (b) core storage optimization activities; and (c) intrastate storage activities under **Rate Schedule 80** and **Rate Schedule 91**.

APPLICABLE:
The credit under this Schedule shall apply to customer bills issued during the June billing cycle of each calendar year, or such other time period as the Commission may approve. The credit shall apply to the following Sales Service Rate Schedules of this Tariff: **Schedule 2**; **Schedule 3**, and; **Schedules 31** and **32** – Firm Sales only.

CREDIT: **Effective Billing Cycle: February 2021** (T)
The bill credit to be applied to Customer bills during the effective billing cycle will be calculated by multiplying the following per therm credit by the customer's actual gas usage billed during the period January 1, 2020 through October 31, 2020: (T)

Rate Schedule/Class	Block	Temporary Adjustments		Schedule	Block	Temporary Adjustmnet
2		($0.xxxxx)				
03 CSF		($0.xxxxx)				
03 ISF		($0.xxxxx)				
31 CSF	Block 1	($0.xxxxx)		31 ISF	Block 1	($0.xxxxx)
	Block 2	($0.xxxxx)			Block 2	($0.xxxxx)
32 CSF	Block 1	($0.xxxxx)		32 ISF	Block 1	($0.xxxxx)
	Block 2	($0.xxxxx)			Block 2	($0.xxxxx)
	Block 3	($0.xxxxx)			Block 3	($0.xxxxx)
	Block 4	($0.xxxxx)			Block 4	($0.xxxxx)
	Block 5	($0.xxxxx)			Block 5	($0.xxxxx)
	Block 6	($0.xxxxx)			Block 6	($0.xxxxx)

(continue to Sheet 185-2)

Issued date xxxxx
NWN OPUC Advice No. xx-xx

Effective with service on
and after date xxxxxx

SCHEDULE 185
SPECIAL ANNUAL INTERSTATE AND INTRASTATE STORAGE AND TRANSPORTATION CREDIT
(continued)

SPECIAL CONDITIONS:

1. NW Natural will share with customers served under the Rate Schedules listed above, the net margin received from interstate and intrastate storage service on an 80/20 basis; 80% will be retained by NW Natural, and 20% will be shared with customers through the credit provided for in this schedule. For this purpose, net margin is defined as revenues less incremental operating and maintenance (O&M) expense, less incremental capital-related costs, on a before income tax basis. Incremental capital-related costs include depreciation, interest, property taxes, and any other costs customarily relating to a utility investment other than return on equity. The imputed capital structure for this purpose shall be 50% debt and 50% equity, with the cost of debt defined as the average long-term cost of debt authorized by the OPUC in the Company's last general rate case.
2. The interstate and intrastate annual service credit shall be based on the net margin as described in paragraph 1 above, and as filed with the Commission. This credit shall be applied to customers' bills, or placed in an interest bearing deferred account, on February 1 of each year, or at a date other than February 1 for reasons and on terms as the Commission may approve. (T)
3. If the net margin for the year is negative (a loss) then the credit will be zero.
4. In addition to the interstate and intrastate storage service sharing, NW Natural will share with customers served under the Rate Schedules listed above, net margin revenue that is attributable to optimization of core customer storage and related transportation services on a 90/10 basis; 10% will be retained by NW Natural, and 90% will be shared with customers through the credit provided for in this schedule. For this purpose, net margin is defined as revenues less incremental operating and maintenance (O&M) expense.
5. As provided under "OUT-OF-CYCLE TRANSFERS" provision set forth in Rate Schedules 31 and 32, a Customer that exercises the Capacity Release Option may only be eligible to receive one-half of the above-listed credit.

PRIOR YEAR BALANCES:
The Company will include any remaining balance from the prior year's credit in the calculation of the current year's credit.

TERM OF SCHEDULE:
Application of the § 284.224 service credit under this Schedule is contingent upon continued FERC approval of NW Natural's § 284.224 Limited Jurisdiction Blanket Certificate.

GENERAL TERMS:
This Schedule is governed by the terms of this Schedule, the General Rules and Regulations contained in this Tariff, any other Schedules that by their terms or by the terms of this Schedule apply to service under this Schedule, and by all rules and regulations prescribed by regulatory authorities, as amended from time to time.

SCHEDULE 186
SPECIAL ANNUAL CORE PIPELINE CAPACITY OPTIMIZATION CREDIT

PURPOSE:
To credit Sales Service Customers served under the below-listed Rate Schedules for the Oregon share of revenues received by NW Natural for the optimization of core customer Pipeline and Storage capacity.

APPLICABLE:
This credit shall apply to customer bills issued during the June billing cycle of each calendar year, or such other time period as the Commission may approve. The credit shall apply to the following Sales Service Rate Schedules of this Tariff:

Rate Schedule 2	Rate Schedule 31 ISF	Rate Schedule 32 ISF
Rate Schedule 3	Rate Schedule 31 CSF	Rate Schedule 32 CSI
	Rate Schedule 32 CSF	Rate Schedule 32 ISI

CREDIT: **Effective Billing Cycle: February 2021** (T)
The bill credit to be applied to Customer bills during the effective billing cycle will be calculated by multiplying the following per therm credit by the customer's actual gas usage billed during the period January 1, 2020 through October 31, 2020: (T)

($0.xxxxx)

SPECIAL CONDITIONS:

1. NW Natural will share with customers served under the Rate Schedules listed above, the amount of net margin revenue that is attributable to optimization of core customer Pipeline and Storage capacity on an 90/10 basis; 10% will be retained by NW Natural, and 90% will be shared with customers through the credit provided for in this Schedule. For this purpose, net margin is defined as revenues less incremental operating and maintenance (O&M) expense.
2. The annual credit shall be based on the net margin as described in paragraph 1 above, and as filed with the Commission. This credit shall be applied to customers' bills, or placed in an interest bearing deferred account, on February 1 of each year, or at a date other than February 1 for reasons and on terms as the Commission may approve. (T)
3. If the net margin for the year is negative (a loss) then the credit will be zero.
4. As provided under "OUT-OF-CYCLE TRANSFERS" provision set forth in Rate Schedules 31 and 32 a Customer that exercises the Capacity Release Option may only be eligible to receive one-half of the above-listed credit.

PRIOR YEAR BALANCES:
The Company will include any remaining balance from the prior year's credit in the calculation of the current year's credit.

GENERAL TERMS:
This Schedule is governed by the terms of this Schedule, the General Rules and Regulations contained in this Tariff, any other Schedules that by their terms or by the terms of this Schedule apply to service under this Schedule, and by all rules and regulations prescribed by regulatory authorities, as amended from time to time.

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Joe Karney

DISTRIBUTION SYSTEM AND STORAGE FACILITY PROJECTS

EXHIBIT 1400

May 29, 2020

EXHIBIT 1400 – REPLY TESTIMONY - DISTRIBUTION SYSTEM AND STORAGE FACILITY PROJECTS

Table of Contents

I. INTRODUCTION AND SUMMARY

Q. Please state your name and position with Northwest Natural Gas Company dba NW Natural ("NW Natural" or "the Company").

A. My name is Joe Karney. I am the Engineering Senior Director and Chief Engineer for NW Natural.

Q. Are you the same Joe Karney who previously provided Direct Testimony in this docket?

A. Yes, I presented NW Natural/400.

Q. What is the purpose of your Reply Testimony in this case?

A. The purpose of my Reply Testimony is to respond to testimony filed on April 17, 2020, by Commission[1] Staff ("Staff") and the Alliance of Western Energy Consumers ("AWEC") related to the Company's major distribution system projects, storage facility projects and safety-driven system projects. I will respond to issues presented in the Opening Testimony of Staff witnesses John Fox (Staff/200), Steve Storm (Staff/800) and Brian Fjeldheim (Staff/300), and AWEC witness Bradley Mullins (AWEC/100).

Q. How is your Reply Testimony organized?

A. My Reply Testimony is organized into four parts:

First, I respond to Staff's Opening Testimony addressing Mr. Fox's Issue 2 (Plant Additions Prior to the Rate Effective Date), Issue 1 (Test Year Plant Additions) and Issue 4 (Mist Large Dehydrator). In this section of my Reply Testimony, I

[1] Acronyms and other capitalized terms not defined in my Reply Testimony are defined in my Direct Testimony.

also provide an update of significant distribution system and storage facility projects that are included for recovery in this case.

Second, I respond to Staff's Opening Testimony addressing Mr. Storm's Issue 2 (Seismic Risk and Risk Mitigation).

Third, I respond to Staff's Opening Testimony addressing Mr. Fjeldheim's Issue 2 (Gas Storage Operating Expense).

Finally, I respond to AWEC's Opening Testimony addressing certain topics related to the Mist storage facility and to the Company's investment in Mains in discrete projects.

II. RESPONSE TO STAFF WITNESS MR. FOX

A. Issue 2: Plant Additions Prior to the Rate Effective Date

Q. Please provide an update of the significant distribution system and storage facility projects placed or to be placed in service prior to the rate effective date in this case.

A. As detailed in my Direct Testimony and updated below, the Company is requesting recovery of the following significant distribution system and storage facility projects placed or to be placed in service prior to the rate effective date in this case:

- **Sandy Feeder Reinforcement Project.** The scope and the expected timing and total cost of the Sandy Feeder Reinforcement Project have not changed from my

Direct Testimony.[2] The Company received bids from pipeline contractors during the first week of May 2020, and is working to obtain final city and ODOT rights-of-way permits in June 2020.

- **Hood River Reinforcement Project.** The scope and expected total cost of the Hood River Reinforcement Project have not changed from my Direct Testimony.[3] The pipeline is expected to be in service by August 2020, rather than by June 2020 as stated in my Direct Testimony,[4] to accommodate the City of Hood River's late request that the Company move the district regulator to a less visible location within the 18th Street right-of-way. The Company has obtained the necessary permits from ODOT and the Oregon Department of Environmental Quality, and is in the final stages of obtaining the necessary permit from the City of Hood River now that the location of the district regulator has been finalized. The Company will be conducting onboarding and Operator Qualification testing of the selected pipeline contractor in June 2020.
- **South Oregon City Reinforcement Project.** The scope of the South Oregon City Reinforcement Project did not change from my Direct Testimony.[5] The pipeline was placed into service in May 2020, one month earlier than expected.[6]

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[2] NW Natural/400, Karney/3 and 5-9. As I was preparing my Reply Testimony, I noticed a typographical error in my Direct Testimony at NW Natural/400, Karney/8, line 16. The number "8" should read "5," so that the entire statement reads as follows: "In its 2018 IRP, the scope of the project reflected the replacement of 5 miles of pipeline, whereas now the Sandy Feeder Reinforcement Project replaces 3.5 miles of pipeline."
[3] NW Natural/400, Karney/3 and 10-17.
[4] *Id.* at 16.
[5] *Id.* at 3-4 and 17-24.
[6] *Id.* at23.

The expected total cost of the South Oregon City Reinforcement Project is $4.6 million, which is less than the anticipated $5.8 million amount provided in my Direct Testimony.[7]

- **Happy Valley Reinforcement Project.** The timing of the Happy Valley Reinforcement Project did not change from my Direct Testimony, as the pipeline was placed in service in March 2020.[8] The overall scope of the Happy Valley Reinforcement Project also remained the same,[9] with the final length of the pipeline being 1.1 miles rather than the 1.2 miles anticipated in my Direct Testimony.[10] This slight reduction in the length of the pipeline factored into the Happy Valley Reinforcement Project costing $4.2 million rather than the anticipated $4.4 million amount provided in my Direct Testimony.[11]
- **Mist Large Dehydration System Project.** Through its data request responses in this case, NW Natural has kept the parties updated about the progress being made to the Mist Large Dehydration System Project. In its textual response to UG 388 OPUC DR 137, attached as my exhibit NW Natural/1401, the Company stated under its response to (f)(i) that it and the contractor "are currently reviewing the final design and associated costs. A change order will be created to capture any additional costs above what has been approved in the move to

[7] *Id.* at 24.
[8] *Id. at* 29.
[9] *Id.* at 24-29.
[10] *Id.* at24.
[11] *Id.* at29.

execution document. This data request will be supplemented once that change order has been approved."

After the Company and the contractor completed their review of the final design and associated costs and NW Natural approved the change order in February 2020, the Company submitted its Supplemental Response to UG 388 OPUC DR 137(f)(i), attached as my exhibit NW Natural/1402, including its associated confidential Supplemental Attachment 1 (the approved change order) that is not attached to this exhibit. The Company stated in that Supplemental Response that once it and the contractor "have fully executed the document memorializing their agreed-upon final design and associated costs, the Company will amend this response by removing the confidential designation from Supplemental Attachment 1." In its response to UG 388 OPUC DR 246, attached as my exhibit NW Natural/1403, the Company stated that "[t]he final design and cost review for the Mist Large Dehydration System Project is expected to be completed in early March 2020." Attached as my exhibit NW Natural/1404, dated April 29, 2020, and effective as of March 17, 2020, is the letter agreement by which the Company authorized the contractor to perform certain construction work. The Company and the contractor are working towards finalizing the document that will memorialize the agreed-upon scope and associated costs. Consistent with the terms of the letter agreement provided as my exhibit NW Natural/1404, the contractor began demolition work of the existing large dehydration system in mid-April, and construction activities to replace the unit are underway.

As of the filing of this Reply Testimony, the contractor has removed the existing dehydration system, contact towers and building structure, demolished the foundation and started excavation for the new replacement structures. Also, the dehydration skid, vessels, and components are near complete fabrication, and all other major materials have been ordered. The large dehydration system is expected to be commissioned and operational by October 15, 2020.

The total cost to complete the Mist Large Dehydration System Project is approximately $27.90 million. The replacement of the dehydrator is still the least-cost, least-risk option, as shown in my exhibit NW Natural/1405 (the Six-Sigma Failure Mode and Effects Analysis, provided to the parties as Attachments 2 and 3 to the Company's response to UG 388 CUB DR 8).

- **Mist Instrument and Controls Project (Phase 2).** The scope and expected total cost of the Mist Instrument and Controls Project (Phase 2) have not changed from my Direct Testimony.[12] The project is expected to be completed in September 2020, one month earlier than anticipated in my Direct Testimony.[13] All of the equipment already has been purchased and is scheduled to be received by July 2020, when the selected contractor will replace the moisture analyzers and the Company's electricians will begin replacing all the other equipment.

[12] *Id.* at 4 and 40-41.
[13] *Id.* at/41.

- **OR 212 257th to US 26 ODOT Project.** The scope of the OR 212 257th to US 26 ODOT Project did not change from my Direct Testimony.[14] The pipeline was placed in service at the end of December 2019, or several months earlier than the April 2020 in-service schedule indicated in my Direct Testimony.[15] The remaining pavement restoration and service transfers are anticipated to be completed in June 2020. The total cost to complete the OR 212 257th to US 26 ODOT Project now is $17.9 million, or $2.6 million more than the amount stated in my Direct Testimony[16] as a result of higher-than-expected total construction costs.

Q. Does the Company continue to expect all of these listed projects to be placed in service prior to the rate effective date in this case?

A. Yes. As explained in the Reply Testimony of Company witness Mr. Zachary Kravitz (NW Natural/1300, Kravitz), NW Natural is amenable to Staff's proposal[17] to provide officer attestations once these assets are placed in service.

Q. Do you agree with Staff that the Company "acknowledges" that the Portland (and Newport) LNG Liquefaction Alt. Study should be removed from this case?[18]

A. Yes. The Company has removed those studies from this case, as shown in Table 3 of NW Natural/2400, Walker.

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[14] *Id.* at 4-5 and 41-42.
[15] *Id.* at 42.
[16] *Id.*
[17] Staff/200, Fox/9, lines 17-23.
[18] *Id.* at 15, lines 21-28.

Q. How do you respond to Staff's adjustment to remove the Mist Compressor Study and Replacement Project from this case?[19]

A. The Company accepts Staff's adjustment. We have removed that study from this case, as shown in Table 3 of NW Natural/2400, Walker.

Q. What is your response to Staff's statement that "[t]here is a large amount of gross plant additions in the months of July through September 2020?"[20]

A. It is normal for many of the Company's significant distribution system and storage facility projects to be scheduled for completion from July through September, and into October. This occurs because most capital projects are planned for construction during the summer months, in order to avoid delays and complications due to inclement weather and to minimize impact to operations.

Q. Staff also "believes it is unrealistic to anticipate reviewing actual expenditures incurred after June 30, 2020."[21] Do you agree?

A. No. As a practical matter, the Company believes it is possible for Staff to review the status of projects that are set to close between July 1 and the rate effective date. Information regarding all of these projects has been provided to the parties through my Direct Testimony, responses to data requests and my Reply Testimony. The Company will provide further updates in its Surrebuttal Testimony. The Company does agree with Staff's position to not adjust the Company's investment in any of the significant distribution system and storage

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[19] *Id.* at 15, lines 12-16.
[20] *Id.* at 16, lines 7-8.
[21] *Id.* at 17, lines 12-13.

facility projects scheduled for completion from July through October 2020.[22] Also, Company witness Mr. Kravitz explains in his Reply Testimony (NW Natural/1300, Kravitz) that NW Natural is amenable to Staff's proposal[23] to provide officer attestations once these assets are placed in service.

B. Issue 1: Test Year Plant Additions

Q. Please describe Staff's concern regarding the projects included in the Company's IRP process and that have been included in this rate case.

A. According to Staff, "[a] number of the major projects discussed in the Company's testimony are substantially changed from what was acknowledged in the IRP."[24] Calling it a "moving target," Staff comments that the Company's "actions and investments do not necessarily match the Company's Integrated Resource Plan (IRP) and otherwise change as the project progresses."[25] Staff provides several examples of how the Company's projects have changed since being acknowledged by the Commission through the IRP process.[26] It construes the Company's response to UG 388 OPUC DR 137 to mean that "the project process is not actually initiated until after the IRP is acknowledged."[27] Staff then characterizes the Company's process as a "policy" by which the Company "eschew[s] detailed planning until after the IRP is acknowledged" in a manner

[22] *Id.* at 16-17.
[23] *Id.* at 9, lines 17-23.
[24] *Id.* at /9, lines 3-4.
[25] *Id.* at 10, lines 4-7.
[26] *Id.* at 10, lines 8-14.
[27] *Id.* at 10, lines 17-18.

that "is particularly risk averse and serves to shift risk to customers as significant changes in project plans are occurring."[28]

Q. Do you agree with Staff's portrayal of the relationship between projects identified in the Company's IRP process and projects addressed in this rate case?

A. No. Staff is critical of changes to projects that have been acknowledged through the IRP process; however, this does not change the fact that a need still exists for these projects and that the projects that have been included for cost recovery in this rate case remain the least-cost and least-risk solutions to address the need on our system.

Q. Are you familiar with the Company's IRP process?

A. Yes. I am an active member of the Company's IRP team, especially with the Company's distribution system planning. I provide key information used in the Company's IRP, I support projects identified in the Company's IRP in discussions with Staff and other interested stakeholders and through responses to information requests, and I implement distribution system and storage facility projects including those acknowledged by the Commission in the IRP process.

Q. Please describe the purposes of the IRP as you understand it.

A. The purpose of the IRP process is for a utility to detail, in a Commission filing, "its determination of future long-term resource needs, its analysis of the expected costs and associated risks of the alternatives to meet those needs, and its action

[28] *Id.* at 11, lines 9-11.

plan to select the best portfolio of resources to meet those needs."[29] The Commission states that the substantive requirements of an IRP are: "(a) All resources must be evaluated on a consistent and comparable basis; (b) Risk and uncertainty must be considered; (c) The primary goal must be the selection of a portfolio of resources with the best combination of expected costs and associated risks and uncertainties for the utility and its customers; and (d) The plan must be consistent with the long-run public interest as expressed in Oregon and federal energy policies."[30] The culmination of the IRP process is the Commission acknowledging that a utility's IRP is consistent with the Commission's IRP Guidelines and acknowledging the utility's "action plan" that the utility "intends to undertake over the next two to four years."[31]

Q. Does the Commission in its IRP Orders address the relationship between the IRP process and the review of IRP projects in subsequent rate cases?

A. Yes. The Commission states that "the nature of an IRP proceeding is fundamentally different than that of a contested rate case proceeding."[32] It explains:

> "In adopting the original least cost planning requirements, this Commission emphasized that acknowledgement did not constitute rate-making. See Order No. 89-507 at 6. As noted above, decisions on whether to include, in rates, the costs associated with new resources can only be made in a rate proceeding.

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[29] OAR 860-027-0400(2).
[30] *In the Matter of Public Utility Commission of Oregon Investigation into Integrated Resource Planning Requirements,* Docket No. UM 1056, Order Nos. 07-002 (Jan. 1, 2007) ("Order No. 07-002") and 07-047 (Feb. 9, 2007) ("IRP Orders"), Adopted IRP Guidelines ("IRP Guidelines") No. 1 (Substantive Guidelines).
[31] IRP Orders, IRP Guidelines No. 4(n).
[32] Order No. 07-002, p. 25.

Acknowledgement, however, is relevant to the question of rate-making treatment. As the Commission previously explained:

> Consistency of resource investments with least-cost planning principles will be an additional factor that the Commission will consider in judging prudence. When a plan is acknowledged by the Commission, it will become a working document for use by the utility, the Commission, and any other interested party in a rate case or other proceeding before the Commission[.] Consistency with the plan may be evidence in support of favorable rate-making treatment of the action, although it is not a guarantee of favorable treatment. Similarly, inconsistency with the plan will not necessarily lead to unfavorable rate-making treatment, although the utility will need to explain and justify why it took an action inconsistent with the plan.
>
> Order No. 89-507 at 7."[33]

Q. As someone who is actively involved in the Company's IRP process and who also is a witness in this rate case, please explain your understanding of the Commission's statements about the relationship between the IRP process and the review of IRP projects in subsequent rate cases.

A. The IRP process is separate from, and serves a fundamentally different purpose than, the ratemaking process. The IRP process is a utility's long-term plan for addressing resources and resource needs, analyzing related costs, risks and alternatives and ultimately selecting the best portfolio of resources to meet those needs. "Uncertainty" necessarily is part of the IRP process, including factors that ultimately affect project scope, cost and timing such as changes to ground conditions, permit requirements, cost of materials and construction season weather, to name a few. Commission acknowledgement in the IRP process does

[33] Order No. 07-002, p. 24.

not mean that a utility's acknowledged projects cannot (or should not) change. In fact, a utility may *need* to change a project acknowledged in the IRP process to demonstrate to the Commission in a rate case that its investment in that project was reasonable and prudently made at the time of investment. Failure to make such a change could result in a project that was acknowledged in the IRP process but later disallowed for cost recovery if the Commission were to find that the utility was not reasonable in heeding changed circumstances. To be clear, the Company believes that the major projects in this rate case remain consistent with the projects, their fundamental purposes, and the least-cost, least-risk framework that the Commission acknowledged in the IRP process. If and to the extent the projects have "changed," such changes were reasonably made by the Company to ensure that it acted prudently at the time it made those investments, and all of these changes were described in my Direct Testimony in this case. Staff's implication that the Company is using "a policy to eschew detailed planning until after the IRP is acknowledged" misapplies the Commission's IRP process and long-standing ratemaking principles.

Q. With your testimony on this subject in mind, please provide an update of the one significant distribution system project that will be placed in service during the Test Year, the Kuebler Boulevard Reinforcement Project.

A. The scope and expected timing and total cost of the Kuebler Boulevard Reinforcement Project has not changed from my Direct Testimony.[34] The

[34] NW Natural/400, Karney/4 and 30-35.

Company expects that the Kuebler Boulevard Reinforcement Project will be complete in the Test Year. As more fully described in the Reply Testimony of Zachary Kravitz, NW Natural/1300, Kravitz, the Company would be amenable to include this project into rates through a tariff rider after the project goes into service in the Test Year.

Q. Do you agree with Staff that the White Salmon and North Mist Projects in the Test Year should be removed from this rate case?[35]

A. Yes. The Company has removed those projects from this case, as shown in Table 3 of NW Natural/2400, Walker.

C. <u>Issue 4: Mist Large Dehydrator</u>

Q. Please summarize Staff's testimony about the large dehydration system at Mist.

A. Staff states that there was a "delay in changing the glycol fluid (TEG)" in the large dehydration system at Mist.[36] According to Staff, "[a]bsent the TEG fouling, the existing unit may have lasted longer."[37] Staff, however, does not recommend any adjustment at this time to the Company's investment in the large dehydration system at Mist.[38]

[35] *Id.* at 8, lines 2-5.
[36] *Id.* at 24, line 4.
[37] *Id.* at 24, line 17.
[38] *Id.* at 25, lines 11-12.

Q. Do you agree with Staff's statement characterizing the changing of the glycol fluid in the large dehydration system at Mist to be "delayed?"

A. No. There is no industry standard replacement interval for the glycol fluid. As Mr. Fox acknowledges, "the TEG manufacturer did not provide a set lifetime."[39] Simply stated, there was no "delay."

Q. Do you believe the Company acted prudently in changing the glycol fluid in the large dehydration system at Mist?

A. Yes. The Company has regularly replaced the filters in the large dehydration system at Mist since it was placed into service in 1998. In the process of changing those filters, the Company has added additional glycol fluid to the system to replace any fluid that was lost during that process. Between 1998 and 2011, NW Natural observed no degradation of glycol fluid. Beginning in 2011, the Company began using corrosion inhibitors and pH adjustors as needed to maintain glycol fluid integrity. The 2017 Engineering Report referenced in my Direct Testimony recommended that the Company replace the glycol fluid. The Company replaced the glycol fluid that same year. The Company did not miss any industry standard replacement interval for the glycol fluid because there was and is no such standard. The Company acted reasonably based upon the facts as they existed .over the course of the life of the large dehydration system at Mist since it was placed in service in 1998 until the glycol fluid was replaced in 2017. Evidence of such reasonableness is found in my exhibit NW Natural/1406, which

39 *Id.* at 25, line 2

is the Company's response to UG 388 OPUC DR 192, specifically the Log Book provided as its Attachment 1, which documents all of the filter replacements and the partial glycol fluid additions since 1998 through 2016 before the Company replaced the glycol fluid in 2017.

III. RESPONSE TO STAFF WITNESS MR. STORM

A. Issue 2: Seismic Risk and Risk Mitigation

Q. Staff discusses the Company's seismic assessment that is "currently underway"[40] and addressed in your Direct Testimony.[41] Please provide an update of the Company's seismic assessment.

A. As stated in my Direct Testimony, the Company completed a pilot study and then has been examining all of its transmission and high-pressure pipelines.[42] On May 8, 2020, the Company received a draft of the Seismic Assessment report that will be finalized in July 2020. Although the Company has just started reviewing the draft, preliminary indications are that areas of interaction exist between our pipeline system and active fault lines. Once the final report is issued, NW Natural will initiate projects to improve the seismic resiliency of its transmission and high-pressure pipeline system.

[40] Staff/800, Storm/28, lines 4-5.
[41] NW Natural/400, Karney/43-45.
[42] *Id.* at 45, lines 13-15.

Q. Please comment on Staff's observation that the Company is not requesting rate recovery through a Safety Cost Recovery Mechanism ("SCRM").[43]

A. Staff is correct that the Company is not requesting an SCRM, at this time. As stated in my Direct Testimony, the Company continues to examine several significant safety initiatives that could be suitable for inclusion in an SCRM.[44] The Company will provide any updates to its examination through the SPPs that it files in UM 1900.

IV. <u>RESPONSE TO STAFF WITNESS MR. FJELDHEIM</u>

A. <u>Issue 2: Gas Storage Operating Expense</u>

Q. Staff testifies to a "large percentage increase" in the Company's gas storage operating expenses "in recent years," about which Staff was "issuing a follow up DR requesting that NW Natural explain."[45] Did the Company submit a DR response with the requested explanation of the observed increases?

A. Yes. My exhibit NW Natural/1407 is the Company's response to UG 388 OPUC DR 375.

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[43] Staff/800, Storm/30, lines 12-15.
[44] NW Natural/400, Karney/49-50.
[45] Staff/300, Fjeldheim/10, lines 4-9.

Q. Referring to your exhibit NW Natural/1407, please describe the key drivers of the observed increases from 2016 through 2018, from your operational perspective.

A. The primary driver of the increase in gas storage operating expenses from 2015 to 2016 was the Company's corrosion mitigation activities for the Portland LNG tank in 2016. Those activities included cleaning and painting the entire tank.

There were three primary drivers of the increase in gas storage operating expenses from 2017 to 2018. First, PHMSA adopted a new Underground Storage Interim Final Rule (API 1171) at the end of 2016. This rule required the Company to plan, develop and implement a well integrity program. The Company hired outside experts in 2018 to assist in complying with this new federal requirement. Second, the Company rebuilt the two large compressors at Mist (the 500 and 600 units) in 2017. Third, the Company upgraded the Newport LNG facility in 2018, based on the Company's engineering department having recommended increasing the cycling of liquefaction/vaporization systems to reduce the CO_2 build up in the tank. The cycling of the Newport LNG facility has been a topic of several of the Company's quarterly meetings with Staff. The increased usage of the facility drove higher operations and maintenance ("O&M") costs, and the new upgrade required different plant processes, process automation enhancements and cold box remediation efforts.

Q. Referring again to your exhibit NW Natural/1407, please describe the key drivers of the observed increases from the Base Year (2019) through the Test Year, from your operational perspective.

A. There are two primary drivers of the increase in gas storage operating expenses from the Base Year to the Test Year. First, the Company is rebuilding four compressors at Mist in 2020. Second, the Company has been leasing a compressor at Mist since July 2019.

Q. Why is the Company rebuilding the compressors at Mist and leasing another compressor?

A. There are currently four compressor units at Mist: two reciprocating units (300 and 400) placed in service in 1989 and two turbine units (500 and 600) placed in service in 1998 and 2002, respectively. The 300 and 400 reciprocating units have experienced operational problems in the last few years and are not currently reliable. Additionally, the 500 turbine unit also has experienced operational problems, and the procurement for replacement parts and technical support for this unit are very limited. Finally, the 600 turbine unit was scheduled to be rebuilt during this timeframe. The operation of the compressors is necessary for the Mist storage facility to continue as a supply source for customers. The Company, with the support of a technical consulting firm working on the study discussed earlier in my Reply Testimony, has been investigating the extent of wear on the 300 and 400 reciprocating units as well as the 500 turbine unit, diagnosing problems and failures, obtaining scarce replacement parts, refurbishing or replacing worn parts, reviewing rebuilt work, and reinstalling and restarting the compressors. The leased compressor has been used while the 600 turbine unit was being rebuilt and during the overlapping timeframe when the other compressor units were offline being rebuilt.

Q. Do you agree with Staff that the Company's underground storage expense should be reduced by $1.018 million?[46]

A. No, for the reasons provided in my Reply Testimony. Company witness Mr. Tobin Davilla addresses this topic further in his Reply Testimony (exhibit NW Natural/2100, Davilla).

V. RESPONSE TO AWEC WITNESS MR. MULLINS

A. Mist Storage Facility

Q. Is AWEC correct that the Company uses Mist in part "for customers served on NW Natural's Tariff Schedule 90, for the North Mist Expansion?"[47]

A. No. AWEC is mistaken. Mist is not used to serve NW Natural's Tariff Schedule 90, as the Company explained in its textual responses to UG 388 AWEC DR 32 and 36, which are attached collectively as my exhibit NW Natural/1408. North Mist is several miles away from Mist and has its own distinct facilities including its own compressor, dehydrator, wells, and pipeline for service to a single customer. For this same reason, "Schedule 90 revenues"[48] also are irrelevant to this rate case.

[46] Staff/300, Fjeldheim/10, lines 10-14.
[47] AWEC/100, Mullins/3-4.
[48] *Id.* at 7, line 16.

Q. Do you agree with AWEC that the Company "understates the scope and the scale of the projects" at Mist?[49]

A. No. The Company has been very forthcoming in this proceeding about the scope and scale of its projects at Mist. My Direct Testimony addresses major projects, such as the Mist Large Dehydration System Project,[50] and also provides an update of the Mist Instrument and Controls Project (Phase 2) introduced in the Company's last rate case (UG 344).[51]

The Company provided detailed descriptions of its other Mist projects in its response to UG 388 OPUC DR 227, attached as my exhibit NW Natural/1409, including how those projects benefit our customers, why those investments are necessary at this time and alternatives considered. Mist began storage operations in 1989. As the Company explained in my exhibit NW Natural/1409, Mist is experiencing increased maintenance needs due to age. NW Natural's "actual investments" and "upgrades and updates"[52] beyond the Mist Large Dehydration System Project are necessary for the safe operation and availability of the Mist storage facility and to allow it to remain a supply source to meet firm customer demand.

[49] *Id.* at4, line 14.
[50] NW Natural/400, Karney/4, 35-40.
[51] *Id.* at /4,40-41.
[52] AWEC/100, Mullins/4, lines 15-18.

Q. Please respond to AWEC's observation that "[a]pproximately 86%" of the Mist storage investments "are expected to come online in October 2020."[53]

A. AWEC's observation comes as no surprise, for two reasons. First, projects at Mist purposefully are scheduled from April through October so that the facility is fully operational for the withdrawal/heating season from November 1st through March 31st. Second, the Mist Large Dehydration System Project by itself comprises much of that "[a]pproximately 86%" of Mist storage investments expected to be completed in October 2020.

Q. AWEC suggests that the schedule of projects at Mist may be "impacted" or "delayed" by COVID-19.[54] How do you respond?

A. The schedule of projects at Mist has not been impacted or delayed by COVID-19 as of the date of the filing of this Reply Testimony, and we will provide a further update in our Surrebuttal Testimony. NW Natural is working closely with State health authorities and the Safety Staff at the Commission to monitor the COVID-19 situation in our service territory and take all necessary steps to protect our employees and contractors. The Company has created personal protective equipment ("PPE") guidance to perform maintenance and compliance activities necessary for the continuous operation of our system. These guidelines are based on the Occupational Safety and Health Administration's Guidance on Preparing Workplaces for COVID-19 and the most current Centers for Disease

[53] *Id.* at 4, lines 21-22.
[54] *Id.* at 4, lines 22-23.

Control and World Health Organization guidance, and include social distancing, appropriate PPE, and traveling in separate vehicles.

B. Mist Operating Expense

Q. Do you agree with AWEC that although the Company explained the Mist Large Dehydration System Project, "it did not necessarily elaborate on the drivers of the increased O&M expense associated with Mist Storage"?[55]

A. No. For an explanation, please see my Reply Testimony to Staff witness Mr. Fjeldheim's "Issue 2: Gas Storage Operating Expense."

C. Account 367, Mains

Q. Does AWEC have a recommendation regarding the Company's discrete capital projects?

A. Yes. AWEC recommends eliminating all discrete capital projects in Account 367 Mains with one exception: the Sandy Feeder Reinforcement Project.[56]

Q. From an operational perspective, what is the effect of AWEC eliminating all discrete capital projects in Account 367 Mains with the one noted exception?

A. AWEC eliminates all investment in Mains that the Company is making in other significant distribution system and safety-related projects, including the Hood River Reinforcement Project, the South Oregon City Reinforcement Project, the Happy Valley Reinforcement Project and the OR 212 257th US 26 ODOT Project that are supported in my Direct Testimony.

[55] *Id.* at 6, lines 19-20.
[56] *Id.* at17, lines 15-19.

Q. Does AWEC explain why it would allow the Mains investment in the Sandy Feeder Reinforcement Project to be recovered but not the Mains investments in any other discrete project?

A. No. AWEC provides no basis from an operational perspective for distinguishing the Company's Mains investment in one discrete project from the Company's Mains investments in other discrete projects. Mr. Davilla addresses in his Reply Testimony (exhibit NW Natural/2100, Davilla) the implication of AWEC's recommendation that Mains investments in all discrete projects except for one should be disallowed because "it appears that NW Natural has no clear methodology for distinguishing between run rate and discrete capital items."[57]

Q. Do you agree with AWEC's recommendation about the disallowance of all Mains investment in discrete projects except for the Sandy Feeder Reinforcement Project?

A. No. My Direct and Reply Testimonies explain in detail why all of the Company's Mains investment in discrete projects are prudently incurred and are used and useful in providing service to utility customers. Importantly, neither Staff nor the Oregon Citizens' Utility Board recommend <u>any</u> disallowance to the Company's Mains investment in discrete projects that will be in service by the rate effective date.

Q. Does this conclude your Reply Testimony?

A. Yes.

[57] *Id.* at17, lines 6-7.

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Joe Karney

DISTRIBUTION SYSTEM AND STORAGE FACILITY PROJECTS

EXHIBIT 1401

May 29, 2020

NW Natural

Rates & Regulatory Affairs
UG 388
2020 OR General Rate Revision
Data Request Response

Request No.: UG 388 OPUC DR 137

137. Regarding the major distribution system and facility storage projects presented in testimony (Karney, 400/3-4):
a. For each project, please provide the project budget details (e.g. materials, labor, contract services, engineering, AFUDC, construction overhead, etc.) as of the date of the Company's final comments in Docket No. LC 71 filed on February 8th 2019.
b. Please provide the details of all subsequent changes to the project budgets that occurred from February 8th, 2019 through the Company's initial filing in this rate case.
c. Please provide a detailed narrative explanation of the decision to re-route the Sandy feeder project and split the project into two separate projects for the rate case filing.
d. Please provide a detailed narrative explanation of how the Company interacts with the Oregon Department of Transportation (ODOT) for the Sandy feeder project specifically, including a discussion of how ODOT's design and project management decisions affected the Company's decision to reroute the project.
e. Please provide the pipeline size and installed length in feet that was contemplated at the time of the Company's final comments in the LC 71 docket compared to the pipeline size and installed length in feet as included in this rate case for the following projects.
i. Sandy Feeder Reinforcement/OR 212 257th to US 26 Project
ii. Hood River Reinforcement
iii. South Oregon City Reinforcement
f. Regarding the Mist Large Dehydration Project,
i. Please provide the project budget details (e.g. materials, labor, contract services, engineering, AFUDC, construction overhead, etc.) as of the date of the Company's update of its 2016 IRP Action Plan. (Karney, 400/36)
ii. Please provide the details of all changes to the project budget that occurred subsequent to February 2018.
iii. Please provide a copy of the FMEA analysis referenced in testimony (Karney, 400/38).
iv. Please provide a detailed narrative explanation of why "replacement of the dehydrator is still the least-cost, least-risk option". (Karney, 400/40).
g. Regarding the Mist Instrument and Controls Project (Phase 2),
i. Please provide a detailed narrative explanation why completion of the project was delayed from October 2018 to October 2020 subsequent to its removal from rate base in the UG 344 rate case. (Karney, 400/41)

ii. Please explain why the project cost escalated from $1.238 million to $1.7 million. (Karney, 400/41).

Response:

To manage large capital projects, NW Natural uses a Project Management process with multiple stage gates. A high-level summary of the process is as follows:

- Initiation: At this stage, the project team is authorized to take action to move the project forward. A nominal amount of money may be authorized for items such as internal labor, feasibility studies, or other items necessary to scope the project.
- Planning: At this stage, the project team will focus on defining final design, budget, and schedule. The intent is to ensure that the project has a fully defined plan and approach for moving to execution. The Planning phase will have a budget to account for items such as engineering design, exploratory field work, and permits.
- Execution: At this stage, the project is constructed to completion. Any changes to scope and costs are captured in Change Orders. The Execution phase will have a budget to account for all costs necessary for constructing the project. (Note: The Execution budget does not include the already approved Planning budget).
- Close out: At this stage, the project team will complete all required paperwork associated with the project.

During the IRP process, there is not a budget created yet with COH, AFUDC, etc., because we do not create a "project" in our Project Management process until the IRP is acknowledged (or not) by the Commission. For these system reinforcements and betterments, we use proposed pipeline size, length and route to create cost estimates based on projected internal labor and material costs and/or external labor from similar projects for the IRP analysis. For projects at Newport, Portland LNG, and Mist, we may commission a study to provide a cost estimate. If the system reinforcement or betterment is acknowledged by the Commission in the IRP process, then we kick-off the Initiation phase, where we create a Planning budget. The Initiation phase is followed by the Planning phase, where we create the Execution budget. Below is a summary table of all the major distribution system and facility projects presented in testimony and their project management status.

Project	Project Management Status as of February 8, 2019	Project Management Status as of December 30, 2019	Expected move to Execution month	Expected Used and Useful month

Sandy Feeder Reinforcement	Not started - Waiting for IRP acknowledgement	Planning	May 2020	October 2020
Hood River Reinforcement	Not started - Waiting for IRP acknowledgement	Planning	April 2020	June 2020
South Oregon City Reinforcement	Not started - Waiting for IRP acknowledgement	Planning	February 2020	May 2020
Happy Valley Reinforcement	Not started - Waiting for IRP acknowledgement	Execution	N/A	March 2020
Kuebler Boulevard Reinforcement	Not started - Waiting for IRP acknowledgement	Initiation	May 2021	October 2021
Mist Large Dehydrator	Execution	Execution	N/A	October 2020
Mist Instrument and Controls Phase 2	Not started	Planning	April 2020	October 2020
OR 212 257th to US 26 ODOT	Planning	Execution	N/A	March 2020

a. As mentioned above, not all of the major distribution system and facility projects presented in testimony had full project budget details as of February 8, 2019.

IRP projects as of February 8, 2019

Projects in NW Natural's 2018 IRP (LC 71) action plan (Hood River Reinforcement, Happy Valley Reinforcement, Sandy Feeder Reinforcement, South Oregon City Reinforcement and Kuebler Blvd Reinforcement) had not been acknowledged by the OPUC as of February 8, 2019 (the OPUC issued Order No. 19-073 on March 4, 2019). As such, the projects had not yet entered the Initiation or Planning phase.

Mist Instrument and Controls Project (Phase 2) as of February 8, 2019

The Mist Instrument and Controls Project (Phase 2) had not yet entered the Planning phase as of February 8, 2019.

Mist Large Dehydration System Project as of February 8, 2019

The Mist Large Dehydration System Project had a detailed Execution budget as of February 8, 2019, as shown below:

Project #:	201663	**Project Name:**	**Mist Large Dehydration System Replacement**
Project Mgr:	Shane Melski		

Show/Hide WBS	WBS Description	November, 2018		
	Total Requested Amount	**$ 20,132,577**		
-01	Design	**$ 3,189,243**		
-02	Construction	**$ 16,943,334**		
CE Group	Labor	$499,000		
CE Group	Equipment	$5,784,500		
CE Group	Subcontract	$10,165,804		
CE Group	Materials	$ -		
CE Group	Other	$494,030		
-02-99	Execution Contingency	$0		

Feb. 8, 2019 Execution Budget = $20,132,577 (without construction overhead, or "COH") (Oregon calculated allocation $18,864,225)

Execution Budget COH = $201,325 (Oregon calculated allocation $188,642)

Feb. 8, 2019 Total Budget = $ 20,333,902 (Oregon calculated allocation $19,052,866)

OR 212 257th to US 26 ODOT Project as of February 8, 2019

The OR 212 257th to US 26 ODOT Project had a detailed Planning budget as of February 8, 2019, as shown below:

Project #:	201797	**Project Name:**	**OR212 257th Ave to US26**
Project Mgr:	Andrea Kuehnel		

Show/Hide WBS	WBS Description		YEAR 1	YEAR 2	YEAR 3
	Total Requested Amount	**$ 1,095,131**			
-01	Design	**$ 1,095,131**			
CE Group	Labor	$ 40,000	$35,000	$5,000	$0
CE Group	Equipment	$ 4,500	$4,000	$500	$0
CE Group	Subcontract	$ 998,631	$998,631	$0	$0
CE Group	Materials	$ 2,000	$2,000	$0	$0
CE Group	Other	$ 50,000	$50,000	$0	$0
-02	Construction	**$ -**			
CE Group	Labor	$ -	$0	$0	$0
CE Group	Equipment	$ -	$0	$0	$0
CE Group	Subcontract	$ -	$0	$0	$0
CE Group	Materials	$ -	$0	$0	$0
CE Group	Other	$ -	$0	$0	$0
-02-99	Execution Contingency	$0			

Feb. 8, 2019 Planning Budget = $1,095,131 (without COH)

Planning Budget COH = $416,150

b. Updates to each of the major distribution system and facility projects from February 8, 2019 to the rate case (UG 388) filing date of December 30, 2019 are provided below.

Sandy Feeder Reinforcement Project

Between February 8 and December 30, 2019, a project Planning budget was developed for the Sandy Feeder Reinforcement Project. Please refer to **UG 388 DR 137 Attachment 1** for the project Planning budget without construction overhead.

December 30, 2019 Planning Budget = $950,000 without construction overhead.

December 30, 2019 Total Planning Budget = $1,311,000 with construction overhead.

The Execution phase budget is still in the process of being developed, as engineering design and easement acquisition are ongoing at this time. The current Total Project Estimate for the Sandy Feeder Reinforcement Project is $14.9 million as per NW Natural/400/Karney/Page 9.

Hood River Reinforcement Project

Between February 8 and December 30, 2019, a project Planning budget was developed for the Hood River Reinforcement Project. Please refer to **UG 388 DR 137 Attachment 2** for the project Planning budget without construction overhead.

December 30, 2019 Planning Budget = $400,000 without construction overhead.

December 30, 2019 Total Planning Budget = $552,000 with construction overhead.

The Execution phase budget is still in the process of being developed, as engineering design is ongoing at this time. The current Total Project Estimate for the Hood River Reinforcement Project is $4.6 million as per NW Natural/400/Karney/Page 17.

South Oregon City Reinforcement Project

Between February 8 and December 30, 2019, a project Planning budget was developed for the South Oregon City Reinforcement Project. Please refer to **UG 388 DR 137 Attachment 3** for the project Planning budget without construction overhead.

December 30, 2019 Planning Budget = $500,000 without construction overhead.

December 30, 2019 Total Planning Budget = $690,000 with construction overhead.

The Execution phase budget is still in the process of being developed, as engineering design is ongoing at this time. The current Total Project Estimate for the South Oregon City Reinforcement Project is $5.8 million as per NW Natural/400/Karney/Page 24.

Happy Valley Reinforcement Project

Between February 8 and December 30, 2019, budgets were developed for planning for internal labor, project planning, partial execution and the remainder of the execution for the Happy Valley Reinforcement Project.

Please refer to **UG 388 DR 137 Attachment 4** for the project Planning budget without construction overhead.

Please refer to **UG 388 DR 137 Attachment 5** for the partial Execution budget without construction overhead for early horizontal directional drill work near a school zone.

Please refer to **UG 388 DR 137 Attachment 6** for the remainder of the Execution budget without construction overhead.

December 30, 2019 Total Project Budget = $3,487,620 without construction overhead.

December 30, 2019 Total Project Budget = $4,812,916 with construction overhead.

Kuebler Boulevard Reinforcement Project

The current Total Project Estimate for the Kuebler Boulevard Reinforcement Project is $19.7 million as per NW Natural/400/Karney/Page 35. The Company is working on a Request For Proposal (RFP) for an engineering consultant to evaluate final route selection, produce the detailed design, and develop the final project budget. As of December 30, 2019, there have been no further changes to the project budget.

Mist Large Dehydration System Project

Between February 8 and December 30, 2019, there were no formal change orders on the Mist Large Dehydration System Project, as the project was still in the open book, design phase of the contract. In October 2019, NW Natural conducted 60% design review in a meeting with the EPC contractor. The EPC contractor indicated in that October 2019 meeting that EPC costs had increased.

The total project estimate for the Mist Large Dehydration System Project was set at $23.7 million (Oregon calculated allocation $22.2 million) based on quotes for long-lead equipment and internal estimates of increased labor and material costs, as per NW Natural/400/Karney/Page 39.

Please see the Company's response to UG 388 OPUC DR 137(f) for further details about the Mist Large Dehydration System Project.

<u>Mist Instrument and Controls Project (Phase 2)</u>

Between February 8 and December 30, 2019, a project Planning budget was developed for the Mist Instrument and Controls Project (Phase 2). Please refer to **UG 388 DR 137 Attachment 7** for the project Planning budget without construction overhead.

December 30, 2019 Planning Budget = $140,000 without construction overhead. (Oregon calculated allocation $132,160)

December 30, 2019 Total Planning Budget = $194,600 with construction overhead. (Oregon calculated allocation $183,702)

The Execution phase budget is still in the process of being developed, as engineering design is ongoing at this time. The current Total Project Estimate for the Mist Instrument and Controls Project (Phase 2) is $1.8 million (Oregon calculated allocation $1.7 million) as per NW Natural/400/Karney/Page 41.

<u>OR 212 257th to US 26 ODOT Project</u>

Between February 8 and December 30, 2019, project budgets were prepared for early purchase of materials and the remaining Execution budget. Please refer to **UG 388 DR 137 Attachment 8** for approval of early request to purchase pipeline materials. Please refer to **UG 388 DR 137 Attachment 9** for the full Execution budget and a summary of the estimated total project costs.

December 30, 2019 Total Project Budget = $12,083,499 without construction overhead.

December 30, 2019 Total Project Budget = $16,675,229 with construction overhead.

c. Please refer to **UG 388 DR 137 Attachment 10** for identification of the pipeline route alternatives, benefits, risks and concerns and estimated design, construction, and total project costs of pipeline construction, followed by a summary of the decision to select the preferred alternative to reroute the 8-inch pipeline away from OR 212 at Richey Road.

The Sandy Feeder Reinforcement Project is presented in Section 5.3 of LC 71, NW Natural's 2018 Integrated Resource Plan. Figure 8.13 of the 2018 IRP shows the Sandy Feeder split into two separate projects. Footnote 13 at the bottom of page 8.17 and Footnote 14 at the bottom of page 8.18 further discuss our intent to separate the Sandy Feeder into two separate projects. Footnote 13 states: "The portion of the Sandy Feeder that is not replaced under the reinforcement project is being replaced earlier. This is due to the Oregon Department of Transportation's requirement related to its road construction project. This public works replacement project is mandated." Footnote 14 states: "The Sandy Feeder Reinforcement project is identified as Phase 2 in Figure 8.13. Phase 1 in Figure 8.13 refers to the Sandy Feeder public works project, which involves a 2019 relocation mandated by road construction."

It was necessary to split the Sandy Feeder in two phases due to ODOT's public works roadway improvements project along OR 212 between I-205 and US 26. At the time of the 2018 submittal, NW Natural was obligated by ODOT to complete gas facility relocation work and construction of any new 8-inch pipeline within the OR 212 right-of-way by the end of calendar year 2019. NW Natural did not move forward with the Planning phase of the Phase 2 portion of the Sandy Feeder Reinforcement Project until the 2018 IRP was acknowledged by the OPUC in the spring of 2019. The Sandy Feeder Reinforcement Project was proposed for 2020 construction in the 2018 IRP because of the time it was believed necessary for completion of the surveying and engineering design, easement acquisition, permit acquisition, vendor procurement and construction.

d. **<u>Chronology of OR 212 257th to US 26 ODOT Project and Sandy Feeder Reinforcement Project (Phase 1)</u>**

Please see **UG 388 DR 137 Attachment 11** for a chronology of the key document transmittals received from ODOT and ODOT project deadlines as well as NW Natural's activities during the Initiation and Planning phases of the OR 212 gas pipeline improvements (Phase 1 of the Sandy Feeder Reinforcement Project).

<u>NW Natural Interaction with ODOT during the Sandy Feeder Project Planning</u>

ODOT hired a consulting engineering firm to issue correspondence and manage the utility notification program for ODOT's OR 212 roadway improvements project. ODOT's design and utility notification process is an iterative process. As ODOT advanced their roadway plans to the next stage of ODOT's plan development, its utility notification consultant would then transmit the newest plans along with a conflict letter to NW Natural. As NW Natural's gas facilities occupy ODOT's right-of-way, we are obligated to perform our relocation work to satisfy ODOT's project schedule and we have very little influence over ODOT's schedule.

At least four times between 2017 and 2019, ODOT's consultant issued notice of utility conflict letters and draft updated construction plans informing NW Natural of potential gas facility conflicts to investigate and the date for which NW Natural had to complete utility relocation work to avoid delay to ODOT's project. As the design matured for ODOT's three projects along the OR 212 corridor, the date required for NW Natural to complete relocation work was adjusted from early 2019 to August 2019 for work west of 257th and May 2020 for their OR 212 work zone from 257th Ave to Richey Road.

Multiple times between 2018 and 2019, utility relocation design meetings were conducted by ODOT's consultant, with NW Natural and ODOT staff present. At these utility relocation design meetings ODOT's project schedule was a point of discussion, as was the newest date for the required completion of our utility relocation work. These meetings were also an opportunity for NW Natural staff to ask questions to clarify the scope of ODOT's proposed road improvements to assist with development of our gas facility relocation plans.

In 2018, NW Natural staff informed ODOT of a planned future Sandy Feeder Reinforcement gas pipeline project along OR 212. ODOT and their consultant informed NW Natural staff that once ODOT completed the OR 212 improvements, NW Natural would not be able to cut the new roadway pavement (pavement no-cut moratorium) and suggested that NW Natural complete all pipeline construction before the start of the ODOT OR 212 improvements project. (ODOT later made a condition of our work in right-of-way permit that all 8-inch pipeline construction within OR 212 had to be completed by the end of 2019. Refer to the May 5, 2019 date in Attachment No. 1.)

<u>How ODOT Design and Project Management Affected NW Natural's Decision to Reroute the Project</u>

ODOT did not directly influence NW Natural's decision to reroute the 8-inch pipeline. In Part c of our response to UG 388 DR 137, we summarize the benefits and risks and concerns with the OR 212 route identified in the 2018 IRP versus the selected location to reroute the pipeline.

ODOT's policy of not allowing the new roadway pavement to be cut (pavement no-cut moratorium) after ODOT completed construction of the OR 212 roadway improvements was a factor we had to consider when estimating the time requirements for acquisition of easements from private landowners and environmental permitting procurement.

Before we received any notification about the OR 212 improvements from ODOT, ODOT had already developed its project schedule and started roadway design. ODOT's stated schedule to start work at the Deep Creek Bridge in June 2020 was another factor that we had to consider when identifying the risks and concerns for the OR 212 route shown in LC 71. To satisfy ODOT's May 2020 deadline for our work near Deep Creek, we decided that we needed to finish our gas pipeline construction before wet weather set in by late October, 2019. Easement acquisition and uncertainty about the potential environmental permitting requirements and permit acquisition timelines made construction by October, 2019 a schedule risk. As stated in Part c of our response to UG 388 DR 137, this schedule risk was one of the many risks and concerns behind our decision to reroute the pipeline.

e. Discussed below is the pipeline size and installed length in feet that was contemplated at the time of the Company's final comments in the LC 71 docket, as compared with the pipeline size and installed length in feet as included in this rate case for the following projects:

i. Sandy Feeder Reinforcement / OR 212 257th to US 26 ODOT Project

The OR 212 257th to US 26 ODOT Project was constructed in summer and fall of 2019 with the 8-inch wrapped steel pipeline placed into service in December 2019. The Sandy Feeder Reinforcement Project construction is planned to start in June 2020 and be completed in October, 2020. We are still working on acquisition of an easement for the district regulator at the terminus of the 8-inch gas main. If we are unable to procure an easement on the preferred property then it is possible that the length shown below for the Sandy Feeder could increase by up to 0.3 miles. The pipe diameter and lengths contemplated with the 2018 IRP file (LC 71) and the 2020 Rate Case are shown in the table below.

Project	**Contemplated with LC 71 Filing**		**2020 Rate Case DR 137 e.**	
	Pipe Diameter	Length	Pipe Diameter	Length
Sandy Feeder (2020)	8-inch	26,500 feet	8-inch	16,900
OR 212 257 to US 26 (2019)	8-inch	15,900 feet	8-inch	26,100 feet

ii. Hood River Reinforcement Project

Project	**Contemplated with LC 71 Filing**	**2020 Rate Case DR 137 e.**

	Pipe Diameter	Length	Pipe Diameter	Length
Hood River Reinforcement (2020)	4-inch	12,100 feet	4-inch	6200 feet

iii. South Oregon City Reinforcement Project

Project	**Contemplated with LC 71 Filing**		**2020 Rate Case DR 137 e.**	
	Pipe Diameter	Length	Pipe Diameter	Length
South Oregon City Reinforcement (2020)	6-inch	8,000 feet	6-inch	8,500

f. Regarding the Mist Large Dehydration System Project

i. In its 2016 IRP (LC 64 filed August 26, 2016), NW Natural included the Mist Large Dehydration Project in its action plan concluding that it should "[r]eplace or repair, depending on relative cost-effectiveness, the large dehydrator at Mist's Miller Station." To prepare for the evaluation, a project charter was created on November 9, 2016 (**UG 388 OPUC DR 137 Attachment 12**). Page 7 of the project charter shows the detailed Planning budget of $606,000 (without construction overhead) (Oregon calculated allocation $567,822). Total Planning budget with COH was $757,500 (Oregon calculated allocation $709,778).

On March 21, 2017, NW Natural prepared its Alternative Analysis for the Mist Large Dehydration System Project (**UG 388 OPUC DR 137 Attachment 13**). In accordance with the acknowledgment in the IRP, the Alternative Analysis recommended to "conduct an engineer evaluation and repair/replace (the) large dehydration system." The Alternative Analysis included a total estimated capital cost of $7,114,000 (Oregon calculated allocation $6,665,818). The Alternative Analysis included three additional alternatives, which included doing nothing to the large dehydrator until failure, replacing the large dehydrator without evaluation, and replacing the lost Mist capacity with additional Northwest pipeline capacity.

The Company completed the engineering report during the 2017 injection season and included examination of service and maintenance records, operability, external structural integrity, age, and cost estimations. The engineering report recommended both interim repairs and replacement of the large dehydration system. The Company attempted interim repairs to the large dehydration system, but those repairs were not successful. As a result, the Company issued an RFP to prospective contractors for the design and construction of the Mist Large Dehydration System Project. The RFP responses contained pricing substantially higher than the initial estimated cost range.

On July 19, 2018, NW Natural addended the alternative analysis with the updated costs (**UG 388 OPUC DR 137 Attachment 14**). The updated alternative analysis included a total project cost of $21.3 million (Oregon calculated allocation $19,958,100). This alternative analysis concluded that the "[r]eplacement of the large dehydration system at Mist with a like-for-like 350 MMSCFD system featuring two contact towers (a.k.a. Case 2) is the recommended option." On July 25, 2018, the project team submitted its move to execution paperwork (**UG 388 OPUC DR 137 Attachment 15**), which included an execution budget of $20,333,902 (Oregon calculated allocation $19,052,866). A contract was awarded to Burns and McDonnell to design and construct the large dehydration system. As mentioned in part (b) of this data request, the total project estimate for the Mist Large Dehydration System Project was set at $23.7 million (Oregon calculated allocation $22.2 million) based on quotes for long-lead equipment and internal estimates of increased labor and material costs, as per NW Natural/400/Karney/Page 39.

The Burns and McDonnell contract was an open book/closed book contract. During the e-sign phase, the contract would remain open book, and the ultimate contract price would be set once the design was finalized. The Company and Burns and McDonnell are currently reviewing the final design and associated costs. A change order will be created to capture any additional costs above what has been approved in the move to execution document. This data request will be supplemented once that change order has been approved.

ii. Please see Response to UG 388 OPUC DR 137(f)(i) above for project budget changes during the life of the project.

iii. Please see the response to UG 388 CUB DR 8 for a copy of the FMEA analysis referenced in testimony. UG 388 CUB DR 8 Attachment 2 is the FMEA worksheet in excel and contains the full FMEA analysis performed. UG 388 CUB DR 8 Attachment 3 is the associated write up and contains the conclusions of the FMEA study.

iv. The replacement of the Mist large dehydration system is still the least-cost, least risk option, as documented in the FMEA study (see UG 388 CUB DR 8 Attachments 2 and 3). The FMEA study concluded that replacement of the Mist large dehydration system was necessary as soon as possible for both safety and compliance. It found that the large dehydration system has performance and operational issues and has a high probability of experiencing a failure impacting safety and/or compliance by 2024. Without an operational dehydration unit, the Company would have to purchase additional capacity from interstate pipelines to meet peak demand. That capacity was estimated in the Alternatives Analysis for the project to cost $58 million annually. **See UG 388 OPUC DR 137 Attachment 13 and 14**. Consequently, the Company concluded that the replacement of the large dehydration system at Mist's Miller Station was appropriate as soon as possible.

To reach this conclusion, NW Natural evaluated the continued operations of the existing systems with repair and maintenance on a piece-by-piece as-needed basis (Case 1) and a like-for-like replacement of the dehydration systems (Case 2). It is important to note that the Mist storage field cannot operate without a functioning dehydrator. The gas stored underground becomes saturated with water and the dehydrator removes the excess water from the gas.

Case 1 required a substantial O&M budget for planned maintenance over 20 years with major outages / teardowns required once per 4-year cycle. The replacement schedule of predicted systems is based upon structural analysis of component external structures only. The existing dehydrator was found to have:

- Existing failed systems.
- Several critical systems predicted to have structural failure within the next 12 years (must replace).
- Fouled / black, highly viscous TEG observed on and within all systems (should be clear as water).
- Internal components of the heat exchanger equipment could not be examined.
- Portions of large dehydrator regen firetube that could be observed due to removal of stilling column for repair exhibited heavy depositing of viscous substance (congealed fouled / black TEG).
- Only the external structures of the vessels could be evaluated for prediction of remaining life.

As a result of the FMEA study, the regen and scrubber systems for Case 1 from the 2024 – 2025 season show four (4) possible modes of failure related to safety and/or compliance with a high probability of occurring.

The severity of the failure modes and their associated probability of occurrence make it clear that there is high risk of catastrophic failure by 2024 if Case 1 were pursued. This data supports replacement of the entire large dehydration system before 2024.

Case 2 included new regens, cooling towers, train systems, and all associated systems. New systems are modernized and require minimal O&M budget for planned maintenance over 20 years.

As a result of the FMEA study, due to the high probability of failure (safety, compliance, & otherwise) and large number of downtime days due to failure by 2024 – 2025, the large dehydration system should be replaced as per Case 2 as soon as possible.

g. Regarding the Mist Instrument and Controls Project (Phase 2)

i. The Mist Instrument & Controls Project's scheduled completion had shifted from 2018 to 2019, and again from 2019 to 2020, due to resource constraints caused by key engineering staff and operations staff at Miller Station being unavailable to support the project given other critical priorities. The project was initiated at the end of July 2019 and ultimately the 'Move to Planning' was approved on 9/16/2019 with completion in 2020.

ii. The initial scope and cost estimate of $1.238 million was based on a 2016 engineering report conducted by EN Engineering that outlined several system components that needed to be replaced or upgraded, specifically the replacement of moisture analyzers and Rosemount transmitters. Since then, NW Natural electricians have noted additional failed ultrasonic transmitters. Those transmitters are at the end of their 20-year lifespan and are required to ensure proper metering in and out of wells. Additionally, the site Emergency Shut Down (ESD) flow switches are incorrectly designed for the facility and put the plant at risk of a false shutdown. Collectively, these are additional scope items that were not included in the original scope that resulted in additional cost and the new project estimate of $1.7 million.

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Joe Karney

DISTRIBUTION SYSTEM AND STORAGE FACILITY PROJECTS

EXHIBIT 1402

May 29, 2020

NW Natural®

Rates & Regulatory Affairs
UG 388
2020 OR General Rate Revision
Data Request Response

Request No.: UG 388 OPUC DR 137

137. Regarding the major distribution system and facility storage projects presented in testimony (Karney, 400/3-4): …f. Regarding the Mist Large Dehydration Project, (i) Please provide the project budget details (e.g. materials, labor, contract services, engineering, AFUDC, construction overhead, etc.) as of the date of the Company's update of its 2016 IRP Action Plan. (Karney, 400/36)

Supplemental Response:

f(i). The Company's response to this data request stated, in relevant part: "The Company and Burns and McDonnell are currently reviewing the final design and associated costs. A change order will be created to capture any additional costs above what has been approved in the move to execution document. This data request will be supplemented once that change order has been approved."

The Company and Burns and McDonnell have completed their review of the final design and associated costs. Please see Confidential UG 388 OPUC DR 137 Supplemental Attachment 1 for a copy of the change order approved by the Company on February 27, 2020. Once the Company and Burns and McDonnell have fully executed the document memorializing their agreed-upon final design and associated costs, the Company will amend this response by removing the confidential designation from Supplemental Attachment 1.

This supplemental response also serves as the Company's supplemental response to UG 388 OPUC DR 246.

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Joe Karney

DISTRIBUTION SYSTEM AND STORAGE FACILITY PROJECTS

EXHIBIT 1403

May 29, 2020

NW Natural®

Rates & Regulatory Affairs
UG 388
2020 OR General Rate Revision
Data Request Response

Request No.: UG 388 OPUC DR 246

246. Regarding the Company's response to data request 137f(i), please indicate when the Burns and McDonnell final design and cost review is expected to be completed.

Response:

The final design and cost review for the Mist Large Dehydration System Project is expected to be completed in early March 2020. The Company will supplement its response to UG 388 OPUC DR 137f(i) once that review is complete.

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Joe Karney

DISTRIBUTION SYSTEM AND STORAGE FACILITY PROJECTS

EXHIBIT 1404

May 29, 2020

April 28, 2020

Burns & McDonnell Engineering Company, Inc.
9400 Ward Parkway
Kansas City, MO 64114

Re: Mist Large Dehydration System Replacement Project
Limited Authorization to Commence Certain Construction

Dear Mr. Patrick Oliver:

Northwest Natural Gas Company ("NW Natural") hereby authorizes and directs Burns & McDonnell Engineering Company, Inc. ("Contractor") to perform for NW Natural certain work (the "Early Construction Work," as defined below) related to the Mist Large Dehydration System Replacement Project ("Project") pursuant to the terms and conditions of that Engineering, Procurement and Construction Agreement ("EPC Contract") between NW Natural and Contractor dated August 15, 2018; and Contractor agrees to perform the Early Construction Work in accordance with the terms of this letter (this "Letter Agreement"). This Letter Agreement is effective as of March 17, 2020.

1. Early Construction Work. Contractor is authorized and directed under this Letter Agreement to perform those items of work, and only those items of work, described in the attached Exhibit A (the "Early Construction Work"). Contractor will perform the Early Construction Work in accordance with the terms of the EPC Contract.

2. Compensation; Dollar Limitation. Contractor's compensation to perform the Early Construction Work will not exceed $5,200,000.

3. Schedule. Contractor will perform the Early Construction Work pursuant to the schedule set out Exhibit A.

4. EPC Contract. This Letter Agreement is subject to and hereby made a part of the EPC Contract.

5. COVID-19 Cost and Schedule. Contractor acknowledges and agrees to the following: 1) no cost or schedule impact has been incurred for COVID-19 as of the date this Letter Agreement is signed; 2) as of the date this Letter Agreement is signed, Contractor does not forecast any cost or schedule impacts due to COVID-19; 3) Contractor will not incur additional costs due to COVID-19 without NW Natural's prior written approval, 4) Contractor will promptly notify NW Natural if it anticipates a schedule impact due to COVID-19, and 5) if a cost or schedule impact occurs due to COVID-19, Contractor will follow the procedures for a Material Event contained in the EPC Contract, including but not limited to Contractor being responsible for the first $50,000 of Direct Costs of each Material Event as described in Section 9.4.2 of the EPC Contract.

6. Contractor agrees to perform the Early Construction Work and Owner agrees to pay for the Early Construction Work under this Letter Agreement pending finalization and execution of a Contract Price Amendment to the EPC Contract. However, nothing in this Letter Agreement nor any prior understanding between Owner and Contractor creates or is intended to create a binding and enforceable obligation between Owner and Contractor to such Contract Price Amendment.

Please indicate Contractor's agreement with the terms of this Letter Agreement by having the appropriate signatory of Contractor countersign a copy of this letter where indicated below and returning it to Edvige Fykes at e1f@nwnatural.com.

The countersignature below of Contractor's signatory will constitute a representation that the signatory has full authority to sign this Letter Agreement on behalf of Contractor. My signature below constitutes a representation that I have full authority to sign this Letter Agreement on behalf of NW Natural.

Very truly yours,

David Aimone

David Aimone, Treasury & Supply Chain Director

NORTHWEST NATURAL GAS COMPANY

AGREED TO BY:

BURNS & MCDONNELL ENGINEERING COMPANY, INC.

By: Andrew S. Jarvis

Name: Andrew Jarvis

Title: VP T&D Services, EPC Project

Date: May 1, 2020

Exhibit A

Early Construction Work

- Procure and accept delivery of the Motor Control Cabinet (MCC), in accordance with the Scope of Work;
- Procure and accept delivery of the pressure indicator, in accordance with the Scope of Work;
- Procure and accept delivery of the pressure transmitter, in accordance with the Scope of Work;
- Procure and accept delivery of the temperature transmitter, in accordance with the Scope of Work;
- Procure and accept delivery of the on/off valves, in accordance with the Scope of Work;
- Procure and accept delivery of the moisture meter, in accordance with the Scope of Work;
- Procure and accept delivery of the safety shower, in accordance with the Scope of Work;
- Procure and accept delivery of the TEG reclamation tote, in accordance with the Scope of Work;
- Procure and accept delivery of the ultrasonic flow meter, in accordance with the Scope of Work;
- Procure and accept delivery of the power distribution cabinet, in accordance with the Scope of Work;
- Procure and accept delivery of the control valves, in accordance with the Scope of Work;
- Issue notice to proceed to allow Contractor's civil subcontractor to mobilize;
- Issue notice to proceed to allow Contractor's subcontractor (AZCO-Construction/Mechanical) to mobilize;
- Support NW Natural with the shutdown, isolation, and lockout/tagout of the large dehy unit; and
- Perform the demolition of the old large dehy unit and its foundations, provided that a notice to proceed has been released by NWN authorizing Contractor to perform such.
- Exploratory excavation post foundation demolition.
- Install foundation for TEG contactors.
- Install foundation for Thermal Oxidizer.
- Install foundation for PDC Building.
- Install foundation for TEG/Regen Building.

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Joe Karney

DISTRIBUTION SYSTEM AND STORAGE FACILITY PROJECTS

EXHIBIT 1405

Part of NW Natural/1405, Karney (UG 388 CUB DR 8 Attachment 2) is filed in its originally filed Excel format.

May 29, 2020

Mist Miller Station Large Dehy Replacement Project (201663)
Rationale for Replacement with Six-Sigma Failure Analysis, Rev 0

James P. Tomey, P.E. – NWN Engineering Dept
August 19, 2019 (Formalized edit of Original Report from July '18 with Six-Sigma Failure Analysis)

Background:

As stated in the 2016 IRP, NW Natural committed to replacing or repairing the large dehy system at Mist Miller Station. The estimate then for the work was given as between $6 MM and $7 MM as based upon estimates from a 3rd party firm, EN Engineering. NWN also stated in the IRP that it would evaluate alternatives associated with the small dehy system at Miller Station as well.

Following up in 2017, NW Natural engaged EN Engineering to evaluate the existing dehydration systems at the NWN Mist Storage Facility. The primary purpose of the study was to determine if the existing dehydration systems should continue operations and be repaired /maintained on a piece-by-piece basis or be replaced with newer higher functioning systems.

The study was conducted during the 2017 injection season and included examinations of service / maintenance records, operability, external structural integrity, age, and cost estimations. It is critical to note the following major observations of the study and NWN Engineering:

- Failed systems evident:
  - Large dehy flash tank (currently running de-rated & heavily monitored)
  - Large dehy stilling column (running with short-term repair)
- Critical systems predicted to have structural failure w/in next 12 years (must replace):
  - Large dehy contact tower (V-002) and scrubber (V-502)
- Fouled / black, highly viscous TEG observed on and within all systems (should be clear as water)
- Internal components of the heat exchanger equipment could not be examined
  - Coils of regens and regen skid economizers can only be removed during a major outage as facility structures and other dehy components prevent their removal (not designed for maintainability)
  - Fouled / black TEG prevented observation inside of contact towers via borescope
  - Contact towers require major outage to open for inspection
- Portions of large dehy regen firetube that could be observed due to removal of stilling column for repair exhibit heavy depositing of viscous substance (congealed fouled / black TEG)
- Only the external structures of the vessels could be evaluated for prediction of remaining life
- Aged systems:
  - Large dehy installed in 1997 and small dehy installed in 2004
  - Large dehy contact towers are much older (V-5237 mfg'd in 1972 and V-002 is older than 1989)

Taking into account the data gathered, four options (cases) were considered in the study for NWN to proceed with:

- Case 1:
  Continued operations of the existing systems with repair and maintenance on a piece-by-piece as-needed basis. Substantial O&M budget required for planned maintenance over 20 years with

major outages / teardowns required once per 4-yr cycle. Replacement schedule of systems predicted as based upon structural analysis of component external structures only.

- Case 1.5:
  A hybrid of Case 1 and Case 2 where only the dehy regenerative systems are replaced (350 MM SCFD for large and 165 MM SCFD for small), but the existing dehy cooling towers and train systems remain. Train systems include contact towers, scrubbers, separators, & assoc. piping / accy. The train systems are to be repaired and maintained on a piece-by-piece as-needed basis. Substantial O&M budget (less than Case 1) required for planned maintenance over 20 years with major outages required once per 4-yr cycle for the train systems. Replacement schedule of train systems predicted as based upon structural analysis of component external structures only.
- Case 2:
  A like-for-like replacement of the dehy systems (350 MM SCFD for large and 165 MM SCFD for small). Includes new regens, cooling towers, train systems, and all associated systems. New systems are modernized and require minimal O&M budget for planned maintenance over 20 years.
- Case 3:
  Replacement of dehy systems with maximized design for modularity and high availability. Still to be a 515 MM SCFD system, but utilizing two (2) 350 MM SCFD dehy systems. Concept is that if any major component goes down due to maintenance or failure, then the capacity is still at least 350 MMSCFD. High capital cost with very minimal O&M budget for planned maintenance over 20 years.

The study concluded that the existing dehy systems at Miller Station should be replaced as per Case 2. The conclusion was formed mostly in part upon cost estimates and budgetary quotes obtained at the time that showed Case 2 as the lowest cost option over 20 years when taking into account capital and O&M costs. The EN Eng document also concluded that the issues observed with the current systems meant that Case 1 had a high probability of unplanned outages occurring if pursued. The large dehy was assumed to be replaced as early as possible, 2019, while the small dehy was assumed to be replaced in 2023.

It should be noted that the EN Eng study estimated Case 2 capital costs for the replacement of the large dehy at $4.4 MM and the small dehy at $3.4 MM. NWN Engineering's more conservative estimates projected the large dehy replacement to be $7.1 MM with the small dehy at $5 MM.

Steve Storm of the NWN IRP Team used the data and cost estimates (capital + O&M) from the evaluation study to conduct a 20-year Present Value of Revenue Requirements (PVRR) analysis of the data. The economic analysis showed that Case 2 was the most viable economic option as well:

Option	**20-Year PVRR (Mar-18)**
Case 1	$10.6 MM
Case 1.5	$11.2 MM
Case 2	$9.4 MM
Case 3	$14 MM

Note that for Cases 1 and 1.5 that the systems are fully replaced at the end of 20 years (included in cost).

Given the study results and cost analyses supporting replacement, NWN Engineering developed an RFP to send to prospective contractors to demolish and replace the existing large dehy. Again, the large dehy system is to be replaced first due to its age and higher number of failed / soon to fail systems. The existing large dehy would have to be demolished, replaced with new, and commissioned outside of major withdrawal season (Dec – Mar, typically). Target is to have a new large dehy system in place by Nov 2019 at the latest.

The RFP was delivered to prospective EPC-type bidders by end of Feb ’18. Four (4) bidders submitted proposals by April 30, 2018. After evaluation and back-and-forth questions / clarifications, Burns & McDonnell was decided upon as the chosen contractor to proceed with. Note that the contract would be for $16.8 MM, and that the total project cost is estimated to be $18.3 MM (including over $500 K spent already for planning and design). Please reference the section of this document titled, “Execution Contractor Rationale”, regarding reasoning of contractor selection.

The $16.8 MM large dehy replacement contract is substantially higher than the prior estimate of $7.1 MM by NWN Engineering, let alone EN Engineering’s estimate of $4.4 MM. Analysis of the discrepancies shows estimates to be deficient by ~ 3X in regards to project management, engineering, and construction costs. A large labor cost difference is the primary driver of the incorrect estimations. It should be noted that this same large rate difference of quote versus estimate has been seen on several projects during the 2nd quarter of 2018.

Noting that the labor rate difference would apply to all tasks for all cases, a re-evaluation of the 20-year PVRR was conducted by Steve Storm of the NWN IRP Team using the new costs per the quote:

Option	**20-Year PVRR (June-18)**
Case 1	$30 MM
Case 1.5	$44.6 MM
Case 2	$37 MM
Case 3	$40.7 MM

Again, it should be noted that for Cases 1 and 1.5 that the systems are fully replaced at the end of 20 years (included in cost).

From an economic standpoint, Case 1 as evaluated by the study would now cost $7 MM less than Case 2 in present dollars. While the O&M costs over 20 years are extreme, the capital costs for Case 1 discounted to present value are only about $4 MM (compared to over $37 MM for Case 2). There are several assumptions and deficiencies behind the costs for Case 1 that are not taken into account however. The continued degradation of the existing systems is not captured by the study as a result of new data since the study was conducted, and thus resultant costs are not included in the Case 1 analysis. Further, the costs and probability of failure are not represented at all in the above NPRR analyses. Taking these into account, Case 1 is no longer a viable option. This is to be discussed in detail in the following section, “Case 1 Non-Viable Evaluation”.

<u>Case 1 Non-Viable Evaluation</u>:

As stated in the third paragraph of the section, “Background” (page 1), these are the following major observations of the EN Eng study and NWN Engineering:

- Existing failed systems are evident
- Several critical systems predicted to have structural failure w/in next 12 years (must replace)
- Fouled / black, highly viscous TEG observed on and within all systems (should be clear as water)
- Internal components of the heat exchanger equipment could not be examined
- Portions of large dehy regen firetube that could be observed due to removal of stilling column for repair exhibit heavy depositing of viscous substance (congealed fouled / black TEG)
- Only the external structures of the vessels could be evaluated for prediction of remaining life
- Aged systems present

TEG & the Regen Systems…

It is critical to note that additional major issues related to the system TEG and regens were encountered after conclusion of the EN Eng study. TEG is the essential operating fluid of the dehy system as it is the substance circulating through all systems that is required to strip the moisture from the withdrawn gas in the contact towers and release it upon heating in the regen systems. Fouled TEG not only hinders dehydration performance, but damages the dehy systems as well (regen firetubes, heat exchangers, pumps, etc…). Fouled TEG is also a strong indicator of regen system degradation itself – if the systems are compromised with fouling themselves or faulty, TEG will foul quickly and not perform as required. Without proper regen system operation, gas withdrawn from the Mist wells cannot be dehydrated to meet pipeline quality requirements.

Per the study, it was recommended to replace the system TEG due to the heavy fouling observed. TEG testing results and observations since 2013 showed the TEG degrading in both systems from a brown-opaque state with a passable pH level and few suspended solids to a state that was black-opaque in color with a condemnable pH level and high viscosity due to suspended solids (sludge-like). Per the TEG manufacturer, Brenntag, condemned TEG is to be replaced.

The entire amount of fouled TEG from both the large and small systems was replaced with 6,500 gal of new TEG in Aug 2017. Upon circulation, the new TEG in both systems immediately turned black-opaque, but was *initially* observed to be non-viscous. Upon attempted start-up of the large dehy system in late Dec-2017, the TEG in that system was observed to be viscous / sludge-like again. The pumps were re-built within the last two (2) years and were operable per inspection before the withdrawal season as well. As a result of fouled TEG, both main regen pump systems on the large dehy had seal failures and the large dehy system was down for two (2) weeks due to the failures. It is important to note, that the data from the last four years showing poor TEG condition also correlates to increased pump seal failures (pump and seal replacements have increased, 3 times in 5 years).

Replacement of the fouled TEG in the large dehy system did not improve operations of the system as the new TEG immediately became fouled upon introduction. Improvement was expected, but did not occur. As explained before, the dehy regen system cannot be disassembled to pinpoint the exact issues without a major teardown of the dehy structures and flare / T.O. systems. The immediately fouled TEG is a strong indicator that the large dehy regen system itself is unhealthy. The TEG and the pumps have now been replaced, yet failures occur. The regen system is clearly fouled and degrading – TEG sampling over time and the facts that the new TEG and pumps did not alleviate this condition support this.

Case 1 Omissions…

Case 1, continued operations of the existing systems with repair and maintenance, is purely defined on what was identified within the EN Eng study. While Case 1's 20-yr PVRR addresses certain dehy components that have already failed and are predicted to fail structurally, it most notably does not take into account the following:

- Failure of critical regen systems that could not be examined during the study (such as the heat exchangers and reboiler firetubes)
- Rapidly degrading conditions of the TEG and regen systems, particularly evident *after* the EN Eng study
- Costs of unplanned failure (such as replacement capacity from pipeline)

Essentially, Case 1 does not accurately capture the indicative failure of and need to address the regenerative systems. The indicative failure of the regen systems and the cost of their unplanned failure must be taken into account to properly compare Case 1 vs. Case 2.

There are also several other minor omissions that Case 1 does not accurately capture:

- Impacts on site due to major plant outage required every 4 years to perform dehy system maintenance
- Systems torn down for major outages, particularly the regens, heat exchangers, flares, and regen structures, are assumed to be reassembled without damage or issue – not realistic
- Costs of repairs dictated by the high inspection rates (accelerated degradations)

Dehy System Six-Sigma Failure Analysis…

If the large dehy system fails during the withdrawal season (Nov through Mar is 151 days), the decrement for the utility is the large dehy capacity, 350 MM SCFD. Assuming an average energy value of 1,080 Btu/SCF of gas, a potential 378,000 Dth/day or 57,078,000 Dth per withdrawal season would have to be replaced.

If and only if replacement capacity is even available, it will be at great cost (especially during severe winter weather demands). Per discussions with NWN Gas Supply and IRP Teams, replacement capacity for the large dehy system is not available on the market. Assuming if it could be and by being conservative and using just the costs of local expansion of the NW Pipeline for replacement capacity used in the 2018 IRP, $1.10 per Dth/day, the capacity due to outage of the large dehy could be assumed to cost at least $415,800 / day or ~$63 MM for an entire withdrawal season (all in 2018 dollars). Again, these are potential costs of a dehy outage that assume replacement capacity is even available, however it is not. Major core customer dissatisfaction can occur due to gas outages at critical need times (such as weather events).

The EN Eng study made an approximation of 15% for the probability of an unplanned outage occurring based upon the risk of failure if Case 1 was implemented for the next 20 years. Again, note that this approximation does not take into account the TEG and regen issues observed *after* the study, reference the 'Case 1 Omissions' section of this document. The same study approximated a 3% probability of failure for Case 2 as well.

A Six-Sigma Failure Analysis was conducted in July 2018 to provide more data and address the indicative failure of the regen systems as well as the cost of failure impacts.

The NW Natural Project Team first developed a potential Failure Mode and Effects Analysis (FMEA) to document and categorize dehy system failures for both Case 1 and Case 2. The Project Team consisted of NWN Engineer and entirety of site staff (Facility Supervisor, Maint. Chiefs, Electrical Techs, and Operators).

Maintenance and failure history data was evaluated in addition to data from the EN Eng study while taking into account the latest regen and TEG issues. FMEA matrices were created for three (3) different time periods to properly capture anticipated failures: 2019 – 2020, 2024 – 2025, & 2029 – 2030. A total of 24 different failure modes were identified and evaluated for severity, occurrence (probability), and detectability. These failure modes have either already been encountered on the system, were mentioned within the EN Eng Study, or are noted failures in industry with NG dehy systems. Reference the “Large Dehy FMEA.xlsx” spreadsheet developed for the purposes of capturing the FMEA matrices. The entire large dehy system was evaluated (sub-total), as well as specific critical subsystems – regen (sub-regen) and regen pumps (sub-pumps).

Note that all FMEA data assumes a failure occurs at the beginning of the withdrawal season. This is actually the more likely scenario as the large dehy systems have been offline during the summer and will be inspected and then started up for the first time in several months. Past system failures follow this trend as well (pump failures, stilling column failure,…).

The FMEA process is as follows:

- Document and categorize failure modes for Case 1 and Case 2 in terms of severity, probability, & detectability
- Calculate Risk Priority Numbers (RPN’s) for each mode [RPN = Severity (S) x Probability (P) x Detectability (D)]
- S, P, & D are graded on scale 1 – 10 (miniscule to major)
- Determine Weighted Average of Outage Days per Incident (WAOD)
    - Assess Outage Days (OD) for each failure mode (number of days to resolve). This is based on past data, estimates from EN Eng Study, and estimates from dehy replacement quotes
    - WAOD = [Sum of (RPNi x ODi) / Sum of (RPNi)], where i = each identified mode of failure

With all variables fully tabulated:

Season	P_{total}	P_{regen}	P_{pumps}	High S & High P	$WAOD_{total}$	$WAOD_{regen}$	$WAOD_{pumps}$
2019 - 2020	5	6	10	0	95	67	8
2024 - 2025	6	7	10	4	101	75	10
2029 - 2030	7	8	10	8	101	80	13

TABLE 1: Probabilities of Failure Occurrence & High Severity Counts per Large Dehy FMEA – Case 1

Where…

PROBABILITY / OCCURRENCE of Failure	Failure Prob	Ranking
Very High: Failure is almost inevitable	>1 in 2	10
	1 in 3	9
High: Repeated failures	1 in 8	8
	1 in 20	7
Moderate: Occasional failures	1 in 80	6
	1 in 400	5
	1 in 2,000	4
Low: Relatively few failures	1 in 15,000	3
	1 in 150,000	2
Remote: Failure is unlikely	<1 in 1,500,000	1

TABLE 2: FMEA Probability Ranking Correlations

The severity of the failure modes and their associated probability of occurrence make it clear that there is high risk of catastrophic failure by 2024 if Case 1 is pursued:

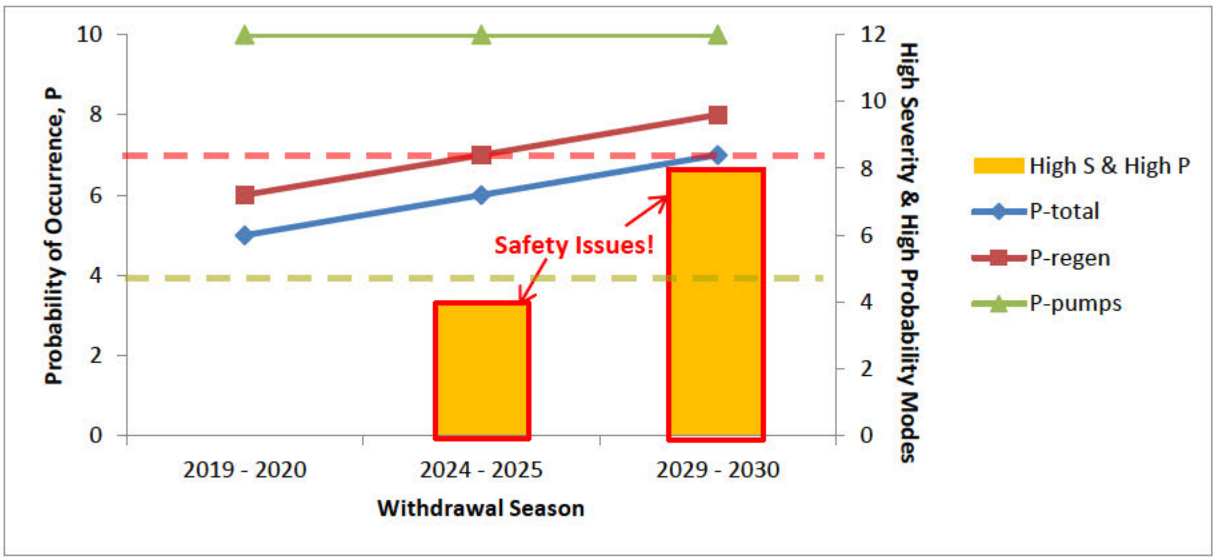


FIGURE 1: Probabilities of System Failure & High Probability Severe Failure Modes – Case 1

As Table 1 and Figure 1 show, as of the 2024 – 2025 season there are four (4) possible modes of failure related to the regen and scrubber systems that can compromise safety and/or compliance with a high probability of occurring (greater than 1 in 20 probability). Note that failures that impact compliance and safety are always ranked with high severity numbers of 9 and 10, respectively. In general, per six-sigma practice high severity modes identified on FMEA's should be addressed if they have at least a moderate probability of occurring (greater than 1 in 2000). High severity modes with high probability of occurring must be addressed (greater than 1 in 20). **This data alone supports replacement of the entire large dehy before 2024 as implementation of Case 1 carries an unacceptably high risk of safety or compliance-related failure.**

It should be noted that the FMEA evaluation shows that Case 2 does not have a single failure mode (high severity or not) with a probability of occurring above 1 in 150,000 (P = 2) through the 2029 – 2030 season.

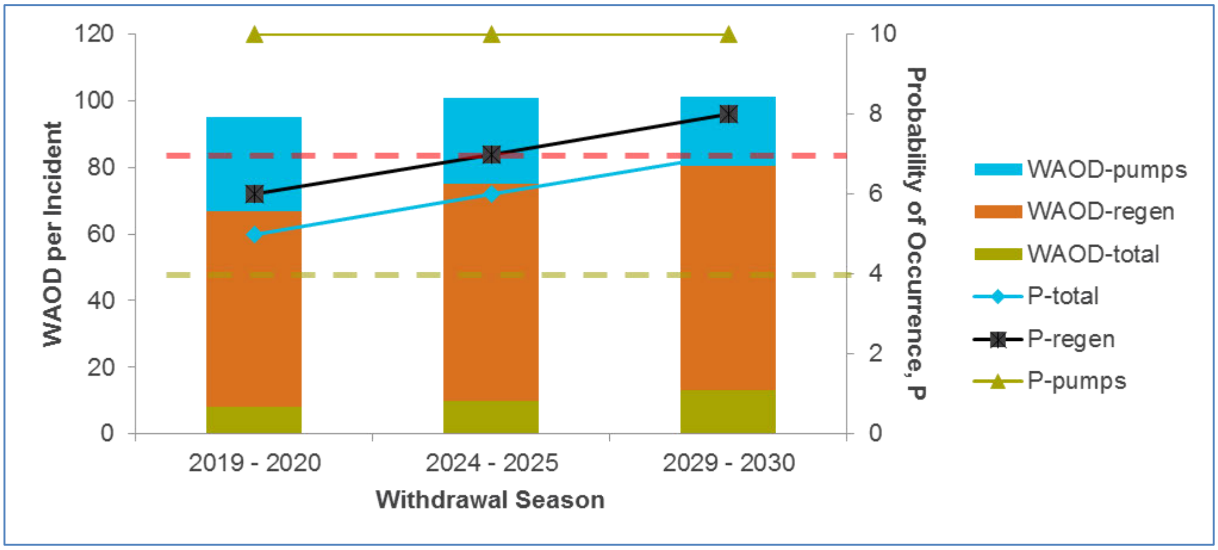


FIGURE 2: WAOD per Incident with Probabilities of System Failure – Case 1

FMEA data for Case 1 can also be interpreted as follows:

- 2019 – 2020 Withdrawal Season:
  - 1 in 400 probability that a failure resulting in a need for 95 unplanned outage days will occur for the entire large dehy system
  - 1 in 80 probability that a failure resulting in a need for 67 unplanned outage days will occur for the large dehy regen system only
  - A greater than 1 in 2 probability that a failure of the regen pump system will occur resulting in a need for 8 unplanned outage days
- 2024 – 2025 Withdrawal Season:
  - 1 in 80 probability that a failure resulting in a need for 101 unplanned outage days will occur for the entire large dehy system
  - 1 in 20 probability that a failure resulting in a need for 75 unplanned outage days will occur for the large dehy regen system only
  - A greater than 1 in 2 probability (near inevitability) that a failure of the regen pump system will occur resulting in a need for 10 unplanned outage days
- 2029 – 2030 Withdrawal Season: Only worse…

It is a near inevitability that the regen pumps for Case 1 fail each year from the 2019 – 2020 season onward with a system downtime of at least eight (8) days. The regen systems (including the pumps) have a moderate probability of failing in 2019 – 2020 which degrades to a high probability of failure by 2024 – 2025 (75 days of unplanned outage). These lost days and risks far outweigh the $7 MM difference per the original PVRR analysis of Case 1 vs. Case 2 as that analysis captures neither the issues due to failure nor the degradation of the regen systems for Case 1. Further, Case 1 has a high risk of safety and compliance-related failures by 2024 – 2025. Note that issues discussed here are only those of the large dehy and that the differences in the PVRR include addressing the small dehy as well.

Due to high probability of failure (safety, compliance, & otherwise) and large number of downtime days due to failure by 2024 – 2025, the large dehy system should be replaced as per Case 2 as soon as possible.

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Joe Karney

DISTRIBUTION SYSTEM AND STORAGE FACILITY PROJECTS

EXHIBIT 1406

May 29, 2020

NW Natural®

Rates & Regulatory Affairs
UG 388
2020 OR General Rate Revision
Data Request Response

Request No.: UG 388 OPUC DR 192

192. Regarding the file UG 388 CUB DR 8 Attachment 3,
a. Regarding the fouled TEG,
i. Please provide a narrative description of how often the TEG has been replaced since 1998, testing results and observations prior to 2013, NW Natural's policy for replacement, and the industry standard replacement interval for the fluid.
ii. Please provide the cost of replacing 6,500 gallons.
1. Cost for the product only.
2. Cost including downtime, labor, disposal of the used fluid, equipment rental, etc.
b. Regarding the following statement on page 3 of 9: "A large labor cost difference is the primary driver of the incorrect estimations. It should be noted that this same large rate difference of quote versus estimate has been seen on several projects during the 2nd quarter of 2018."
i. Please provide a list of the projects, please include in the response all coding necessary for further inquiry, including but not limited to asset numbers, accounting work orders (AWO), project numbers, etc.
1. Please indicate whether the labor costs are internal to NW Natural or outside vendors.
2. Please indicate the source of the labor cost statistics used when estimating the job cost.

Response:

a. Regarding the fouled TEG:

i. Since 1998 the filters for the Large Dehydrator have been regularly replaced as required. In the process of changing these filters, additional TEG (glycol) has been added to the system to replace any TEG that was lost during this process. Prior to the complete replacement and testing of the TEG in 2017, no other complete replacement of the TEG was done. Please see the attached Log Book (UG 388 OPUC DR 192 Attachment 1) for the filter replacements and the partial TEG additions since 1998 through 2016 before the TEG was replaced in 2017.

ii. Regarding industry standard replacement interval for the fluid, please see page 8 and 9 of Mist DeHy Engineering Report UG 388 CUB DR 8 Attachment 1: "Glycol [TEG] life was advised by Brenntag to not have a set lifetime." Please also see page 14 of Mist DeHy Engineering Report UG 388 CUB DR 8 Attachment 1: "While TEG has no fixed usage life and can be recurrently used with regular filtration and additives, it is not uncommon for dehydration facilities to recharge their glycol approximately every 5 to 10 years to ensure efficient water absorption and prevent long term buildup of byproducts." Between 1998 and 2011, NW Natural regularly replaced the filters on the large dehydration system, and no degradation of TEG was observed. Beginning in 2011, filter changes were made more frequently and the Company began using corrosion inhibitors and pH adjustors as needed to maintain TEG integrity. One of the recommendations of the Engineering Study was to replace the TEG in 2017. The total cost for replacing the TEG, labor, equipment, and disposal was $58,897.78.

1. The cost of the TEG only was $31,489.78.

2. The cost for labor, equipment, and disposal (not including TEG) was $27,408.00.

b. Regarding the quoted statements, the "same large rate difference of quote versus estimate" includes the increases in contracting and subcontracting costs due to the tight labor market for skilled labor in the oil and gas industry nationwide. The improvement in the local and national economy between 2012 and 2018 led to most of the increase in the pipeline and facility project construction costs.

The following large projects were similarly estimated prior to 2018 based on historical project costs during the Planning phase. An estimate or range of the total project is provided during the Planning phase and is noted in "Move to Planning – total project estimate (without COH)" column below. These initial planning level estimates are typically based on labor and contracting costs from recently completed projects. During the Planning phase, the project team focuses on defining final design, budget, and schedule, including gathering bids to perform the construction. The "Move to Execution - Total project estimate (without COH)" column below represent all known costs necessary for constructing the project, including the bid costs received during the Planning phase.

Project	Project Number	Move to Planning - total project estimate (without COH)	Project Move to Planning date	Move to Execution - Total project estimate (without COH)	Project Move to Execution date
SE Eugene	201675	$3-4.5 million	5/10/2017	$8.09 million	4/30/2018
Newport LNG Glycol	201609	$495,000	6/7/2016	$1.0 million	5/18/2018
Newport LNG E3	201813	$735,470	11/21/2017	$1.32 million	5/21/2018
Newport LNG E5	201815	$661,820	11/21/2017	$1.29 million	5/18/2018

i. The bulk of the costs for each of the above projects is from outside vendors.
ii. Internal labor and equipment costs for construction or for vendors such as traffic control and paving were based on projected contract values. For specialized or specific work to be performed by outside contractors, the costs were estimated based on recent historical projects. The work was offered to contractors to bid, and the final move to execution estimate was based on the bids received.

11-24-99
40 micron sock

2-6-2000
20 micron sock

2-27-00
40 micron sock

4-4-00
charcol filter change

5-14-00
40 micron sock

8-22-00
40 micron sock

2-24-2001
40 micron sock filter change

11-27-01
40 micron

12-5-01
40 micron sock

12-6-01
charcol filter change

12-31-01
40 micron

2-21-2002
40 micron sock filter

10

3-12-02
40 micron sock filter

3-19-02
40 micron sock

4-1-02
40 micron

4-25-02
40 micron

4-30-02
charcol filter change

5-8-02
40 micron

11

10-11-02
40 micron

3-11-2003
charcol filter change

4-23-03
GLYCOL PUMP #504 "A"
CHANGED OIL TOTAL 1½ GAL.

3-24-03
REPLACED BOTH BELTS
ON "A" & "B" GLYCOL PUMPS

4-29-03
GLYCOL PUMP #504 "B"
CHANGED OIL TOTAL 1½ GAL.

3-29-04

INSTALLED "12" 20 MICRON FILTERS INTO THE NEW FILTER.

4-7-04

CHANGED FULL FLOW FILTERS DID NOT HAVE 20 M SO HAD TO SUBSITUTE 40M. IN THEY'RE PLACE

CHANGED BY-PASS SOCK FILTERS REPLACED 10M WITH 10M.

4-24-04

CHANGED THE 4 CHARCOAL FILTERS. STEVE CALLED LAST NIGHT WITH 100% DELTA P.

4-25-04

CHANGED 5 BY-PASS SOCK FILTERS CHANGED 10M TO 10M DIFF WAS ABOUT 5psi.

5-9-04

12

CHANGED 40 MICRON FILTERS TO 20M.

6-1-04

CHANGED THE 5 10M FILTERS IN BY-PASS SOCK FILTER. ON SHUT DOWN DIRTY ΔP CLOSE TO 7PSI.

1-2-05

CHANGED FILTERS IN LARGE DIRTY

1-22-05

CHANGED FILTERS IN BIG DIRTY ΔP WAS 13PSI BUT FILTERS DIDN'T LOOK THAT DIRTY BUT WERE COLLAPSING STILL 20MICRON

2-14-05

CHANGED FF FILTERS ONLY HAD 9 40M & 3 20M LEFT USED THEM ALL DP WAS PEGGED AND I WAS CALLED IN FRI NIGHT.

14

FULL FLOW 3-20-05
FILTER
BY-PASS 12 FILTERS 20 MICRONS

4-8-05

FULL FLOW
FILTER 12 FILTERS 20 MICRON

4-14-05

CHANGED 12 FF ELEMENTS WITH LIKE
20MM ONES DP WAS 16.9 PSI.
.5 AFTER ADJUSTED SLIP TO 6GPM.

4-15-05

CHANGED THE SLOP TANK DUMP FILTER
WITH THE SAME 70 MICRON IT WAS
SLOW DUMPING & FILTER WAS VERY DIRTY.

5-15-05

INSTALLED 10MICRON FILTERS IN FF AND
5MICRON IN DOWN STREAM OF CHARCOL
FOR POLISHING.

11-22-05 (ON SMALL DEHY)
~~CONTRACTORS HAVE COMPLETED INSTALLING~~
~~THE FILTER.~~ INSTALLED 8 / 20 MICRON
~~(36" PRS 20 HZL)~~

15

11-25-05

STARTED DEHY IN AM HAD PLUGGED
FILTERS CHARCOL LOOKED OK CHANGED
FF TO 20M AND POLISHING TO 40M

1-20-06

CHANGED ~~[illegible]~~ 40M FILTERS IN
CHARCOL DOWN STREAM (POLISHING) SOCK
FILTER TO 10M.

1-22-06

CHANGED FF FILTERS (PLUGGED) FROM
20M TO 6-20M + 6-10M ON
ACCOUNT THAT'S ALL WE HAD.

2-1-06

CHANGED THE 6-20M & 6-10M
FILTERS BECAUSE OF HIGH DP 13.4
TO 12-20M'S

3-16-06 CHANGED 12 BIG DEHY F.F.
FILTERS WITH 10M FOR IT'S ALL
WE HAD. SH [illegible] 20 M

4-12-06 CHANGED 12 BIG DEHYD FF
FILTERS WITH 10M [illegible] 20 M
[illegible] FF [illegible]

4-17-06 CHANGED DOWNSTREAM SOCK
FILTER FROM 10 MICRON TO 5 MICRON. RT, CP, SH

4-17-06 CHANGED CHARCOAL FILTER RT, CP, SH

10-18-06 CHANGED FF FILTERS W/SAME 10M
RT JH

10-31-06 CHANGED BIG DEHY FF FILTERS
W/SAME 10M RT.

11-13-06 CHANGED BIG DEHY FF FILTERS
WITH 20M + POLISHING FILTERS WITH
10M

12-7-06 CHANGED BIG FF FILTERS
FROM 20M TO 10M

12-14-06 CHANGED SLOP TANK FILTER ON BIG DEHY.
WITH SAME 70 MICRON

12-25-06 CHANGED BIG FF FILTERS WITH
SAME 10 M

1-14-07 CHANGED BIG FF FILTERS W/SAME
10M 12PSI ΔP

1-30-07 CHANGED BIG FF FILTERS W/20.M
RUNNING LOW ON 10M'S HAVE ONLY 14
+ FIGURED ON SAVING FOR OTHER FILTERS.

3-08-07 CHANGED French FILTERS WITH SAME 10M

3-16-07
CHANGED BIG FF FILTERS
W/ SAME 20M BY-PASSED LAST
NIGHT BECAUSE HIGH ΔP

4-15-07 LEFT 20M IN BIG FF BECAUSE
THEY LOOKED GOOD YET. CHANGED 4 CHARCOL,
+ 5 POLISHING TO 5M (FROM 10M) FOR
CLEAN-UP START.

4-17-07	CHANGED FINAL SOCK FILTER W/SAME 5M CP/RW
4-30-07	CHANGED FULLFLOW FILTER W/ 10 MICRON
4-30-07	CHANGED FINISHING FILTER W/ 5 MICRON
5-3-07	CHANGED FF FILTER. REMOVED 10 M - REPLACED W/ 20 M ¢/R
10-9-07	CHANGED FINISHING FILTER WITH SAME 5 MICRON ¢
12-5-07	CHANGED FF FILTER WITH SAME 20.M.
12-20-07	CHANGED CHARCOL FILTERS (4)
12-24-07	CHANGED POLISHING FILTERS (5) WITH SAME 5M
	FOUND ONE BLOWN OUT. IT SEEMS PRESSURE
	IN CHARCOL + POLISHING FILTERS HAS DROPPED
	SINCE CHARCOL FILTER CHANGE. GAUGE PRESSURES
	READ 35 PSI.
1-16-08	CHANGED FF FILTER WITH SAME 20M O-RING -
1-20-08	CHANGED POLISHING W/SAME 5) 5MICRON
1-25-08	CHANGED FF FILTER W/SAME 20 MICRON
1-25-08	CHANGED SLOP TANK FILTER W/SAME 70 MICRON
2-11-08	Change F/F filter with 10 m.
2-21-08	CHANGED FF FILTERS W/SAME 10M.
3-9-08	CHANGED BIG DEHY FF FILTERS W/SAME 10M
3-19-08	CHANGED BIG DEHY FF FILTERS W/SAME 10M
3-27-08	" " " " " " " 10M
4-02-08	Changed big Dehy FF filters w/same 10m
1-10-09	REPLACED FINAL FILTER W/SAME 5M, DRAINED &
	CLEANED HOUSING & BLEED POINT.
1-11-09	REPLACED FF FILTERS W/SAME 10M, REPLACED CHARCOAL FILTERS,
	CLEANED FILTER HOUSINGS & BLEED POINTS.

1-14,15-09	FLASH TANK - CLEANED SIGHT GLASS, FLOAT CHAMBER,
	CLEANED & LUBED CAM ON CONTROLLER, CHANGED CONTROLLER
	PROPORTION FROM 2 TO 8.
1-19-09	CHANGED FF FILTERS - REPLACED 10M WITH 20M
1-20-09	CHANGED FINAL FILTERS - REPLACED 5M WITH 10M,
	REPLACED SLOP TANK FILTER.
1-29-09	REPLACED ff FILTERS WITH SAME 20MICRON (12 O-RING)
2-12-09	ADDED 110 GAL TO BOILER (GLYCOL) 30" TO 26"
3-5-09	Replaced ff filter with 12 o ring filter 10m.
3-9-09	REPLACED 12 FF FILTERS W/ SAME 10M
3-13-09	REPLACED BOTH BOTTOM CHARCOL FILTERS
	SO MUCH GAS IN HOUSING WE FIGURED TOP
	FILTERS WEREN'T BEING USED.
3-18-09	REPLACED FF FILTERS W/SAME 10M
3-23-09	REPLACED FF FILTERS W/SAME 10M.
7-10-09	REPLACED FF FILTERS W/SAME 10M.
7-10-09	CHANGED POLISHING FILTERS REPLACED 10M WITH 5M.
7-11-09	REPLACED FF FILTERS W/SAME 10M.
7-11-09	REPLACED POLISHING FILTERS W/SAME 5M.
7-12-09	CHANGED FF FILTERS - REPLACED 10M WITH 20M.
7-12-09	CHANGED POLISHING FILTERS - REPLACED 5M WITH 10M.
7-20-09	CHANGED FF FROM 20 TO 10M
7-20-09	" CHARCOL (ALL FOUR)
7-20-09	" POLISH FROM 10 TO 5M
7-22-09	CHANGED FF FROM W/SAME 10M
7-22-09	CHANGED POLISH WITH 2) 5M'S & 3 10M'S

	7-25-09 CHANGED ff FILTERS WITH SAME 10m O-RING FLTRS
	7-30-09 CHANGED FF FILTERS WITH SIX 10micron O-RING FILTERS AND SIX 20micron O-RING FILTERS
10-27-09	CHANGED OIL IN GLYCOL PUMP A + B. INSPECTED BEARINGS ON PUMP B.
[illegible]	CHANGED FF FILTER W/ 6 NEW 10MICRON of 12.
10-2[illegible]-0[illegible]	CHANGED POLISH FILTER W/ 5 - 5 MICRON FILTER -
10-29-09	CHANGED FF FILTER W/12 20 MICRON ELEMENTS -
11-2-09	CHANGED POLISH FILTER W/ SAME 5 MICRON
11-11-09	CHANGED POLISH FLTR W/SAME 5 MICRON
11-28-09	CHANGED FF FLTR'S W/ 10 MICRON
	CHANGED POLISH FLTR'S W/ SAME 5MICRON
	CHANGED ALL 4 CHARCOAL FILTER W/NEW -
11-30-09	CHANGED ff W/SAME 10M
	CHANGED POLISH W/SAME 5M
12-02-09	CHANGED ff W/SAME 10 MM
12-04-09	Changed FF w/same 10 micron
12-8-09	CHANGED 12 FF FILTERS WITH SAME 10M
12-8-09	ADDED 84 GAL OF GLYCOL.
12-11-09	Changed ff FILTERS W/SAME 10 MM
12-13-09	CHANGED ff FILTERS W/SAME 10 MM
	CHANGED POLISH FILTERS W/SAME 5MM
12-18-09	Changed FF filters w/same 10 micron
12-26-09	CHANGED ff FILTERS W/SAME 10M
12-29-09	CHANGED ff FILTERS W/SAME 10M
1-2-10	CHANGED FF W/ SAME 10M
1-3-10	CHANGED 4 CHARCOAL FILTERS
1-3-10	CHANGED 5 POLISH FILTERS W/SAME 5M

1-7-10	CHANGED FF W/SAME 10m
1-11-10	CHANGED FF W/SAME 10MM
1-29-10	CHANGED FF W/SAME 10m
1-4-10	CHANGED FF W/SAME 10MM
1-4-10	CHANGED POLISH W/SAM 5MM
1-4-10	CHANGED CHARCOAL W/ 4 NEW CARTRIDGES -
~~2-4-10~~	~~CHANGED SMALL DEHY ff FILTER W/SAME 10M~~
~~2-4-10~~	~~CHANGED ALL 4 CHARCOAL FLTR ELEMENTS~~
2-8-10	CHANGED FF FLTR W/SAME 10 MM -
2-12-10	changed FF filter w/ 10mm
2-18-10	changed ff w/SAME 10MM
2-18-10	changed polish w/SAME 5M
2-27-10	CHANGED FF FILTERS W/SAME 10M
3-8-10	CHANGED ff W/SAME 10M
3-8-10	CHANGED POLISH W/SAME 5M
3-8-10	CHANGED ALL 4 CHARCOAL FLTRS -
3-11-10	changed ff w/ 20 micron,
3-19-10	changed Polish w/same 5m.
4-5-10	CHANGED LRG DEHY CHARCOAL FLTRS
4-5-10	CHANGED LRG DEHY POLISH FLTRS W/SAME 5M
4-8-10	CHANGED ff FILTER W/SAME 20M
4-11-10	CHANGED POLISH FILTERS W/SAME 5M
4-14-10	added 3 GALS of CORROSION INHIBITOR
4-14-10	Changed full flow FILTERS W/ 10M
4-28-10	changed Large DEHY ff w/ 5M
4-28-10	changed Large DEHY ff w/ 5M

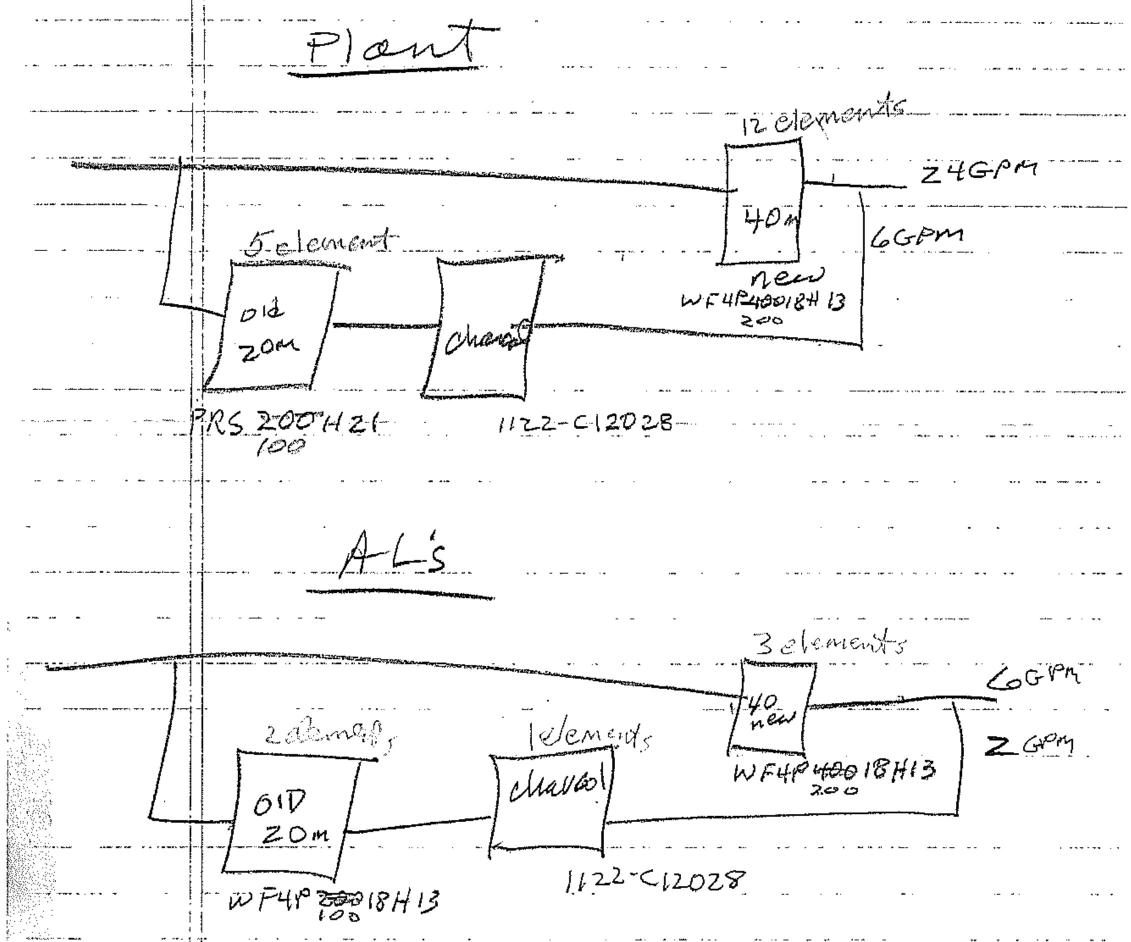
4/29/10	changed ff w/same 5M shut down pump –
5/2/10	changed ff w/ 10 m.
5/2/10	changed all 4 charcoal – Shutdown –
5-14-10	changed slop tank filter
9-2-10	completed rebuild of glycol pump A+B
	new bearings – plungers – wipers – packing –
	check valves and seats – Recharged
	accumulators to 525 psi –
10-5-10	changed ff filters w/same 10m oring
10-13-10	changed polish filter w/same 5m
10-14-10	changed ff filters w/same 10m oring –
10-26-10	changed ff w/same 10 mm – polish w/ same 5 m
	and all 4 charcoal filters and added 156
	gallons of glycol to Lrg dehy reboiler –
11-8-10	changed ff w/same 10 micron and
	polish w/same 5m also changed sloptank fltr.
11-18-10	changed ff w/same 10 micron.
11-21-10	changed ff w/same 10M + polish w/same
11-25-10.	5m) changed ff w/same 10 m oring fltrs
12-6-10	Replaced ff w/same 10m and polish w/same 5m –
12-11-10	Replaced ff w/same 10mm
12-18-10	changed ff filters w/same 10M
12-22-10	changed ff filter w/ 20 mm oring filters –
1-4-11	changed ff w/same 20mm and polish w/same 5 mm –
1-18-11	changed ff w/ same 20m and polish w/same 5m
1-31-11	changed ff w/same 20m – polish w/same 5m – and charcoal filters –

2-3-11	changed slop tank filter –
2-13-11	changed ff w/same 20 mm
~~3-3-11~~	~~changed ff w/same 20mm and polish w/same 5mm~~
3-24-11	added 4 gal pH adjuster. Removed
	top of polish filter + poured in.
4-4-11	changed ff filter w/same 20m –
4-12-11	changed charcoal and polish w/same 5 micron
5-26-11	changed ff w/10m and polish w/5 m
6-01-11	changed ff w/5mm – polish w/5mm and all 4 charcoal.
6-06-11	changed ff w/same 5mm filters –
6-09-11	changed polish w/same 5mm filters –
6-17-11	changed ff w/same 5M
6-29-11	changed ff filters took out 5M's + installed
	10M's changed polish with same 5M's
	changed charcol + shut down dehy
11-23-11	changed Lrg dehy ff filter w/same 10 m
12-6-11	changed Lrg dehy ff filter w/same 10mm
12-12-11	changed ff w/same 10mm and polish w/same 5mm
12-23-11	changed ff w/same 10 mm filters
12-26-11	changed slop tank filter w/same 70mm
12-31-11	changed ff filters w/same 10M
1-9-12	changed ff w/10mm – polish w/5m and all 4 charcoal.
1-10-12	changed glycol pump A + B crankcase oil
1-16-12	changed ff w/ same 10M –
1-22-12	changed ff w/same 10mm
2-10-12	changed ff filters w/same 10M

2-23-12	CHANGED FF FILTERS w/SAME 10M
3-5-12	Changed FF Filters w/ 20m (out of 10m)
3-27-12	CHANGED FF w/SAME 20M And polish w/SAME 5MM
	OCT 22 START FOR FALL W/O
10-31-12	changed polish w/SAME 5 MICRON
11-12-12	CHANGED Both upper and lower FAN SHAFT
	BEARINGS on Lrg dehy cool fan B.
11-22-12	changed FF 10m, Polish 5m & charcol filter
11-30-12	changed FF 10mm filters
12-9-12	changed FF Filters 10mm
12-10-12	CHANGED polish w/SAME 5MM FILTERS
12-13-12	Changed FF w/ 20M
12-21-12	CHANGED ff w/20M and POLISH w/5MM
12-31-12	CHANGED ff w/20M
12-31-12	TEST Ph w/OLD TOOL FOUND AT 6.0 Added
	13 QUARTS of CORROSION INHIBITOR -
1-18-13	TESTED Ph w/NEW PHTESTER found AT 6.5 Added
	12 QUARTS of CORROSION INHIBITOR -
1-25-13	changed ff w/20m
3-8-13	ff 10mm 5 - POLISH 5MM AND ALL 4 CHARCOAL -
3-20-13	POLISH 5M
3-20-13	FULL FLOW 10M
9-3-13	PH TESTED A 8.75 PH
9-5-13	FULL FLOW 10 MM
11-20-13	CHANGED FULL FLOW w 10M And POLISH w/ 5 MM
1-9-14	CHANGED full flow w/10M And CHARCOAL ELEMENTS -

1-20-14	CHANGE PUMP A+B OIL DUE TO GLYCOL CONTAMINATION -
2-12-14	CHANGE ff w/SAME 10M And POLISH w/SAME 5MICRON -
2-17-14	Added 85 GAL of GLYCOL TO SMALL DEHY -
4-28-14	CHANGE ff w/5MM FILTERS - FOR CLEAN UP -
5-7-14	Shut down Large Dehy Replaced FF Filter-10mm,
	Polishing filter-5mm, Carbon filter
11-13-14	TOOK GLYCOL SAMPLE-found AT 6.5 pH Added 12 QTS
	CORROSION INHIBITOR
12-29-14	Replaced FF filter-10mm Polishing filter-5mm
	Carbon filter
2-11-15	Replaced ff filters 10mm and POLISH with 5mm
3-27-15	REPLACED ff w/5MM POLISH w/5 MM AND ALL CHARCOAL
4-27-15	Replaced Cooling fan belts - both fans
5-2015	REPLACED PACKING AND LANTERN RINGS IN PUMP A+B
11-10-2015	Added 3 gallons on PH BALANCER I
	Changed ff filter w/10MICRON 3 5MICRON
11-1-15	Sent in Glycol samples Large Dehy PH 9.00
11-23-15	Added 188 GAL OF GLYCOL TO RAISE Reboiler Level
12-21-15	CHANGED ff to/10 MM, POLISH w/5 MM, CHARCOAL,
	And SLOP TANK FILTERS -
1-15-16	CHANGED ff FILTERS w/ 20 MICRON -
2-24-16	changed POLISH filter w/SAME 5MICRON FILTER -
3-23-16	CHANGED ALL FF 10M POLISH 5MM 4 CHARCOAL

6-30-6-30-2016 REPLACED BOTH A+B GLYCOL PUMPS
WITH NEW REMAN PUMPS


Plant
12 elements
24GPM
40m
6GPM
5 element
old
20m
new
1122-C12028
AL's
3 elements
6GPM
40
new
2 elements
1 elements
charcoal
2 GPM
OID
20m
1122-C12028

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Joe Karney

DISTRIBUTION SYSTEM AND STORAGE FACILITY PROJECTS

EXHIBIT 1407

May 29, 2020

NW Natural®

Rates & Regulatory Affairs
UG 388
2020 OR General Rate Revision
Data Request Response

Request No.: UG 388 OPUC DR 375

375. In the Company's response to SDR 058, DR 288, and the Company's supporting workpaper "UG 388 - Exh. 1000 - WP1 - Revenue Requirements Model – CONFIDENTIAL.xls", tabs Exhibit 1007, the FERC accounts associated with gas storage operating expense (FERC 816 – 847), Staff noted significant percentage increases in these FERC accounts over the past four years. Please provide a detailed explanation of the primary driver(s) for the large percentage increase in gas storage operating expenses from:

a. 2015 to 2016 of 30.0 percent
b. 2018 to 2019 of 41.4 percent
c. Base Year to Test Year of 30.4 percent

Response:

After an inquiry with OPUC Staff, the Company recognizes that the "gas storage operating expense" referenced in the question relates to non-payroll costs. In addition, subpart "b" of the question should read "2017 to 2018 of 41.4 percent".

a. The primary driver of the increase in gas storage operating expenses from 2015 to 2016 was the Company's corrosion mitigation activities for the Portland LNG tank in 2016. Those activities included cleaning and painting the entire tank.

b. The primary drivers of the increase in gas storage operating expenses from 2017 to 2018 are listed below:

   First, the U.S. Department of Transportation's Pipeline and Hazardous Materials Safety Administration (PHMSA) adopted a new rule (API 1171) at the end of 2016. This rule required the Company to plan, develop and implement a well integrity program. The Company hired outside experts in 2018 to assist in complying with this new federal requirement.

   Second, the Company rebuilt the two large compressors at Mist (GC 500 and GC 600) in 2017. The costs of those rebuilds were then amortized over a five-year period, starting in 2018.

Third, the Company upgraded the Newport LNG facility in 2018. The Company's engineering department had recommended increasing the cycling of liquefaction/vaporization systems to reduce the CO2 build up in the tank. The cycling of the Newport LNG facility has been a topic on several of the Company's quarterly meetings with Staff. The increased usage of the facility drove higher O&M costs, and the new upgrade required different plant processes, process automation enhancements and cold box remediation efforts.

c. The Oregon Test Year expense for Gas Storage Operating Expenses increased $732k, or 30%, as compared with the Base Year. The primary drivers of this increase are: 1) four compressors are being rebuilt in 2020 and the expense is being amortized over 5 years; and 2) the Company is leasing a compressor that began in July 2019, so the Test Year includes the annualized amount of this expense. This explanation is included in NW Natural/900, page 12, lines 13-22.

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Joe Karney

DISTRIBUTION SYSTEM AND STORAGE FACILITY PROJECTS

EXHIBIT 1408

May 29, 2020

NW Natural

Rates & Regulatory Affairs
UG 388
2020 OR General Rate Revision
Data Request Response

Request No.: UG 388 AWEC DR 32

32. Please describe how the revenues and costs associated with the North Mist Storage facility are considered in NW Natural's proposed revenue requirement. Please also identify all 2019 revenues incurred by month and by counterparty associated with the Mist Storage facility and the North Mist Storage Expansion.

Response:

All revenues and costs associated with the North Mist Storage facility are based on Schedule 90, which is a cost of service schedule, and therefore are not included in NW Natural's proposed revenue requirement in this rate case (UG 388). Cost of service schedule revenues and costs should not be comingled with other utility rate payers.

"UG 388 AWEC DR 32 Attachment 1" outlines all 2019 North Mist Storage Expansion revenues accrued by month.

The following FERC accounts include North Mist assets and they are not included in the proposed revenue requirement in this rate case (UG 388): 117.2, 303.6, 350.3, 350.4, 351.1, 352.4, 352.5, 352.6, 352.7, 353.1, 354.7, 355.1, 365.3, 391.5, 376.13, and 367.27. None of these FERC accounts are included in workpaper "UG388 – Exh. 1000 – WP2 – Gross Plant, Accum Deprec and Deprec Exp – CONFIDENTIAL," which is used to determine rate base.

"Highly Confidential UG 388 AWEC DR 32 Attachment 2" outlines all 2019 Mist Interstate/Intrastate Storage Service revenues by month and by counterparty. It is the Company's interpretation that AWEC is asking for revenues accrued by month and counterparty to mean Interstate/Intrastate Storage Services, not the utility's use of the Mist facility. NW Natural will provide this highly confidential information subject to the modified protective order in this proceeding.

All dollar amounts in attachments 1 and 2 are <u>not</u> included in NW Natural's proposed revenue requirement in this rate case (UG 388).

NW Natural

Rates & Regulatory Affairs
UG 388
2020 OR General Rate Revision
Data Request Response

Request No.: UG 388 AWEC DR 36

36. For each project in AWEC Data Request 20, please identify whether the project is associated with the Mist Storage Facility. For each project identified, please explain why the project has not been excluded from revenue requirement and applied to a Firm Storage rate schedule as NW Natural described in response to AWEC Data Request 32.

Response:

See UG 388 AWEC DR 36 Attachment 1, which is AWEC DR 20 highlighted for projects associated with Mist Storage Facility.

The Company's response to AWEC DR 32 did not refer to a "firm storage rate schedule." However, the response to AWEC DR 32 did describe the exclusion of costs for the North Mist operations. Those operations are in fact provided under rate schedule 90 as a "FIRM STORAGE SERVICE WITH NO-NOTICE WITHDRAWAL." That rate schedule is used for service to a single customer, includes cost of service ratemaking, and has been segregated from the ratemaking for other customers. Not including a known error as discussed in the Company's response to AWEC DR 39, the revenues, costs, and investment for North Mist have been completely excluded from this rate case. The Mist Storage Facility projects identified in AWEC DR 20 were all applicable to core customers, and not to the provision of service under rate schedule 90, and so they are not applied to that rate schedule.

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Joe Karney

DISTRIBUTION SYSTEM AND STORAGE FACILITY PROJECTS

EXHIBIT 1409

May 29, 2020

NW Natural®

Rates & Regulatory Affairs
UG 388
2020 OR General Rate Revision
Data Request Response

Request No.: UG 388 OPUC DR 227

227. Regarding UG 388 DR 134 Attachment 1.xlsx and the following projects therein,
   a. Projects:
      i. Miller Station TI
      ii. Mist Compressor Rebuild 500
      iii. Mist Compressor Study & Replacement
      iv. Mist Corrosion Abatement Phase 3
      v. Mist Corrosion Abatement 4
      vi. Mist Electrical Systems Updates
      vii. Mist Fiber Network
      viii. Mist Pipeline Upgrades
      ix. Mist Valve Control Upgrades
      x. Mist Well Rework
      xi. Mist Well Rework 2020
      xii. Mist Well Rework 2021

   b. Please provide a detailed narrative description for each project describing what is being purchased, how the project specifically benefits Oregon ratepayers, why the investment is necessary at this time, what other alternatives were considered, and what would occur if the investment is not made.

   c. Please provide a narrative description of how the projects interrelate to each other and the two Mist projects specifically discussed in testimony (Mist Instrument and Controls Upgrade Ph. 2 and Mist Large Dehydrator).

Response:

a. NW Natural's utility customers currently receive underground storage service at Mist through the Miller Station central control and compressor facility using depleted production reservoirs collectively referred to as "Mist storage." Mist storage began storage operations in 1989 and currently has a maximum total daily deliverability of 515 million cubic feet per day (MMcf/day), and a total working gas capacity of 16 billion cubic feet (Bcf). It is identified in NW Natural's 2018 Integrated Resource Plan (IRP), LC 71 – Chapter 6 Supply Side Resources, as a resource necessary to meet customer demand. Natural gas is injected into the reservoirs during periods of low demand and withdrawn during periods of higher demand. As a resource used for seasonal storage, NW Natural requires high availability and reliability from the Mist storage. The Mist storage facility and its major process components were designed for a nominal 25- to 30-year life, and now is experienced increased maintenance needs due to age. The projects below are necessary for the safe operation and availability of the Mist storage facility and to allow it to remain a supply source to meet firm customer demand.

b. For each project:

i. Miller Station TI (Tennent Improvements) Project is a project to reconfigure spaces totaling approximately 1,430 SF within the existing metal building envelope of the current structure. Scope of work includes select removal of finishes, new walls to extend to decking above existing acoustic ceiling tiles at 9' AFF (above finish floor), reconfiguration of the existing lighting and occupancy sensors, HVAC modifications, new wood doors with sidelights and locking hardware, acoustical insulation and new carpet and finishes. Additional scope includes providing a Stormwater Management Plan including paving on the upper portion of the site to the north of the existing building. The original control building is over 25 years old and has not been substantially updated. The employee footprint has grown to 15 employees and the current layout is inadequate for that number of employees. The increase in the number of employees is due to Control Room Management regulation requiring additional staffing at the facility. Furthermore, there is an underground sewer leak, sealing issues allowing mice to enter the structure, and stormwater causing erosion. This project is needed at this time to correct these issues and allow for continued use of the existing building. Not performing the improvements is not an option with the new employee footprint, and not addressing the other issues would cause more expensive repairs in the future. Constructing a new building would be more expensive than performing these improvements. Oregon ratepayers benefit from this project because it allows for the safe operation of the Mist storage facility and for it to remain a supply source.

ii. Mist Compressor Rebuild 500 Project involves rebuilding a turbine compressor that is necessary to operate the Mist storage facility. The compressors at Mist are critical for both injecting gas into the storage fields and withdrawing gas to send to customers. Specifically, this project involves investigating the extent of compressor wear, refurbish or replace worn parts, and reinstall the compressor at Mist. The investment is necessary at this time due to issues experienced on the Mist 500 Compressor in the winter of 2018/19. The only alternative would be to replace the Mist 500 Compressor with a new compressor at a significantly higher cost. If the investment was not made, the Mist 500 compressor would not be available and the Mist storage facility would be not be able to deliver its rated delivery capacity. Oregon ratepayers benefit from this project because it allows for the safe operation of the Mist storage facility and for it to remain a supply source.

iii. Mist Compressor Study and Replacement Project will assess the current four Mist compressor units (two smaller reciprocating units and two larger turbine units) and evaluate the long-term needs (technical and usage demands) to assure continued deliverability of the Mist storage facility. The study will deliver recommendations that may include options for component modernization, integration, and/or full replacement of obsolete / failing equipment. Deliverables include a third-party consultant report outlining the existing compressor system demands, condition of existing compressor infrastructure, and recommendations that will include upgrade or replacement of the existing systems along with potential compressor brands and models. The project is needed now because all four of the units have experienced issues during the last several years due to age, outdated/ unsupported systems, mechanical fatigue, abnormal/non-ideal operations, or combinations thereof. The project will gather the information necessary to present projects in the IRP process. The only alternative to doing this project would be to not study repair and replacement options of the compressors. The Company would then not have the appropriate information to support the IRP process. Oregon ratepayers benefit from this project because it allows the Company to identify the least cost, least risk way to provide supply from the Mist storage facility.

iv. Mist Corrosion Abatement Phase 3 Project utilized In-Line Inspection (ILI) tools to evaluate the existing conditions and validate the integrity of the following injection/withdrawal pipelines: 8” Busch Manifold to Busch Pool, 8” Busch Manifold to Al’s View Lot, and 6” Al’s View Lot to Al’s Pool. These pipelines required modifications to allow for the ILI, including the installation of pig launcher and receiver connection valves to allow for temporary pig barrels to be attached during the ILI. The 2016 EN Engineering report recommended these modifications and inspections since there is a threat of internal and external corrosion on these pipelines. If there were failure on one of the pipelines due to an anomaly, the Mist storage facility would be unable to inject and withdrawal gas as designed. The investment is necessary at this time to assess the risk and repair any anomalies prior to failure. The only alternative would be to not perform the pipeline modifications and ILI assessments. Not performing the inspections would leave a higher risk of pipeline failure. See UG 388 OPUC DR 227 Attachment 1. Oregon ratepayers benefit from this project because it allows for the safe operation of the Mist storage facility and for it to remain a supply source.

v. Mist Corrosion Abatement Phase 4 Project utilized In-Line Inspection (ILI) tools to evaluate the existing conditions and validate the integrity of the following injection/withdrawal pipelines: 8” Flora ILI Loop - from Miller Station to Flora and back to Miller Station, 8” Bruer ILI - from Miller Station to Bruer Pool (IW22d-10), and 12” Bruer P64.04 ILI - from Miller Station to Storage Well 13b-11-65. These pipelines require modifications to allow for the ILI, including the installation of pig launcher and receiver connection valves to allow for temporary pig barrels to be attached during the ILI. The 2016 EN Engineering report recommended these modifications and inspections since there is a threat of internal and external corrosion on these pipelines. If there were failure on one of the pipelines due to an anomaly, the Mist storage facility would be unable to inject and withdrawal gas as designed. The investment is necessary at this time to assess the risk and repair any anomalies prior to failure. The only alternative would be to not perform the pipeline modifications and ILI assessments. Not performing the inspections would leave a higher risk of pipeline failure. See UG 388 OPUC DR 227 Attachment 1. Oregon ratepayers benefit from this project because it allows for the safe operation of the Mist storage facility and for it to remain a supply source.

vi. Mist Electrical Systems Updates Project is a collection of electrical upgrades at the plant, including a new Motor Control Cabinet (MCC) for the electrical room, MCC breaker upgrades, MCC upgrade for mechanical building, and a new 750 kVA transformer. Additionally, Conduct Grounding, Power Quality, and Arc Flash Studies will be performed to assess if additional work is necessary. The 2016 EN Engineering report recommended these investments and studies based on the existing electrical infrastructure being end of life and to allow for adequate electrical capacity for future projects. The investment is necessary at this time to allow for the safe operation of Mist Storage. The only alternative would be to not perform the electrical system updates. Not performing the investment would leave a higher risk of electrical system failure. Oregon ratepayers benefit from this project because it allows for the safe operation of the Mist storage facility and for it to remain a supply source.

vii. Mist Fiber Network Project will install a new fiber network from Miller Station to systems at Bruer and Flora wells at the Mist gas storage facility. The fiber to the Flora wells will be placed in existing underground conduits. The new fiber network to the Bruer wells will require the construction of new underground conduits and vaults. The investments are required now because tree heights around the wells have reached a level such that they now interfere with radio communications and NW Natural does not control the land covering the trees. Adding a fiber optic network for the northern wells will provide a redundant communications system and eliminate issues due to tree growth. The southern wells already have a fiber optic network in place for communication. The only alternative would be to not perform the Mist Fiber Network Project. See UG 388 OPUC DR 227 Attachment 2. Not performing the investment would prevent NW Natural from being able to monitor and control the Bruer and Flora wells. Oregon ratepayers benefit from this project because it allows for the safe operation of the Mist storage facility and for it to remain a supply source.

viii. Mist Pipeline Upgrades Project will remove restrictions within the injection/withdrawal pipelines to improve flow efficiency. Improvements will include replacing pipeline flow choke points, interconnecting some piping with a nearby system, and abandoning a portion of one system to maintain a more constant flow within that system. Specific investments include replacing 10-inch and 8-inch single line section at Al's View Lot with a 12-inch pipeline to reduce gas velocities, adding automated valves and controls for the Twin 16-inch pipelines, retiring the Bruer South Loop, and replacing Bruer and Flora 12-inch pipe connection to the 20-inch turbine headers with 16-inch pipe. These investments are based on recommendations contained in the 2016 EN Engineering report. These modifications will optimize gas flow through the network of injection and withdrawal pipelines, preventing issues that may arise from choke points or from liquid buildup, and allow for independent operation of each well. The investments are required now to remove inefficiencies that currently exist in the pipeline system at Mist Storage. The only alternative would be to not perform the Mist Pipeline Upgrades Project. Not performing the investments would maintain existing flow restrictions within the pipeline system. Oregon ratepayers benefit from this project because it allows for the efficient operation of Mist storage and for it to remain a supply source.

ix. Mist Valve Control Upgrades Project corrects multiple issues identified with existing valves at the Mist Storage facility, including end of life and failing equipment, leaking valves and valve appurtenances, and installing double block and bleed configurations to improve safety during maintenance. These current issues pose safety hazards when future maintenance and upgrades work needs to be completed and when trying to properly isolate systems for plant operation. The project will install new valves, valve controllers, valve actuators and associated components. The investment is necessary at this time to eliminate safety hazards. The only alternative would be not performing the Mist Valve Control Upgrades Project. Not performing the investments would maintain known safety hazards. See UG 388 OPUC DR 227 Attachment 3. Oregon ratepayers benefit from this project because it allows for the safe operation of the Mist storage facility and for it to remain a supply source.

x. Mist Well Rework Project included the replacement of major downhole components of the underground infrastructure in a number of NW Natural's storage reservoirs at Mist. The work included replacement of the primary well barrier elements between the storage reservoir and external environment: production tubing strings, production packers, and Christmas tree master valves. This project included the rework of nine of the wells at Mist Storage in 2019. The work is required by PHMSA's 2017 Underground Storage Facilities Interim Final Rule (the final rule was published February 12, 2020 and becomes effective March 13, 2020), which requires NW Natural to assess of the operational safety of their underground natural gas storage facilities and remediate any identified issues. The investment is necessary at this time for regulatory compliance, and there are no alternatives to performing the assessment and remediation. See UG 388 OPUC DR 227 Attachment 4. Oregon ratepayers benefit from this project because it allows for regulatory compliance, the safe operation of the Mist storage facility, and for it to remain a supply source.

xi. Mist Well Rework 2020 Project will include the replacement of major downhole components of the underground infrastructure in a number of NW Natural's storage reservoirs at Mist. The work will include the replacement of the primary well barrier elements between the storage reservoir and external environment: production tubing strings, production packers, and Christmas tree master valves. This project will include the rework of seven of the wells at Mist Storage in 2020. The work is required by PHMSA's 2017 Underground Storage Facilities Interim Final Rule (the final rule was published February 12, 2020 and becomes effective March 13, 2020), which requires NW Natural to assess of the operational safety of their underground natural gas storage facilities and remediate any identified issues. The investment is necessary at this time for regulatory compliance, and there are no alternatives to performing the assessment and remediation. See UG 388 OPUC DR 227 Attachment 4. Oregon ratepayers will benefit from this project because it allows for regulatory compliance, the safe operation of the Mist storage facility, and for it to remain a supply source.

xii. Mist Well Rework 2021 Project will include the replacement of major downhole components of the underground infrastructure in a number of NW Natural's storage reservoirs at Mist. The work will include the replacement of the primary well barrier elements between the storage reservoir and external environment: production tubing strings, production packers, and Christmas tree master valves. This project will include the rework of wells at Mist Storage in 2021. The work is required by PHMSA's 2017 Underground Storage Facilities Interim Final Rule (the final rule was published February 12, 2020 and becomes effective March 13, 2020), which requires NW Natural to assess of the operational safety of their underground natural gas storage facilities and remediate any identified issues. The investment is necessary at this time for regulatory compliance, and there are no alternatives to performing the assessment and remediation. See UG 388 OPUC DR 227 Attachment 4. Oregon ratepayers will benefit from this project because it allows for regulatory compliance, the safe operation of the Mist storage facility, and for it to remain a supply source.

c. All of these projects are necessary for the ongoing safe operation and availability of Mist storage facility and to allow it to remain a supply source to meet peak firm customer demand.

NW Natural

PROGRAM / PROJECT ALTERNATIVES NARRATIVE

Program/Project Name: Mist Corrosion Abatement
Date: February 14, 2017
Preparer: *Michael Burke/PMO*

The purpose of the Alternative Analysis requirement is to choose the best solution for NWN's need and to make sure we are utilizing resources in the most efficient manner.

BUSINESS NEED/JUSTIFICATION *What is the issue intended to be addressed and why is it needed?*
On June 10, 2016 the EN Engineering Facility Assessment of the Mist Storage Facility was completed. This study recommended a number of improvements that the facility should undertake to improve reliability (Mist Reliability Program), including certain corrosion abatement projects. On August 26, 2016, Project Request Memos (PRMs) were submitted for 1) Mist Reliability Cathodic Protection Study and 2) Mist Reliability Internal Corrosion Monitoring. The work included in both PRMs is being combined into the "Mist – Corrosion Abatement Project". Phase 1 will perform in-line inspection (ILI) on the pipelines to the southern wells (twin 16's, Al's, Schlicker, Busch, Reichhold) and address external corrosion issues on all the I/W pipelines at Mist. A subsequent Phase 2 in 2019 will perform ILI on the pipelines to the northern wells (Bruer & Flora low points). Since there is a potential for internal and external corrosion to occur or to have already occurred within the Mist gathering system, ENE recommended conducting ILI's and developing and implementing an internal and external corrosion monitoring program. The development and implementation of this program will provide data and trending for NW Natural to better evaluate the conditions in the field.

OBJECTIVE *Clearly define the objective.*
This project will evaluate existing conditions of the southern injection/withdrawal pipelines at the Mist Storage Facility by modifying the pipelines to facilitate ILI of each pipeline, performing ILI for the first time on those pipelines and performing isolation testing on the pipelines. Additionally, an internal corrosion monitoring program will be developed to evaluate, monitor, and minimize internal and external corrosion of those pipelines in the future. Phase 1 of the project is scheduled to commence in 2017 and be completed in 2018. Phase 2, which will be a separate project to ILI the northern pipelines, is anticipated to be completed in 2019. If pipeline anomalies are discovered, additional pipeline repairs/replacements may be needed, which will be included in one or more separate projects.

RECOMMENDED OPTION *Describe the option selected/recommended for approval. Explain in detail how the option measured against the decision criteria, whether it was the lowest cost option, and if there were qualitative factors considered in selecting the option. Provide all information necessary to understand the decision process that was undertaken with respect to the recommended option.*			
Description	Perform in line inspection (ILI) on the pipelines to the southern wells and address external corrosion issues on all of the I/W pipelines at Mist.		
Decision Criteria	• The need to address critical systems identified in the 2016 Facility Assessment Report		
Pros	• Addresses the risks identified in the 2016 Facility Assessment Report by examining the internal condition of the gathering pipelines.		
Cons	N/A		
Estimated Capital	***Direct***	***COH***	***Total***
	$ 1,687,000	$	$

O&M	Program/Project	Ongoing Maintenance & Support
	$	$
Source/ Method of Cost Data	Estimate from Project Charter	

ALTERNATIVE 1 *Provide details of any viable alternatives for meeting the objective, other than the option above. Please provide enough detail so that the reader can understand how the alternative compares to the recommended option.*			
Description	Do nothing and continue to operate the Mist Storage Facility without evaluating the extent of any existing internal and external corrosion on the gathering pipelines.		
Pros	No immediate cost or resource investment		
Cons	• Any pipeline failure will reduce the facilities ability to operate which could be significant particularly during peak operating conditions • No chance to avoid failures that could lead to issues with environment, land owners, regulators, public.		
POTENTIAL COST			
Capital	***Direct***	***COH***	***Total***
	$	$	$
O&M	***Program/Project***	***Ongoing Maintenance & Support***	
	$	$	
Source/ Method of Cost Data	No cost absent any failure, but cost of failure is significant.		
Explain why this alternative is not recommended	Leaving the systems as is may lead to prolonged outages of the portions of the Mist Storage Facility and possibly issues with environmental, regulatory, and public parties.		

ALTERNATIVE 2 *Provide details of any viable alternatives for meeting the objective, other than the option above. Please provide enough detail so that the reader can understand how the alternative compares to the recommended option*			
Description			
Pros			
Cons			
POTENTIAL COST			
Capital	***Direct***	***COH***	***Total***
	$	$	$
O&M	***Program/Project***	***Ongoing Maintenance & Support***	
	$	$	
Source/ Method of Cost Data			
Explain why this alternative is not recommended			

**Copy/Add table for any additional alternatives*

ALTERNATIVES CONSIDERED NOT VIABLE *Provide a description of any additional alternatives that were considered but rejected up front as not viable, and explain why*		
	Description	**Why the Alternative is not viable**

Alternative 3		
Alternative 4		
Alternative 5		

**Add rows for any additional alternatives considered not viable*

FURTHER ANALYSIS NOT REQUIRED *Describe why further analysis is not required. Please explain in enough detail that others can assess whether the existing justification is sufficient.*
Further analysis is not required as the only alternative to ILI's of the various lines is to leave them as is (Alternative 1). Further, the 2016 Facility Assessment Report for Mist serves as additional basis and alternatives analysis (see page 31 regarding risks associated with undetected/unremedied corrosion).

COMMITTEE APPROVAL		
☐ **APPROVED**	☐ **REQUIRES FURTHER ANALYSIS BELOW, AS DESCRIBED BELOW**	☐ **NOT APPROVED AT THIS TIME**
Comments/Recommendations:		

Alternatives Analysis Team Representative Date

NW Natural
PROGRAM / PROJECT ALTERNATIVES NARRATIVE

Program/Project Name: Mist Instruments and Controls Upgrade
Date: February 3, 2017
Preparer: *Michael Burke/PMO*

The purpose of the Alternative Analysis requirement is to choose the best solution for NWN's need and to make sure we are utilizing resources in the most efficient manner.

BUSINESS NEED/JUSTIFICATION *What is the issue intended to be addressed and why is it needed?*
The 2016 Mist Storage Facility Assessment Report identified that the current plant control system at Miller Station is beyond the end of its design life. The existing control system features a 1990's vintage Allen-Bradley programmable logic controller ("PLC") for which the manufacturer no longer provides parts for and will discontinue support as of July 2017. Replacement of the control system with a modern design is a central component of the recommendations made within the 2016 Facility Assessment Report. The existing HMI, logging, and alarm reporting systems which operators use to monitor and control the Mist plant are made up of many disparate systems. Each of these systems presents a single point of failure. A new control system will also unify these systems into a single system with fewer weak points and will enable transition of control from the existing control room to the new control room. The new control room is being built as per a Facilities project and is planned to be completed in summer 2017. This new control system will also provide operators with high-performance displays and a modernized console layout that will allow for increased visibility and easier recognition of abnormal operating conditions (similar to OPS Gas Control and Newport). IT network security for the control systems and network communications will be upgraded as well to eliminate existing security deficiencies. In addition, the project will install a fiber optic network to augment unreliable radio communications at Bruer & Flora wells. Tree heights around the wells have reached a level such that they now interfere with radio communications and NWN does not control the land with the trees. Adding a fiber optic network for the northern wells will provide a redundant communications system and eliminates issues due to tree growth. The southern wells already have a fiber optic network in place for communication.

OBJECTIVE *Clearly define the objective.*
This project will replace the existing obsolete plant control system at Miller Station with a new model designed to provide another 20 years of service. Operator controls will be updated to include new high-performance HMI systems with fewer failure points, better visualization of plant processes, and increased IT network security. Lastly, a fiber optic network will be installed at the Flora and Bruer wells to eliminate issues with the existing radio communications at the wells.

RECOMMENDED OPTION *Describe the option selected/recommended for approval. Explain in detail how the option measured against the decision criteria, whether it was the lowest cost option, and if there were qualitative factors considered in selecting the option. Provide all information necessary to understand the decision process that was undertaken with respect to the recommended option.*	
Description	Replace the obsolete plant control system with a new integrated control and communication system, upgrade the fiber optic network, and upgrade the IT network security.
Decision Criteria	• The need to address critical systems identified in the 2016 Facility Assessment

	Report • Updating the control systems is dependent upon the completion of the Control Building Project		
Pros	• Addresses the risks identified in the 2016 Facility Assessment Report by replacing existing systems and allowing outdated components to be removed from service.		
Cons	N/A		
POTENTIAL COST			
Estimated Capital	***Direct***	***COH***	***Total***
	$ 6,481,000	$	$
O&M	***Program/Project***	***Ongoing Maintenance & Support***	
	$	$	
Source/ Method of Cost Data	Estimate from Project Charter		

ALTERNATIVE 1 *Provide details of any viable alternatives for meeting the objective, other than the option above. Please provide enough detail so that the reader can understand how the alternative compares to the recommended option.*			
Description	Continue to operate at Miller Station as is without changes to control room systems		
Pros	No immediate cost or resource investment		
Cons	• Strong potential of equipment failure, particularly during peak operating conditions, is significant due to aged components • New parts no longer exist for replacement and there is no manufacturer support • Operations continue with an outdated controls layout and existing security and communications issues • Increased maintenance intensity with time		
POTENTIAL COST			
Capital	***Direct***	***COH***	***Total***
	$	$	$
O&M	***Program/Project***	***Ongoing Maintenance & Support***	
	$	$	
Source/ Method of Cost Data	Not predictable as any part of the existing PLC is not available as new and would require unreliable availability of parts on eBay or similar.		
Explain why this alternative is not recommended	Leaving systems as is may lead to prolonged outages of the Mist Storage Facility		

ALTERNATIVE 2 *Provide details of any viable alternatives for meeting the objective, other than the option above. Please provide enough detail so that the reader can understand how the alternative compares to the recommended option*			
Description			
Pros			
Cons			
POTENTIAL COST			
Capital	***Direct***	***COH***	***Total***
	$	$	$
O&M	***Program/Project***	***Ongoing Maintenance & Support***	

	$	$
Source/ Method of Cost Data		
Explain why this alternative is not recommended		

**Copy/Add table for any additional alternatives*

ALTERNATIVES CONSIDERED NOT VIABLE *Provide a description of any additional alternatives that were considered but rejected up front as not viable, and explain why*		
	Description	**Why the Alternative is not viable**
Alternative 3		
Alternative 4		
Alternative 5		

**Add rows for any additional alternatives considered not viable*

FURTHER ANALYSIS NOT REQUIRED *Describe why further analysis is not required. Please explain in enough detail that others can assess whether the existing justification is sufficient.*
Further analysis is not required as the only alternative to replacement of the outdated and unsupported control system is to leave it as is (Alternative 1). Further, the 2016 Mist Storage Facility Assessment Report serves as additional basis and alternatives analysis.

COMMITTEE APPROVAL		
☐ **APPROVED**	☐ **REQUIRES FURTHER ANALYSIS BELOW, AS DESCRIBED BELOW**	☐ **NOT APPROVED AT THIS TIME**
Comments/Recommendations:		

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Alternatives Analysis Team Representative Date

NW Natural
PROGRAM / PROJECT ALTERNATIVES NARRATIVE

Program/Project Name: Valve Controls Upgrades
Date: 6/14/2019
Preparer: *Ryan Weber/Engineering*

The purpose of the Alternative Analysis requirement is to choose the best solution for NWN's need and to make sure we are utilizing resources in the most efficient manner.

BUSINESS NEED/JUSTIFICATION

What is the issue intended to be addressed and why is it needed?

During O&M activities and execution of several projects at Mist Miller Station (Mist I&C PH I & Corrosion Abatement PH I in particular) several issues were identified involving plant valves:

- **End of life / failing equipment & accessories**
- **Leaking valves and valve appurtenances**
- **Valve configurations (no double-block-and-bleed configurations)**

These pose safety hazards when future maintenance and upgrades work needs to be completed and when trying to properly isolate systems for plant operation. Many valve position indicators are failing which creates operational and safety hazards as the operations team does not know the position of the valves (open vs. closed).

Also, the compressed air system which provides pneumatic power for valve actuation has been found to steadily lose pressure due to potential leakage and air compressor eqpt issues. If the compressed air system fails the facility will be heavily impacted (no remote actuation will be available, all valves must be manually opened / closed by hand) and emergency resources will be required to fix the issue with unknown cost and duration. This project will investigate the valve systems – including the compressed air connections to actuators and understand what is required to fix them, and execute fixes as necessary. It is anticipated that the failing compressed air system will be fixed with the replacement of failing valves and valve components. If this does not fix the compressed air system a separate project will be created to address any additional issues with that system.

The project is outlined in the updated Q2 2019 Mist 10 year plan.

OBJECTIVE

Clearly define the objective.

- **Replace leaking plant valves identified by operations and Right-of-Way teams.**
- **Develop OSHA-compliant double block and bleed valve manifolds to improve plant safety during maintenance.**
- **Replace failing valve position indicators**
- **Upgrade valve controllers, solenoids, and actuators identified by plant operations and project engineering.**
- **Replace leaking Bruer flow control valve (FCV-2) actuator and controllers**
- **Add service block valves to 4 site vent valves to allow for safe and proper maintenance activities of ESD vent systems**
- **Investigate issues with compressed air system and valve actuators and develop execution plan to stop system leaks.**

RECOMMENDED OPTION

Describe the option selected/recommended for approval. Explain in detail how the option measured against the decision criteria, whether it was the lowest cost option, and if there were qualitative factors considered in selecting the option. Provide all information necessary to understand the decision process that was undertaken with respect to the recommended option.

Description	Replace failing equipment and upgrade to reliable and safe configurations
Decision Criteria	Multiple valve systems at site that have failures or incorrect configurations that lead to safety and controls issues. The Mist plant operations team identified failing broken valve position indicators and controllers during execution of I&C PH I project. During corrosion abatement activities the

	Right-of-way team identified unsafe leaking valves that need to be replaced. The project engineer identified valve configurations that do not meet OSHA's definition of double block and bleed (DBB) as well. Loss of pressure in air compressor system used for pneumatic actuation of valves.		
Pros	Fixes broken / failed valve systems to improve reliability and safety. Brings site into safety compliance. Further, addresses a recent near-miss safety issue where appropriately working valves and DBB systems would have prevented an issue.		
Cons	N/A		
POTENTIAL COST			
Capital	***Direct***	***COH***	***Total***
	$1.25M	$	$
O&M	***Program/Project***	***Ongoing Maintenance & Support***	
	$	$	
Source/ Method of Cost Data	**Estimate based off previous like projects and some known costs of valve accessories. Cost is outlined in 10 year plan.**		

ALTERNATIVE 1			
Provide details of any viable alternatives for meeting the objective, other than the option above. Please provide enough detail so that the reader can understand how the alternative compares to the recommended option.			
Description	Continue to operate Mist facility with existing failing equipment.		
Pros	No up-front capital cost expenditure		
Cons	• Safety and controls issues are inherent • Strong potential for equipment failure leaving the facility down while issues are fixed • Unsafe leaking valves • Increased maintenance frequency and duration supporting existing equipment		
POTENTIAL COST			
Capital	***Direct***	***COH***	***Total***
	$N/A	$	$
O&M	***Program/Project***	***Ongoing Maintenance & Support***	
	$	$80K / year	
Source/ Method of Cost Data	**Approx 1 hr per day spent in dealing with pneumatic-actuated valves that must be operated manually by hand ($75 / hr). Plus, $50K / yr in accessories to replace due to greater issues that require new valves / actuators. Note that cost of safety issues are not included in the number.**		
Explain why this alternative is not recommended	**Not addressing failing / failed systems presents safety and controls issues. Opportunities to add DBB setups will be missed and create safety issues for any maintenance activities and future tie-in projects.**		

ALTERNATIVE 2			
Provide details of any viable alternatives for meeting the objective, other than the option above. Please provide enough detail so that the reader can understand how the alternative compares to the recommended option			
Description			
Pros			
Cons			
POTENTIAL COST			
Capital	***Direct***	***COH***	***Total***
	$	$	$
O&M	***Program/Project***	***Ongoing Maintenance & Support***	
	$	$	

Source/ Method of Cost Data	
Explain why this alternative is not recommended	

**Copy/Add table for any additional alternatives*

ALTERNATIVES CONSIDERED NOT VIABLE *Provide a description of any additional alternatives that were considered but rejected up front as not viable, and explain why*		
	Description	**Why the Alternative is not viable**
Alternative 3	Reconfigure the site process piping to bypass leaking valves.	Much more expensive and time consuming than replacing existing valves. Would require 100's of feet of additional pipe and valves.
Alternative 4		
Alternative 5		

**Add rows for any additional alternatives considered not viable*

FURTHER ANALYSIS NOT REQUIRED *Describe why further analysis is not required. Please explain in enough detail that others can assess whether the existing justification is sufficient.*
Further analysis is not required as the only alternative to replacement of outdated/failing equipment is to leave it in place. Bypassing the equipment would be very expensive and time consuming. Industry standard is to replace equipment upon failure identification.

PMO USE ONLY ***ELECTRONIC APPROVALS***		
Title	**Name**	**Date/Time Approved**
PMO Specialist		
AA Approver		

NW Natural
PROGRAM / PROJECT ALTERNATIVES EXEMPTION

Program/Project Name: Mist Well Rework
Date: 2/19/19
Preparer: Shane Melski (PMO)

DESCRIPTION	
ISSUE TO BE ADDRESSED BY PROGRAM/ PROJECT	Fifty-one (51) underground storage wells within the Mist storage fields have been identified to be reworked over an 8-year time period, in accordance with the Pipeline and Hazardous Materials Safety Administration (PHMSA) adopted new safety regulations. This work will require the use of specialized vendors to be on-site to temporarily cap the existing live wells, remove existing valves and well tubing and rehabilitate the wells in support of the newly developed Underground Gas Storage Program.
OBJECTIVE	Rehabilitate fifty-one (51) underground storage wells within the Mist storage fields and ensure they are in compliance with the Pipeline & Hazardous Materials Safety Administration requirements.
BUSINESS CASE	On December 19, 2016 the Pipeline and Hazardous Materials Safety Administration (PHMSA) adopted new safety regulations specifically for underground gas storage facilities (Federal Register/Vol. 81, No. 243 / Monday, December 19, 2016) and listed in 49 CFR 192.12, Underground Natural Gas Storage Facilities. Specifically, §192.12(d) & (e) states: *(d) Each underground natural gas storage facility that uses a depleted hydrocarbon reservoir or an aquifer reservoir for gas storage, including those constructed not later than July 18, 2017 must meet the operations, maintenance, integrity demonstration and verification, monitoring, threat and hazard identification, assessment, remediation, site security, emergency response and preparedness, and recordkeeping requirements and recommendations of API RP 1171, sections 8, 9, 10, and 11 (incorporated by reference, see §192.7) by January 18, 2018; and* *(e)Operators of underground gas storage facilities must establish and follow written procedures for operations, maintenance, and emergencies implementing the requirements of API RP 1170 and API RP 1171, as required under this section, including the effective dates as applicable, and incorporate such procedures into their written procedures for operations, maintenance, and emergencies established pursuant to § 192.605.* The rule required the Operator's plan to be developed by January 18, 2018 and begin the assessment of the operational safety of their underground natural gas storage facilities and document the implementation of identified safety solutions. NW Natural completed the development of the Well Integrity Plan and accelerated the development of a Risk Management Plan for the underground storage fields which included a schedule to 'rework' 51 storage wells over the Federally mandated 8-year guideline.
POTENTIAL COST	

Capital	***Direct***	***COH***	***Total***
	$3,540,000* *(for 2019 only)	$637,200* (18% for Mist) *(for 2019 only)	$4,177,200* *(for 2019 only)
O&M	***Program/Project***	***Ongoing Maintenance & Support***	
	$	$	

FURTHER ANALYSIS NOT REQUIRED		
☒ **REQUIRED:** Regulatory Requirement makes this specific program/project mandatory	☐ **EMERGENCY EXEMPTION:** Program/Project supports a critical business function and this specific program/project is required to continue that function.	☐ **OTHER**

EXPLAIN

Describe why an alternative analysis does not apply to this program/project. Please explain in enough detail that others can assess from the information provided whether this should be exempted from the Alternatives Analysis requirement.

PHMSA requires that the implementation plan and general timeline address the risk analysis and threats including the timing of assessment work as described in API 1171, Section 8, as applicable. Preventive and mitigative measures must be scheduled commensurate with the specific risks identified for each well and the overall risks identified for the storage field. In most cases, PHMSA expects underground storage operators to complete a risk assessment *including preventive and mitigative measures for all wells*, within 3 to 8 years from the effective date of the rule, depending on the size and complexity of the facility and as warranted by the risk assessment. PHMSA also expects that operators will prioritize implementation of preventive and mitigative measures for wells with higher risk.

In order to complete the mandated preventative and mitigative measures for the 51 wells at the Mist facility within the 8-year guideline, NWN must complete an average of 6 to 7 wells per year, or as the risk assessment mandates.

PMO USE ONLY ***ELECTRONIC APPROVALS***		
Title	**Name**	**Date/Time Approved**
PMO Specialist		
AA Approver		

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Wayne K. Pipes

FACILITIES

EXHIBIT 1500

May 29, 2020

EXHIBIT 1500 – REPLY TESTIMONY – FACILITIES

Table of Contents

I. INTRODUCTION AND SUMMARY

Q. Please state your name and position with Northwest Natural Gas Company ("NW Natural" or "Company").

A. My name is Wayne Pipes. I am the Director of Facilities, Security and Emergency Management for NW Natural.

Q. Are you the same Wayne Pipes who previously provided Direct Testimony in this docket?

A. Yes, I presented Direct Testimony and supporting exhibits in NW Natural/500-504, Pipes.

Q. What is the purpose of your Reply Testimony?

A. The purpose of my Reply Testimony is to: (1) respond to the Opening Testimony filed by Staff of the Public Utility Commission of Oregon ("Staff"), the Oregon Citizens' Utility Board ("CUB") and the Alliance of Western Energy Consumers ("AWEC") regarding the Company's new operations center, located at 250 SW Taylor ("250 Taylor"), and provide an update regarding the move to 250 Taylor; (2) respond to Staff's Opening Testimony regarding the Lincoln City and Warrenton Resource Centers; and (3) provide an update regarding the Company's enhanced security staffing.

Q. Please summarize your testimony.

A. In my testimony, I first address Staff and intervenors' Opening Testimony regarding the prudence of the move to 250 Taylor, and address some of the questions that Staff and AWEC raise about the Company's operations center selection process. I also respond to AWEC's proposed adjustment to assign a portion of the tenant improvement ("TI") expense to the first and second floor subleases, and explain that AWEC's adjustment should be rejected because the Company has not included any amounts for TI for the subleased space in its calculation of the total TI for the building. I also provide an update regarding the Company's move to 250 Taylor and regarding an update reducing the tax expense for 250 Taylor that is included in the Company's request. Next, I respond to Staff's proposed adjustments regarding the Lincoln City and Warrenton Resource Center projects. I explain that these projects are appropriately included in the Company's request due to the Company's use of a forward test year in this case, or alternatively, that at least a portion of these projects should be recoverable because they will be used to support the Company's operations prior to the rate effective date in this case. Finally, I provide additional support for the Company's enhanced security staffing, and specifically note that the Company's new security FTEs were hired in April 2020 and the contracted guard service is expected to start by the end of May 2020.

Q. Are there other Company witnesses addressing issues related to the 250 Taylor lease expense?

A. Yes. Company witness Tobin Davilla (NW Natural/2100, Davilla) responds to AWEC's adjustment to directly assign a portion of the lease expense to affiliates, and provides an alternative calculation for that adjustment. In addition, Company witness Amanda Faulk (NW Natural/2000, Faulk) responds to AWEC's comment regarding the amount of lease expense included in the Company's administrative overhead charge for time spent on affiliate matters.

II. 250 TAYLOR

Q. Please provide a brief overview of the Company's planning and decision-making process leading up to its move to 250 Taylor.

A. As I explained in my Direct Testimony, in late 2014, the Company engaged in a phased, multi-year decision-making process to evaluate options for a location for its headquarters and operations center.[1] In Phase 1 of this process, the Company considered input from its employees and its executives, and evaluated and prioritized the Company's business and operational needs with respect to location options, building configurations, and space design. After developing a framework for the analysis in Phase 1, the Company engaged the Portland landlord and developer community in Phase 2 through its Request for Information ("RFI") and Request for Proposals ("RFP"). The Company carefully scrutinized the RFP responses, entered into negotiations with the two finalists, and ultimately selected 250 Taylor as the least-cost, least-risk option for its operations center. In Phase 3, the Company implemented its decision to relocate to 250 Taylor, and finalized the interior design, installed furniture, fixtures, and equipment ("FFE"), and physical relocation to the new site.

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[1] NW Natural/500, Pipes/5-44.

A. <u>Prudence of the Company's Decision to Move to 250 Taylor</u>

Q. Please summarize the Parties' findings and conclusions regarding NW Natural's decision to relocate its operations center to 250 Taylor.

A. Staff notes a few questions and concerns about the Company's decision-making process, but ultimately concludes that the Company's decision-making was prudent: "Staff recommends the Commission find NW Natural's decision to relocate its headquarters/operations center from [One Pacific Square ("OPS")] to 250 Taylor to be prudent, based on the assumptions made and analysis performed by the Company, as described and presented in its testimony and exhibits in this proceeding."[2]

CUB similarly finds the Company's decision to be reasonable, stating that "at this time it appears that NW Natural made a reasonable decision in selecting 250 Taylor as NW Natural's corporate headquarters," and also notes that CUB will continue to analyze the prudence of the Company's decision.[3]

AWEC "does not oppose" the Company's decision to move from OPS, but does not directly address the prudence of the Company's decision to move to 250 Taylor, and expresses some general concerns about the Company's selection of a downtown location for its operations center.[4] AWEC also proposes two relatively minor adjustments related to the subleased space at 250 Taylor

[2] Staff/800, Storm/26-27.
[3] CUB/200, Gehrke/4-5.
[4] AWEC/100, Mullins/18.

and for three affiliate employees located at 250 Taylor, but otherwise does not object to including the costs associated with the new operations center in rates.

Q. What are AWEC's concerns about the downtown location?

A. AWEC is concerned with the cost of the new lease due to the Company's selection of a downtown location, which AWEC claims is expensive.

Q. How do you respond to AWEC's concerns about the downtown location being "expensive"?

A. As I explained in my Direct Testimony, the Company spent the first part of our decision-making process (Phase 1) considering which locations might meet the Company's needs. We analyzed the feasibility of locating outside of the core Portland area, but determined that it would not serve the needs of our employees or our customers.[5] Within the core Portland neighborhoods that were the focus of our search, which included the Pearl District, Old Town, the Central Business District ("CBD"), South Waterfront, Lloyd District, and Central Eastside ("Eastside"), most of the real estate prices were comparable, with the Pearl District and South Waterfront areas being more expensive. In Phase 2 of our process, when we tested the market by seeking proposals from landlords and real estate developers in these six neighborhoods, we considered options in downtown and on the east side of the Willamette River. Ultimately, the options that were located outside of downtown were not necessarily less expensive and

[5] NW Natural/500, Pipes/17.

250 Taylor ended up being the least-cost, least-risk option that best met our operational needs.

Q. Did you perform a financial comparison of potential locations in different neighborhoods?

A. Yes. We focused our financial comparison on the top four finalists, which included One Pacific Square (Old Town), Block 38 (CBD), Oregon Square (Lloyd District), and 250 Taylor (CBD).[6] In this comparison, the CBD locations were ranked as both the most and the least expensive options for Block 38 and 250 Taylor, respectively. The Lloyd District option ranked second best, and the Old Town location ranked third. Thus, while AWEC's comments may have some intuitive appeal, the record supporting the Company's decision-making process demonstrates that the Company's downtown location at 250 Taylor was in fact *less* expensive than the other options considered—including the most competitive option on the east side of the Willamette River.

Q. AWEC also claims that the existence of certain amenities that the Company excluded from its request for cost recovery "provides insight into the mindset of NW Natural when it designed its headquarters at this premier location."[7] How do you respond?

A. We strongly disagree with AWEC's insinuation. The Company's overarching goal throughout its decision-making process was to find a location that would meet the Company's business and operational needs, while at the same time

[6] NW Natural/500, Pipes/27.
[7] AWEC/100, Mullins/18.

identifying the least-cost, least-risk option. At the outset, when working with the architectural consultants to design the space and select FFE, the Company selected FFE in the middle of the cost range, and specifically excluded from cost recovery the few amenities that fell outside of that parameter. Contrary to AWEC's insinuation, the Company's approach was appropriately conservative.

Q. While Staff ultimately concludes that the decision to move to 250 Taylor was prudent, does Staff also express some concerns related to the new operations center facility?

A. Yes. Staff notes the following concerns:

- Accessibility of a downtown office location following a major seismic event, given the number of NW Natural employees who live east of the Willamette River or in Vancouver and the aging bridges that may not withstand a seismic event;[8]
- Whether the ground floor retail space for sublease may have a higher market value than the second-floor office space;[9]
- Whether the Company considered the financial impacts of the use of Sherwood for some or all workgroups engaged in critical utility operations, or instead considers Sherwood solely as a back up to a seismically resilient headquarters;[10] and

[8] Staff/800, Storm/10-11.
[9] *Id.* at 23.
[10] *Id.* at 26.

- Whether the Company analyzed the opportunity cost of keeping 600 employees at the same location.[11]

Q. What is Staff's concern about the accessibility of the downtown location in light of the aging bridges that may not withstand a major seismic event?

A. Staff notes that 55 percent of the Company's 140 FTEs engaged in critical utility operations live either on the east side of the Willamette River or in Vancouver, and expressed concern with accessibility to downtown for those employees if critical Portland bridges are rendered inoperable following a major seismic event.[12]

Q. Given that roughly half of the critical employees live on the east side/Vancouver and the other half live on the west side, is there a single location that would address Staff's accessibility concerns?

A. No. To the extent that access across the Willamette River or Columbia River may be compromised following a major seismic event, it would appear that no single location would fully address this accessibility concern, because west side employees may not be able to immediately access an east side location or vice versa.

Q. How does the Company plan to address these potential accessibility issues?

A. While it is difficult to predict the transportation routes that may be available following a major seismic event, the Company has business continuity plans that

[11] *Id.*
[12] *Id.* at 10-11.

address transportation disruptions. Specifically, in the event of a major earthquake disrupting transportation to downtown over Portland bridges, the Company has planned that certain critical employees may need to temporarily either work out of other locations or work remotely from home until a transportation route to downtown has been reestablished. Regarding Staff's concerns about the Company's employees who live in Vancouver or on the east side of the Willamette River, if the bridges are out, the Company plans that its Vancouver employees engaged in critical operations may be able to work out of the Vancouver Resource Center, and its east side employees may be able to work out of the Central Site, which is planned to be an emergency response and resource center that will be in service in 2022. The Company is currently in the process of retrofitting the Vancouver Resource Center site, which will include seismic upgrades to allow the facility to be operational after a major seismic event, and the Central Site will be built to the same standard.

Q. How do you respond to Staff's comment about the Company's proposed subleases, and specifically Staff's question as to whether the retail space should have a higher market value than the office space?

A. Based on information provided to us by our real estate consultant, Cushman, we understand that the market for retail space varies significantly from corner to corner and street to street. For example, if the location were at the corner of Broadway and Morrison, it may be $60 to $70 per rentable square foot ("RSF"). However, the market for retail space is significantly lower at 250 Taylor, and closer to around $32 to $36 per RSF. We will be charging $35 per RSF for the retail space, so we are well within market for the neighborhood.

Q. Staff notes a 50 percent reduction in the square footage amount for the space to be subleased as described in exhibit NW Natural/502, Pipes/36, in comparison with the space described in exhibit NW Natural/904, Davilla. Please explain.

A. The square footages noted in the Phase 2 Report at NW Natural/502, Pipes/36 (Headquarters Lease Financial Summary) were based on preliminary test fits completed by the architect for the buildings, whereas the square footages noted in NW Natural/904, Davilla (Headquarters Expense Detail) were based on finalized building design and represent the actual square footages proposed for sublease.

Q. How do you respond to Staff's concern about whether the Company considered the financial impacts of using Sherwood for some or all workgroups engaged in critical utility operations, and that the Company intends for Sherwood to serve as a backup to a seismically resilient headquarters?[13]

A. The space available at the Sherwood facility is designed to support only a limited number of critical positions, and thus would not be adequate to house all workgroups engaged in critical utility operations. Thus, the Sherwood location can provide short-term support for the Company's most essential business

[13] Staff/800, Storm/26.

functions, but would not have adequate space or equipment to serve as a medium- or long-term backup location for critical workgroups.

Given these constraints, the Company *does* regard Sherwood as a backup to a seismically resilient headquarters and operations center. As part of our business continuity and resiliency planning, we have planned to maintain two separate locations to provide backup operational capabilities in the event that one facility is damaged in a major natural disaster or other event, such as a fire, flood, or riot. This approach ensures that the Company will be able to adequately respond to an emergency, even if one of its locations is inaccessible.

Q. Staff expresses concern about whether the Company fully analyzed the opportunity cost of keeping all of the headquarters employees at the same location. Please explain the Company's views about splitting up its business functions.

A. As I explained in my Direct Testimony, NW Natural viewed splitting its business functions into multiple buildings to be suboptimal, because NW Natural's work style and culture is heavily dependent on informal collaboration, which frequently involves members from different business units.[14] Additionally, we have found that there is great value and efficiency from having all departments in the same building, and that having Company executives in an accessible and physically proximate location to all staff is an important part of NW Natural's culture and

[14] NW Natural/500, Pipes/20-21.

allows NW Natural's executives to be more effective and knowledgeable as they provide oversight to the business.[15]

Given the importance of working collaboratively, the Company also considered the potential costs and impacts to its ability to collaborate if it were to split its headquarters and operations center into two locations. The Company's consultant, Cushman, prepared an analysis that was presented to the HQ Steering Committee as part of the Phase 2 analysis, estimating that a split may result in an additional $2.8 million in costs annually.[16]

I also explained in my Direct Testimony that, notwithstanding the importance of keeping the Company's business units together in close proximity, we would have considered splitting up our business units if financial, operational, seismic, or other factors made multiple facilities the best alternative.[17]

Q. Do the concerns raised by parties undermine the prudence of the Company's decision-making?

A. No. While Staff and AWEC express a few concerns and raise several questions about the process, they do not suggest that the Company's decision-making was imprudent, and Staff in fact finds that the Company's decision-making was prudent. CUB also agrees that the Company's decision-making was reasonable. We appreciate the opportunity to respond to the questions and concerns that the parties have raised.

[15] NW Natural/500, Pipes/20-21; NW Natural/501, Pipes/15 (Phase 1 Report); NW Natural/502, Pipes/5-6 (Phase 2 Report).
[16] NW Natural/1501, Pipes.
[17] NW Natural/500, Pipes/20-21.

B. AWEC's Adjustments

Q. Please summarize AWEC's proposed adjustments.

A. AWEC proposes two adjustments: (1) a 4.8 percent adjustment to the 250 Taylor capital additions for tenant improvements ("TI") for the space to be subleased, which AWEC calculated as a $1,025,310 reduction to rate base; and (2) an adjustment to remove a portion of the 250 Taylor lease expense to reflect the portion of the operations center that is occupied by employees of NW Natural's affiliates, which AWEC calculated as a $554,708 reduction to rate base and an $8,780 adjustment to expense.[18] Taken together, AWEC calculated a $165,000 reduction to revenue requirement for these two adjustments.

1. Tenant Improvement Adjustment

Q. What is AWEC's rationale for its TI adjustment?

A. AWEC argues that a portion of the total amount for TI improvements should be allocated to the subleased portion of the building, and calculated that amount based on the square footage of the subleased space—which is 4.8 percent of the total leased space in the building.[19]

Q. Did the Company include any TI costs for the subleased space in this case?

A. No. None of the TI costs included in the rate case were related to the sublease space. At this time, there has been no buildout in the subleased space beyond the basic shell. The Company has spent $141,497 to provide utilities to the first-

[18] AWEC's Response to NW Natural Data Request No. 2.
[19] AWEC/100, Mullins/19.

floor retail space—however those costs have been excluded from cost recovery in the rate case. Thus, there is no TI associated with the subleased space at this time, and NW Natural will absorb the cost associated with the TI when those spaces are further developed.

Q. What is your recommendation regarding AWEC's TI adjustment?

A. Based on the foregoing, AWEC's TI adjustment should be rejected.

2. Affiliate FTE Use of 250 Taylor

Q. Please explain AWEC's adjustment regarding affiliate FTEs at 250 Taylor.

A. AWEC noted that three affiliate employees work out of 250 Taylor, and proposed that the square footage associated with all three workstations—228 square feet in total—should be directly assigned to affiliates and excluded from the Company's calculations of its 250 Taylor lease expense.[20]

Q. Do you agree with AWEC's adjustment?

A. The Company understands and agrees with the principle behind AWEC's adjustment, though we have presented an alternative calculation of the amount. This calculation is discussed in the Reply Testimony of Tobin Davilla at NW Natural/2100, Davilla.

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[20] AWEC/100, Mullins/21.

Q. AWEC also comments that the administrative overhead charged out to affiliates for executive time is likely understated because it uses historical lease data. How do you respond?

A. The Company is updating the amount of lease expense that will be charged out to affiliates as administrative overhead through executive and employee time tracking on affiliate matters. Company witness Amanda Faulk discusses this issue in greater detail in her testimony at NW Natural/2000, Faulk.

C. Update Regarding Move to 250 Taylor

Q. Please provide an update regarding the work completed on 250 Taylor since you filed your Direct Testimony.

A. The core and shell development were complete in late 2019 and early 2020, and the final work to finish the interior buildout of the office was completed by February 2020. The Company began moving its offices over to 250 Taylor in waves starting on March 2, 2020, and as of the date of this filing, has fully moved into its new operations center.

Q. Did Governor Brown's "Stay Home, Save Lives" Executive Order ("Executive Order") impact the timing or the work performed in connection with the move?

A. No. Governor Brown issued the Executive Order on March 23, 2020, and most of the work to move to 250 Taylor had been completed prior to that time. While many of the Company's employees who ordinarily work at our operations center are now working remotely from home, there was no impact to the Company's relocation process.

Q. Has the Company experienced any unexpected delays or expenses in connection with the move?

A. No. The move process went smoothly, and was completed on schedule and on budget.

D. <u>Update Regarding 250 Taylor Expenses</u>

Q. Apart from to the adjustment to directly assign lease costs to affiliate FTEs working at 250 Taylor, do you have any additional updates to any of the 250 Taylor expenses described in your Direct Testimony?

A. Yes. I have an update regarding the amount of property tax expense included in our initial request. The property tax amount will be reduced from $3.47 million[21] to $1.5 million in total. After application of the system wide utility allocation, Oregon allocation, and the amount capitalized, the amount included in Oregon O&M has been reduced from $1.9 million to $820 thousand. This results in a revenue requirement reduction of $1.11 million. This change is reflected in the updated revenue requirement in the Reply Testimony of Kyle Walker, NW Natural/2400, Walker.

Q. Why did the property tax amount decrease?

A. The original figure was determined by multiplying the estimated fair value of the fully completed facility times the property tax rates used in the greater Portland area. Later we determined that even though the facility is a new structure, Multnomah County will reduce the fair value to a lower assessed value by

[21] NW Natural/500, Pipes/Page 38.

applying a 'change property ratio.' As a result, we expect the assessed value to be almost 60 percent less that the fair value. This drove the reduction from $3.47 million to $1.5 million.

III. RESOURCE CENTER PROJECTS

Q. What are the Warrenton and Lincoln City Resource Center projects?

A. As I explained in detail in my Direct Testimony, due to seismic and other safety and accessibility concerns, the Company needs to relocate the Astoria and Lincoln City Resource Centers. It has proposed to relocate the Astoria Resource Center to Warrenton, Oregon, and to relocate the Lincoln City Resource Center to another location within Lincoln City.[22]

Q. Please provide an update regarding the status of these resource center projects.

A. We have already purchased the Warrenton property as of October 30, 2018, and the planning phase for the project is now in process. For the Lincoln City project, the Company is moving forward with the land purchase, which is expected to close in June 2020. Both projects to update the regional resource centers are moving forward.

Q. Does Staff propose an adjustment related to these two projects?

A. Yes. Staff witness John Fox recommends that the Lincoln City and Warrenton projects should be excluded from rate base because the resource centers will not be completed and used and useful before the rate effective date.[23] Staff further

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[22] NW Natural/500, Pipes/45.
[23] Staff/200, Fox/7-8.

notes that the land purchases for Lincoln City and Warrenton should also be excluded from rate base – again because the resource centers will not be completed before the rate effective date.[24]

Q. What is Staff's rationale for this adjustment?

A. Staff cites ORS 757.355, which provides that a utility may not recover costs for investments in property not presently providing utility service to customers. Staff interprets this statute to prohibit the Commission from including in customer rates any investment in projects that are not used and useful as of the date rates are set (with limited exceptions for projects connected with customer growth).[25] Based on this view, Staff proposes removing all investment planned to close in the Test Year, including the Lincoln City and Warrenton Resource Centers, because the projects will not be used and useful before the rate effective date.[26]

Q. Do you agree with Staff's adjustment?

A. No. The Company has proposed a fully forward test year in this case, and these projects are scheduled to be completed before the end of the Test Year. The Company's explanation regarding how the used and useful statute may be harmonized with the fully forward test year is discussed further in the testimony of Company witness Zachary Kravitz (NW Natural/1300, Kravitz). Accordingly, both the land and planned improvements, which will be completed during the Test Year, should be included in rates.

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[24] Staff/200, Fox/15-16.
[25] *Id.* at 3-5.
[26] *Id.* at 3-12.

Q. In the event that the Commission does not support your view of the forward test year, do you have an alternative request?

A. Yes. In the alternative, we request that at a minimum the value of the land should be included in rates. The Company will begin using the Warrenton site to support its operations in the north coast area in September 2020. Specifically, the Company plans to use the Warrenton site as an overflow storage site for the Astoria Resource Center, and is storing gravel, spoils, and other construction materials at the Warrenton site. Additionally, immediately upon close of the Lincoln City site, the Company plans to use the garage building on that site for storage, because the Company has outgrown the storage available at the current Lincoln City site.

IV. SECURITY STAFFING

Q. Please provide an overview of the security staffing that is included in the Company's request.

A. As I explained in my Direct Testimony, the Company identified the need to hire two new FTEs for additional security positions, as well as a new contracted security guard for the Sherwood facility.[27]

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[27] NW Natural/500, Pipes/47.

Q. Did any of the parties specifically comment on the enhanced security staffing?

A. No. More generally, Staff's witness Heather Cohen recommends ongoing monitoring throughout the rate case to verify that the Company's new FTEs are actually hired and necessary.[28]

Q. Did the Company hire the two new security FTEs?

A. Yes. The Company hired both of the new security FTEs as of April 6, 2020, and those employees are both currently working for the Company in their new roles.

Q. Are the two new security FTEs necessary?

A. Yes. I explained the need for these FTEs in detail in my Direct Testimony, and will not repeat that testimony here. The need for these new security FTEs has in no way diminished, and these two new FTEs have become integral members of the Company's security team.

Q. Has the term of the contracted guard service begun yet at Sherwood?

A. The Company expects that the term for the contracted guard service will start by the end of May 2020.

Q. Does this conclude your Reply Testimony?

A. Yes.

[28] Staff/400, Cohen/11.

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Wayne K. Pipes

FACILITIES

EXHIBIT 1501

May 29, 2020

Potential Cost Impact for a Two-Locations Scenario

Impact	Financial Impact (Annual)
Additional staff time spent on: - traveling between campuses for in-person meetings - scheduling meetings and arranging logistics since there will be less impromptu collaboration	$574,080
Additional support staff to provide coverage at both locations	$2,000,000
Additional required office space	$245,000
Total	$2,819,080

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Jim Downing

INFORMATION TECHNOLOGY & SERVICES

EXHIBIT 1600

May 29, 2020

EXHIBIT 1600 - REPLY TESTIMONY- INFORMATION TECHNOLOGY & SERVICES

Table of Contents

I. INTRODUCTION AND SUMMARY

Q. Please state your name and position at Northwest Natural Gas Company dba NW Natural ("NW Natural" or "Company").

A. My name is Jim Downing and I am Vice President and Chief Information Officer at NW Natural. I am responsible for NW Natural's information technology and services ("IT&S"), including cybersecurity, the information technology ("IT") service desk, and technology-related architecture, infrastructure, network, and applications.

Q. Are you the same Jim Downing who previously provided Direct Testimony in this docket?

A. Yes, I presented NW Natural/600, Downing.

Q. What is the purpose of your Reply Testimony in this proceeding?

A. The purpose of my Reply Testimony is to respond to the Opening Testimony filed on April 17, 2020, by the Public Utility Commission of Oregon Staff ("Staff") and the Oregon Citizens' Utility Board concerning the Company's IT&S initiatives.

Q. Please summarize your Reply Testimony.

A. My Reply Testimony is organized into three parts:

- First, I provide a status update on the Company's hiring of 14 new full-time equivalent ("FTE") positions necessary to fill critical gaps in IT&S staffing. The Company has successfully filled 12 of the 14 new positions, and is in the final stages of hiring the remaining 2 positions. I also respond to Staff witness Mr. Fjeldheim's proposed adjustment removing the cost of the Company's Skype Administrator. This role has been filled since December 16, 2019, and has been providing crucial technical support these past few months. In addition, the Skype Administrator will eventually transition to become the Teams Administrator when the Company later moves to that platform.

- Second, I address the following issues concerning the Company's IT&S projects:
  - I provide an update on the Company's major IT&S projects, including the Customer Order Management ("COM") project, the Data Center Migration and Modernization project, and the Digital Portal project—each of which is on-budget and is either already or soon to be completed. The prudence and costs of these projects were reviewed by Staff witness Mr. Fjeldheim and are uncontested.
  - I respond to Staff witness Mr. Fox's proposal to conditionally remove the costs associated with three IT&S capital projects—the Digital Portal, BI Strategy/Power BI Deployment, and Field & Web Mapping Implementation Phase 1—that will be placed in service between July and October of 2020, on the basis that these projects will not be in service in time for Staff to review the final project costs. I also describe those projects not previously discussed in my Direct Testimony, and explain why cost recovery is appropriate.
  - I respond to Mr. Fjeldheim's proposed adjustment associated with transitioning from the Company's legacy phone system to Skype for Business, which would remove the Company's expenses for a portion of the Company's subscription to Microsoft Office 365 E5, on the basis that

these costs are duplicative. The Company prudently determined to transition to Skype for Business rather than Microsoft Teams, and the subscription to the Microsoft Office 365 E5 bundle is not duplicative of its investment in Skype for Business. Thus, full cost recovery is appropriate.

- Third, I provide an update on the Horizon Program. In this discussion, I support Staff witness Ms. Gardner's proposal to collaborate with Staff in the scoping process for Horizon 1. I also respond to CUB witness Mr. Gehrke's objections concerning the Company's intention to file a deferred accounting application.

II. <u>IT&S STAFFING UPDATE</u>

Q. Please provide an update on NW Natural's IT&S staffing efforts.

A. In my Direct Testimony, I explained that NW Natural is seeking cost recovery for 14 new FTEs, which will increase Test Year salaries and benefits cost by approximately $2.4 million. These FTEs include 4 application positions, 5 network positions, and 5 security positions. The status of these FTEs is shown in Table 1 below:

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Table 1

Department	Role	Status
Applications	Database Administration	Filled
Applications	Application Integration Lead	Filled
Applications	Open Text/Paymentus Administrator	Filled
Applications	ERP Developer	Filled
Network & Infrastructure	Network Engineer	Filled
Network & Infrastructure	Skype Administrator	Filled
Network & Infrastructure	Linux Administrator	Open
Network & Infrastructure	Network Administrator #1	Filled
Network & Infrastructure	Network Administrator #2	Filled
Security	Security Architect	Interviewing
Security	Security Operations Lead	Filled
Security	Industrial Control Systems Security Specialist	Filled
Security	Governance/Risk Specialist	Filled
Security	Applications Security Specialist	Filled

As shown above, 12 of the 14 positions have been “filled”—*i.e.*, have either started or have an offer accepted—and have either already begun work or have firm start dates.

Q. Does Staff propose an adjustment related to the above FTEs?

A. Yes. Staff witness Mr. Fjeldheim proposes to disallow the cost associated with the Skype Administrator position due to “the lack of clarity regarding whether the Company is employing onsite Skype for Business or the cloud-based Teams for long term telephony service[.]”[1] This adjustment would reduce the Company’s IT&S staffing request by $171,000.

[1] Staff/300, Fjeldheim/21.

Q. Does the Company agree with Staff's proposed adjustment?

A. No. While I respond below to Staff's broader concerns regarding the Company's selection of Skype for Business instead of Teams, Staff's proposed specific adjustment to remove this FTE is inappropriate because the Company requires a dedicated FTE regardless of whether it relies on Skype for Business or Teams for its communications services. The Company is transitioning from its legacy Avaya phone system to a combined phone, video, and collaboration system. This transition entails substantial effort both to configure the Company's telephonic infrastructure and to ensure a smooth transition of communications across all levels of the Company's system. A smooth transition is crucial to ensure the reliable provision of customer service.

Q. Has NW Natural filled the Skype Administrator position?

A. Yes, as indicated in Table 1 above, this position has been filled; the employee started on December 16, 2019. Indeed, this position has been crucial in recent months, as Company employees have increasingly relied on remote communications systems.

Q. Staff points out that Skype for Business will be end-of-life in 2024. What will be the role of the Skype Administrator once the Company migrates to Teams?

A. When the Company transitions from Skype for Business to Teams, the Skype Administrator will continue to support the Company's combined communications systems as a Teams Administrator. Thus, regardless of whether Staff supports full cost recovery for the Company's Skype for Business investment and

Microsoft Office 365 E5 subscription, full cost recovery for this FTE is appropriate.

III. IT&S PROJECTS

A. COM

Q. Please briefly summarize the COM project.

A. The COM project replaces an outdated, homegrown software system that encompasses order management and NW Natural's interactions and relationships with current and prospective customers and trade allies (known as a customer relationship management system, or "CRMS"). This outdated system has been replaced by a streamlined, automated process for handling engagement with customers, trade partners (such as equipment suppliers), municipalities, and prospective customers. The Company anticipated that the project would be complete by June 30, 2020, with an expected capital spend of $11.8 million.[2]

Q. Please provide an update on the COM project.

A. The COM project went live on April 19, 2020, with minor enhancements rolled out in the subsequent weeks. The final project is expected to be placed in service on May 29, 2020. Overall, the project entered service ahead of schedule and on-budget, with total capital spend through the end of April totaling $11.6 million.

[2] Note, this capital cost reflects direct spend, not including overhead, financing, or taxes.

Q. Does Staff or any other party propose an adjustment related to the COM project?

A. No. Staff witness Mr. Fjeldheim reviewed and analyzed the Company's investment and proposes no adjustment.[3]

Q. Does Staff otherwise express concern or make suggestions regarding the COM project?

A. Yes, Staff makes three relatively minor points concerning the COM project. First, Staff states that there is no direct evidence that the COM project will provide cost savings to customers. Second, Staff suggests that the Company track efficiency gains for use in the next general rate case. Third, Staff notes that the Company has not described any security benefits associated with the COM project.

Q. Regarding Staff's first point, has the Company provided evidence that the COM project will provide cost savings to customers?

A. Yes. In my Direct Testimony, I explained that the COM project already averted the need for the Company to hire employees who would have otherwise been needed to handle the anticipated increased volume of customer orders.[4] Indeed, a central benefit of the COM project is that it requires dramatically less training time—two months rather than two years—thus meaning the Company does not need to hire as far in advance of anticipated need. While these are the initial known cost savings associated with the project, the Company anticipates further

[3] Staff/300, Fjeldheim/16.
[4] NW Natural/600, Downing/35.

cost savings associated with increased efficiency and reduced reliance on developer resources.

Q. Regarding Staff's second point, does the Company intend to track efficiency gains generated by the COM project?

A. Yes. The COM project allows the Company to track and validate time spent on orders and other specific tasks. The Company intends to use this functionality to monitor the program's efficiency gains over time.

Q. Regarding Staff's third point, does the COM project provide any security-related benefits?

A. Yes. By replacing an outdated, custom solution with vendor-supported software, the Company will receive timely and ongoing security patches and security-related product improvements. In addition, the COM project is being housed on a separate network shielded from the rest of the Company's network, thereby enhancing NW Natural's protection of customer data.

B. <u>Data Center Migration and Modernization</u>

Q. Please briefly summarize the Data Center Migration and Modernization project.

A. The Data Center Migration and Modernization project involves relocating, reconfiguring, and upgrading the Company's data center system. The project establishes two data centers in Bend and Sherwood, and a data closet at the Company's new headquarters at 250 Taylor. The project had an approved budget of approximately $11.0 million in capital investment and was expected to be placed in service in May of 2020.

Q. Please provide an update on the Data Center Migration and Modernization project.

A. The Data Center Migration and Modernization project is complete, on-time, and on-budget. To date, the Company has spent $9,797,223 and the project was placed in service on May 8, 2020.

Q. Does Staff or any other party propose an adjustment related to the Data Center Migration and Modernization project?

A. No. Staff witness Mr. Fjeldheim reviewed and analyzed the Company's investment and proposes no adjustment.[5]

C. Digital Portal

Q. Please briefly summarize the Digital Portal project.

A. The Digital Portal project replaces the Company's out-of-date website in order to accommodate the Company's growing mobile traffic, enable integration with the Company's Horizon projects, and improve security. The total project cost was budgeted to entail $10.2 million in dedicated project costs.

Q. Please provide an update on the Digital Portal project.

A. The Digital Portal project is currently on budget and on track to go live in August of 2020. Through the end of April, the Company has expended $9.2 million, has successfully completed initial development, and is in the process of finalizing the project.

[5] Staff/300, Fjeldheim/16.

Q. Does Staff or any other party contest the prudence of the Digital Portal project?

A. No. Staff witness Mr. Fjeldheim reviewed and analyzed the Company's investment and proposes no adjustment.[6]

Q. Does Staff otherwise express concern regarding the benefits of the Digital Portal project?

A. Yes. Staff contests whether the Digital Portal project will result in a "net economic benefit" for all customers.[7]

Q. Does the Company claim that the Digital Portal will provide a "net economic benefit" to all customers?

A. No. As I explained in Direct Testimony, the Digital Portal project was largely driven by the need for security improvements and the existing website's inadequate mobile functionality. However, these crucial security and functional benefits are joined by additional cost-saving benefits available to customers, as the new Digital Portal will facilitate customers' access to payment and financial assistance programs, as well as to money-saving information such as conservation tips and program incentives for high-efficiency equipment. Thus, while the Digital Portal would have been necessary regardless of these additional cost-saving benefits, the Company believes that it is important to recognize the full range of benefits that the project will offer to customers.

[6] Staff/300, Fjeldheim/19.
[7] *Id.* at 18.

Q. Are there additional potential cost savings associated with the Digital Portal?

A. Yes. While security benefits are crucial in their own right, heightened security protections also prevent additional costs that would be caused by a data breach. While such costs are difficult to forecast, the 2019 IBM Cost of Data Breach Report Calculator indicates that the average data breach at a U.S. energy company causes $8 million in costs—in addition to the non-monetary harm associated with such events.[8]

D. <u>Assets Placed in Service Prior to the Rate Effective Date</u>

Q. Above, you state that Staff witness Mr. Fjeldheim reviewed and analyzed the Company's Digital Portal investment and proposes no adjustment. Does another Staff witness nonetheless propose removing the Digital Portal project from rate base?

A. Yes. Staff witness Mr. Fox proposes removing the Digital Portal from rate base because it is expected to be placed in service between July and October of 2020, on the basis that Staff cannot conclude with reasonable certainty that the project will enter service before the rate effective date.[9] This adjustment would result in a $10,168,592 reduction in rate base.

[8] Exhibit NW Natural/1601, Data Breach Calculator.
[9] Staff/200, Fox/16.

Q. Is the Digital Portal the only project that Staff witness Mr. Fox proposes to exclude from rate base because it is to be placed in service between July and October of 2020?

A. No. The Digital Portal is one of three projects that Mr. Fox proposes to remove from rate base for this reason. The other two projects are the BI Strategy/Power BI Deployment and the Field and Web Mapping Implementation Phase 1. Together, Mr. Fox's adjustment for these three projects would reduce the Company's rate base by $15.4 million.[10]

Q. Please describe the BI Strategy/Power BI Deployment project.

A. The BI Strategy/Power BI Deployment improves the Company's enterprise data analytics to enable more data-driven business decision-making. Data analytics are developed by the Company's Business Analytics team, and are used for a range of critical business purposes—from safety to efficiency, damage prevention, valve maintenance, and emergency tracking. For instance, effective data analytics allow the Company to track and report on emergency response times, volumes, and areas affected, thereby allowing the Company to allocate resources more effectively. Similarly, data analytics are necessary to provide comprehensive damage prevention reports to state regulators, identify risk areas, and guide future investments. Thus, this is a capability central to the Company's operations and effective decision-making.

[10] *Id.* at17.

Currently, the Company largely relies on Microsoft Excel to perform data analytics, the use of which is relatively cumbersome because it requires analysts to dedicate more than 80 percent of their time to extracting and correcting data. This limited functionality leaves little time for analysis and even less time for developing actionable insights.

In contrast, the BI Strategy/Power BI Deployment will begin transitioning the Company to Microsoft's Power BI stack—a dedicated package of data analytics tools that enable analysis and movement of data from various Company systems to a single data warehouse, where it can then be used to publish analytics and develop reports. In addition to implementing this new suite of software tools, the BI Strategy/Power BI Deployment project will move existing data onto the new data platform and will design and implement data governance protocols to cultivate consistent, accessible, high-quality data—thereby increasing the transparency and consistency of data management.

Q. What is the status of the BI Strategy/Power BI Deployment project?

A. The Power BI stack has been incorporated into the Company's system, and the Company has begun compiling data resources and tools necessary to satisfy individual business needs (also known as "use cases"), such as tools, dashboards, and reports. So far, the Company has completed over a dozen use cases supporting emergency response, gas control, damage prevention, energy efficiency, and valve maintenance functions. The project is on schedule to be completed and in-service in September 2020.

Q. Please describe the Field and Web Mapping project.

A. The Field and Web Mapping project replaces an end-of-life solution with a user-friendly, map-based operations hub, creating an up-to-date visual interface with NW Natural's operational assets. This new software will ensure that field and back-office workers have access to the specific geospatial information they need in a user-friendly and accurate way, thereby minimizing mistakes and improving safety. For instance, the Company's dispatch center will have purpose-built mapping functionality to increase the physical accuracy of work assignments, improve geospatial awareness for emergency response situations, and increase efficiency in responding to customers' needs.

The project is a multi-phase initiative. The project budget for the first two phases (Phase 1 and 2a) includes $3.837 million in capital investment included in the Company's cost recovery request.[11] Phase 1 will be completed in July 2020 and Phase 2a will be complete in October 2020, and thus will be in service prior to the November 1, 2020, rate effective date in this case.

Q. Has Staff or any other party challenged the prudence of the Company's Field and Web Mapping or BI Strategy/Power BI Deployment projects?

A. No. No party challenges the prudence of either of these projects.

[11] Note, the Company appreciates that the naming conventions for the Company's project is not entirely intuitive. To be clear, the Company's cost recovery request in this case includes phases 1 and 2a, and entails $3.837 million in capital outlay, not including overhead.

Q. Does the Company agree with Mr. Fox's proposed adjustment?

A. No. The Company's position concerning Mr. Fox's treatment of projects placed in service during the four-month window prior to the rate effective date is addressed in the Reply Testimony of Zachary Kravitz (NW Natural/1300, Kravitz).

Q. Does Mr. Fox also suggest an alternative to his proposed adjustment?

A. Yes. Mr. Fox suggests that these projects could be returned to rate base if the Company (1) "provides clear and convincing evidence regarding prudence" and (2) "attests that the assets will be used and useful on or before November 1, 2020."[12]

Q. Has the Company demonstrated that its decisions to invest in these three projects are prudent?

A. Yes. Here and in my Direct Testimony, the Company has clearly shown that its investment in these three projects was prudent. Moreover, as I note above, no party contests the prudence of any of these projects.

Q. Does the Company support Mr. Fox's proposal to provide attestations when these projects are placed in service?

A. Yes. As explained in the Reply Testimony of Zachary Kravitz (NW Natural/1300, Kravitz), the Company is amenable to Mr. Fox's proposal to provide attestations that the projects will be used and useful by November 1, 2020.

[12] Staff/200, Fox/17.

E. Skype for Business

Q. Please briefly summarize the Company's decision to transition to Skype for Business.

A. As I explained in Direct Testimony, it was necessary for the Company to transition from the existing legacy phone system, Avaya, as soon as possible to avoid $1 million-$4.8 million in upgrade costs, as the Company's existing service was no longer being supported and servers were beginning to fail.[13] NW Natural transitioned to Skype for Business as the Company's primary communications system in March of 2020.

Q. Does Staff propose an adjustment associated with the Company's Skype for Business transition?

A. Yes, albeit indirectly. Staff does not specifically challenge the prudence of the Company's decision to select Skype for Business as its communications system. However, Staff expresses concern that the Company invested in Skype for Business on premises,[14] when Microsoft is eventually replacing Skype for Business with Microsoft Teams.[15] Pointing out that the Company will gain access to Teams through a Microsoft software bundle beginning September 1, 2020, Staff concludes that the Company's purchase of Skype for Business is unnecessary and duplicative, and therefore proposes to reduce the Company's expense for the Microsoft suite. Staff describes this adjustment as removing

[13] NW Natural/600, Downing/50.
[14] There are two options for obtaining Skype for Business—on-premises and cloud-based.
[15] Staff/300, Fjeldheim/19.

costs associated with the Teams telephony features. The adjustment would reduce the Company's recovery request by $244,116.[16]

Q. How does Staff calculate the proposed adjustment?

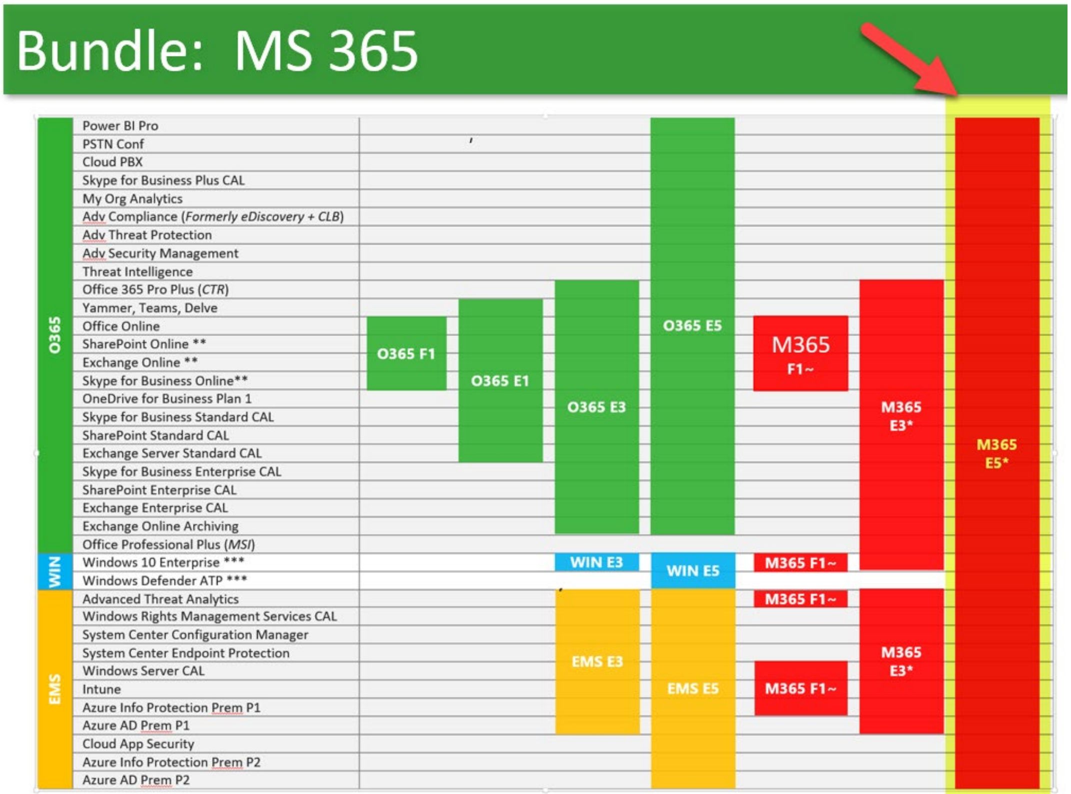
A. Staff calculates the proposed adjustment by multiplying a monthly price of $35/license for the Microsoft software bundle by the Company's total number of employees, then adjusting this amount by an Oregon allocation factor. Staff then subtracts this amount ($520,884) from the Company's Oregon-allocated cost recovery request ($765,000), yielding the proposed adjustment of $244,116. Thus, it appears that Staff infers that any amount over $35/license for the Microsoft software bundle must reflect the cost of Teams telephony features.

Q. Are there any problems with how Staff calculated the proposed adjustment?

A. Yes. Staff's calculation appears to have understandably confused two of the Microsoft software bundles—perhaps in part because the bundles are similarly named, and in part because efforts to simplify the terminology I used in my Direct Testimony may have inadvertently created more confusion about the distinction between the software bundles. To be clear, Figure 1 below shows the range of software bundles offered by Microsoft.

[16] *Id.* at21.

Figure 1



Staff relies on a quoted price of $35/user/month for the ***O***365 E5 bundle (the large green bar, above)—*not* the ***M***365 E5 bundle (highlighted, above). It is the M365 E5 bundle, with its substantial incremental security benefits, that NW Natural selected.[17]

Technically, the O365 E5 bundle is called "Office 365 E5," while the M365 E5 bundle is called "Microsoft 365 E5." In my Direct Testimony, the M365 E5 software bundle was referred to as Microsoft Office 365 E5, with the understanding that the Microsoft Office suite is commonly known outside of

[17] Staff/300, Fjeldheim/21.

specialized software licensing contexts. However, I acknowledge that the choice of terminology in my Direct Testimony likely contributed to some confusion.

To be clear, NW Natural will rely on Microsoft's M365 E5 software bundle. Based on the Company's negotiated price with Microsoft, this bundle entails an estimated cost of $57/user/month. Thus, Mr. Fjeldheim's proposal to disallow the difference between the $35/user/month for O365 E5 and the $57/user/month for M365 E5 actually represents, as shown above, a disallowance of far more than simply the cost of Teams' telephony features, including substantial security-related benefits of the M365 E5 package.

Q. Why did the Company choose to transition to Skype for Business on premises rather than Teams?

A. NW Natural selected Skype for Business instead of Teams for two central reasons: First, Teams has yet to achieve adequate reliability to serve as the Company's primary communications platform. For instance, in February of 2020, Teams experienced a four-hour world-wide outage that would have been unacceptable for the Company's foundational communications system.[18] Second, Teams (unlike Skype for Business) is solely cloud-based. The Company determined that transitioning to a fully cloud-based solution at this point was too complex and high-risk, particularly as the Company's legacy

[18] *See* ComputerWorld, "Oops! Microsoft gets 'black eye' from Teams outage," (Feb. 4, 2020) available at: https://www.computerworld.com/article/3519315/oops-microsoft-gets-black-eye-from-teams-outage.html.

network design still relies heavily on microwave links back to the Company's data centers.[19]

Indeed, when the Company was initiating its transition to the Genesys Call Center and IVR project in the first quarter of 2019, Genesys was compatible only with Skype for Business—not Teams. Genesys and Microsoft did not begin working on the integration for Teams until the third quarter of 2019.[20] Clearly, while Teams is building out its functionality and compatibility, it did not do so in time to support the Company's telecommunications transition.

Q. Is Staff correct that Skype for Business and Teams are duplicative?

A. No. To be clear, both Skype for Business and Teams can provide the full set of telephonic, video, and conferencing functions. However, both services require the back-end telecommunications functionality to be configured to allow the service to replace traditional phone systems—and it is this configuration process that is particularly labor-intensive. Now that this configuration is complete, Skype for Business will continue to provide the back-end telecommunications functionality even after the Company has access to Teams.

Q. Are there any other problems with attempting to remove cost recovery for the incremental cost of Teams' telephony features?

A. Yes. Staff's approach assumes that Microsoft's software bundles can be neatly pulled apart into itemized costs. This is incorrect. Even if the Company had

[19] Exhibit NW Natural/1602, Downing, NW Natural's Response to OPUC DR 278.
[20] Genesys Pure Cloud Developer Blog, "MS Teams Telephony Integration" (Oct. 1, 2019) (describing Microsoft's July 11, 2019, announcement), available at https://developer.mypurecloud.com/blog/2019-10-01-ms-teams-integration/.

wished to remove Teams' telephony features from its Microsoft software subscription, the Company would ultimately have paid more—not less—because the Company would have forfeited the cost savings and other benefits associated with selecting the comprehensive Microsoft M365 E5 bundle. Indeed, by unbundling the software package and procuring all of the subsidiary software components except Teams, the Company's costs would have increased from $57/user/month to approximately $191/user/month.[21] Had the Company instead sought to procure the less comprehensive M365 E3 bundle, which does not include the Teams telephony features, then the Company would also have foregone the additional benefits included in the more comprehensive M365 E5 bundle, such as significant cyber security protections (shown above in Figure 1).

In sum, the Company's decision to procure Skype for Business was prudent, and these costs were not duplicated by the Company's subscription to Microsoft Office 365 E5. Thus, full cost recovery of the Company's software subscription is appropriate.

IV. <u>HORIZON PROGRAM</u>

Q. Please briefly summarize the Horizon Program.

A. The Horizon Program is a two-phase (Horizon 1 and Horizon 2) IT&S initiative to implement necessary upgrades to NW Natural's technology architecture. A key project included in Horizon 1 is an upgrade of NW Natural's Enterprise Resource Planning ("ERP") platform that manages key business functions, such as

[21] Exhibit NW Natural/1603, Downing - M365 E5 Suite and Component Pricing and Breakdown.

accounting, operations, human resources, asset management, and field management. NW Natural's ERP upgrade project includes a number of development phases and decision points. At each stage, the Company will evaluate whether moving forward remains prudent. The next decision point will occur following the Pre-Planning process, described below.

Q. Please provide a status update on the Horizon Program.

A. Since submitting Direct Testimony (NW Natural/600, Downing) in this docket, we have moved forward with the first phase of the Horizon 1 project: the Pre-Planning process for the Company's upgraded ERP. As part of this process, NW Natural is conducting a scope validation that will determine the extent of the ERP upgrade including (a) new functionality that will be enabled, (b) required business process changes, and (c) an assessment of whether the upgraded ERP should be deployed onsite, in the cloud, or through a hybrid hosting approach. This Pre-Planning process will also produce a more reliable price estimate for the ERP upgrade's implementation and ongoing support.

Through a competitive bid process, NW Natural selected a vendor partner (Deloitte) to assist the Company with the Pre-Planning process. Deloitte was chosen due to its experience with projects of this type in a utility setting, allowing the Company to make use of Deloitte's preexisting tools and best practice templates. The Pre-Planning work is scheduled to conclude in July of 2020. The Company will provide regular updates on the Horizon Program as progress continues.

Q. Are there any additional benefits associated with the Horizon 1 project that address concerns raised by Staff in this case?

A. Yes. Staff has raised concerns regarding the adequacy of the Company's transaction-level detail provided in the Company's accounting reports. As explained in the Reply Testimony of Amanda Faulk (NW Natural/2000, Faulk), an initial software module (known as Concur) is being implemented that will transition the Company from a largely manual receipt-tracking and expense-reporting system, to one that is automated and electronic. This new software module will increase the granularity of the Company's expense tracking for purchasing card transactions, travel expenses, account reimbursements, and per diems beginning in June of 2020, and will integrate smoothly with the new ERP of Horizon 1.

In addition to these near-term improvements, Horizon will further improve the Company's accounting reports in the long-term. For instance, the new SAP platform includes a new universal accounting approach that provides a single, rich source of reporting data that can be quickly translated into regulatory reports, with the ability to drill down to source documents. While further details will be clearly fleshed out in the upcoming scoping process, the Company believes that Horizon will continue to build on the Company's efforts to increase the granularity of the NW Natural's accounting reports.

Q. Does Staff recommend any specific actions in connection with the Horizon Program and its role in developing more detailed accounting reports?

A. Yes. Staff witness Ms. Gardner recommends that the Horizon 1 project result in accounting reports that will facilitate discovery in future rate cases, particularly with respect to the transparency of transactional accounting data.[22] With this goal in mind, Staff proposes that NW Natural coordinate with at least one Energy Rates, Finance & Audit Staff representative during the planning/needs assessment phase of the project, to ensure that program will produce appropriate regulatory reports on the new ERP platform.[23] In the near-term, Staff recommends that a workshop and timeline to accomplish this collaboration be set as part of this proceeding.

Q. What is the Company's response to Staff's proposal?

A. As explained in more detail in the Reply Testimony of Amanda Faulk (NW Natural/2000, Faulk), NW Natural supports Staff's proposal and will work with Staff to schedule a workshop and develop a plan to engage further with Staff on Horizon 1's role in creating more detailed regulatory and accounting reports. The Company recognizes Staff's concerns regarding the Company's ability to provide transaction-level detail in its accounting reports, and looks forward to working with Staff to ensure that future reports provide the requested degree of detail.

[22] Staff/100, Gardner/16.
[23] *Id.*

Q. Does NW Natural seek cost recovery for any Horizon projects in this rate case?

A. No. As I explained in Direct Testimony, the Company will likely seek a deferral of the significant incremental expenses costs associated with Horizon's cloud-based initiatives, with the intention of seeking later inclusion of these costs in rates. However, the Company is not applying for a deferred accounting order at this time.

Q. Mr. Gehrke opposes NW Natural's plans to seek a deferral of incremental O&M costs. Please respond.

A. Again, to be clear, NW Natural is not seeking deferred accounting treatment at this time, and thus, these arguments are misplaced in this proceeding. NW Natural provided testimony on the Horizon Program and on the Company's likely approach to seeking cost recovery to increase transparency.

Q. Does this conclude your Reply Testimony?

A. Yes.

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Jim Downing

INFORMATION TECHNOLOGY & SERVICES

EXHIBIT 1601

May 29, 2020

https://databreachcalculator.mybluemix.net/executive-summary

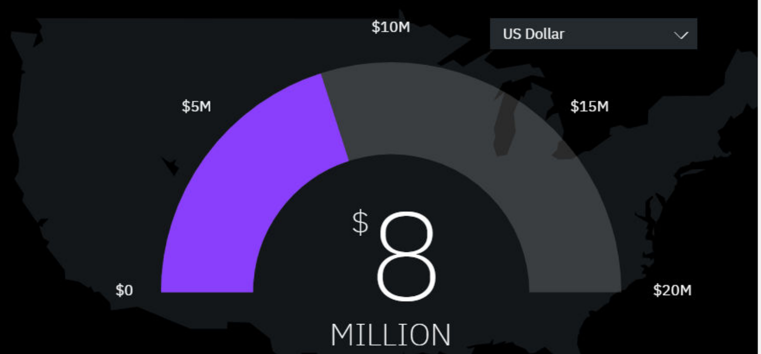
Executive summary | About the report | Complete findings | Recommendations | How we calculate the cost | Organization characteristics | Research Limitations

Download the full report

IBM Security

Cost of a Data Breach Report 2019

US Dollar



United States | Energy | Select cost factors

IBM

Ponemon Institute

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Jim Downing

INFORMATION TECHNOLOGY & SERVICES

EXHIBIT 1602

May 29, 2020

Rates & Regulatory Affairs
UG 388
2020 OR General Rate Revision
Data Request Response

Request No.: UG 388 OPUC DR 278

278. Regarding the $1.2 million in Skype for Business project expenditures in the Company's response to DR 134:

a. It is Staff's understanding that Microsoft will retire Skype for Business in 2021. With the Company's plan to upgrade to MS Office 365 planned for mid-2020, to include Microsoft Teams, please provide a detailed narrative as to why the Skype for Business software purchase is necessary.

b. Over what period of time will the Skype for Business software be depreciated?

Response:

a. There are two Skype for Business 2019 products: online and on-premises. The Skype for Business 2019 online end of life date is July 31, 2021. The Skype for Business 2019 on-premises end of life date is October 14, 2025. NW Natural has deployed the on-premises version of Skype for Business.

Skype was selected because it is part of our overall IT&S strategy, and based on the following factors: compatibility, reliability, and achievability.

i. **Strategic Plan**: NWN needed to transition from Avaya to a new phone system. Skype and Teams are essentially the same solution: One is on-premises and one is cloud-based. The majority of the cost in the Skype for Business project is labor and the technology to migrate us from our legacy voice solution. The majority of the investment for Skype (or Teams) is associated with compatible headsets, desk phones, and conferencing equipment; all of which are all required for either solution. The selection of Skype For Business for NWN is a logical upgrade path given the state of our existing infrastructure. There is no overlap in purchases between Skype for Business and Microsoft 365. The strategic path from Skype -> Office 365 -> Teams is a risk-adverse approach, and aligned to our IT&S strategy.

ii. **Compatibility**: When the Skype For Business project was initiated, NW Natural suffered from significant technical debt with its phone systems. The existing phone system (Avaya) was two major releases behind. Additionally, Avaya was in bankruptcy, which created more uncertainty about Avaya's ability to serve our business needs. The decision to move forward with Skype for Business 2019 was recommended by several partners (specifically: Enabling Technologies, PCM, and Insight) on the basis that it would give us expanded functionality and yet still be compatible with our other on-premises services: Exchange, SharePoint, and our Call Center solution.

    Reliability: Our IT&S environment is risk-adverse. Our Call Center takes over 1MM calls/year. Microsoft Teams only achieved feature parity with Skype in mid-2018. The on-premises Skype For Business solution for voice and collaboration was the least risk option when the project initiated (as opposed to Teams). For example, there was a global outage in February 2020 which affected every Teams user and company in the world for four hours. We expect that by the time Skype is end of life, Teams would be more mature and reliable.

iii. **Achievability**: The journey from our legacy communication and collaboration solution to Teams was determined to be too much of a complex migration and high in risk. The Skype option was considered to be thoughtful and achievable given our legacy architecture. We were not ready to fully integrate our phone systems with a full cloud suite through Microsoft Azure ecosystem (e.g., Azure AD, Multi-Factor Identification, Defender, etc.).

b. The Skype for Business software will be depreciated over 14.75 years, which is the depreciation rate authorized by the Commission for assets in FERC Account 303.1 (Computer Software).

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INFORMATION TECHNOLOGY & SERVICES

EXHIBIT 1603

May 29, 2020

Features / Tools / Products	Item cost per mo.	Item cost per yr.	Sold separately? Y/N	Notes / Comments
Power BI Pro	$8.49	$101.88		
Audio Conferencing (was PSTN Conferencing)	$4.00	$48.00		
Phone System (was Cloud PBX)	$6.79	$81.48		
Skype for Business Plus CAL	$1.70	$20.40		
My Org Analytics	$6.00	$72.00		
Advanced Compliance	$6.80	$81.60		
Advanced Threat Protection	$8.50	$102.00		
Advanced Security Management		$0.00	N	Part of Adv. Compliance
Office 365 Pro Plus (*C2R*)	$12.00	$144.00		
Yammer, Teams, Delve	$6.80	$81.60	N	
Office Online	$8.00	$96.00		
SharePoint Online **	$8.50	$102.00		
Exchange Online **	$6.80	$81.60		
Skype for Business **	$6.80	$81.60		
OneDrive for Business Plan 1	$4.25	$51.00		
Skype for Business Standard CAL	$1.86	$22.36	N	Annual value is real; monthly value is derived from annual value
SharePoint Standard CAL	$5.58	$66.92	N	Annual value is real; monthly value is derived from annual value
Exchange Server Standard CAL	$4.01	$48.12	N	Annual value is real; monthly value is derived from annual value
Skype for Business Enterprise CAL	$6.37	$76.40	N	Annual value is real; monthly value is derived from annual value
SharePoint Enterprise CAL	$4.92	$59.04	N	Annual value is real; monthly value is derived from annual value
Exchange Enterprise CAL	$4.05	$48.64	N	Annual value is real; monthly value is derived from annual value
Exchange Online Archiving	$3.00	$36.00		
Office Professional Plus (*MSI*)	$20.98	$251.76		Annual value is real; monthly value is derived from annual value
Windows 10 Enterprise	$5.63	$67.56		
Windows Defender ATP	$5.02	$60.24		
Advanced Threat Analytics		$0.00	N	Part of MSFT Cloud App Security
Windows Rights Management Services CAL	$2.19	$26.28	N	Annual value is real; monthly value is derived from annual value
System Center Configuration Manager	$2.44	$29.32	N	Annual value is real; monthly value is derived from annual value
System Center Endpoint Protection	$1.04	$12.48	N	
Windows Server CAL	$1.73	$20.76	N	Annual value is real; monthly value is derived from annual value
Intune	$5.10	$61.20		
Azure Info Protection Prem P1	$1.70	$20.40		
Azure AD Prem P1	$5.10	$61.20		
Cloud App Security	$2.97	$35.64		
Azure Info Protection Prem P2	$5.00	$60.00		
Azure AD Prem P2	$7.65	$91.80		
	$191.77	**$2,301.28**		

* M365 E3 and E5 also include on-prem productivity server rights
** O365 E1 includes Plan 1. O365 E3 and E5 include Plan 2
*** Windows 10 Enterprise E3 in M365 F1 is a unique subscription; re-imaging rights, downgrade rights, virtualization rights, different language versions, different platform versions, and Windows 10 Enterprise LTSB are not included. Azure AD-based activation is required.

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Melinda Rogers

COMPENSATION & BENEFITS

EXHIBIT 1700

REDACTED

May 29, 2020

EXHIBIT 1700 - REPLY TESTIMONY – COMPENSATION & BENEFITS

Table of Contents

I. INTRODUCTION AND SUMMARY

Q. Please state your name and position with Northwest Natural Gas Company ("NW Natural" or "the Company").

A. My name is Melinda B. Rogers. My title is Vice President, Chief Human Resources and Diversity Officer. I am responsible for overseeing various administrative functions at NW Natural, including Human Resources, Diversity, Equity and Inclusion, Safety, Labor Relations, and Payroll.

Q. Are you the same Melinda Rogers who previously provided Direct Testimony in this docket?

A. Yes, I presented NW Natural/700, Rogers.

Q. What is the purpose of your Reply Testimony in this proceeding?

A. The purpose of my Reply Testimony is to respond to testimony filed on April 17, 2020, by the Public Utility Commission of Oregon Staff ("Staff") and the Oregon Citizens' Utility Board ("CUB") related to compensation, benefits, and number of full-time equivalent employees ("FTEs"). I will respond to issues presented in the testimony of Staff witnesses Heather Cohen (Staff/400) and Mitchell Moore (Staff/600), and CUB witness William Gehrke (CUB/200).

Q. Please summarize your Reply Testimony.

A. In my testimony, I respond to proposed disallowances and concerns raised by Staff and CUB on the following issues:

<u>Wages and Salaries</u>

- *Base Pay Escalation for Union Employees:* In response to Staff witness Ms. Cohen's proposed disallowance, I explain that the Company's methodology for escalating base pay costs for bargaining unit ("BU") employees is consistent with the underlying collective bargaining agreement, and that all BU pay costs should therefore be recovered.

- *Base Pay Escalation for Non-Union Employees:* In response to Staff witness Ms. Cohen's proposed disallowance, I explain that the Company accurately projected Test Year costs of $52.85 million for non-bargaining unit ("NBU") employee base pay, relying on detailed surveys and trend data, and that therefore all NBU wages should be recovered.
- *Pay-at-Risk:* In response to Staff's and CUB's proposal to disallow a portion of pay-at-risk, I explain that the Company prudently incurs Test Year costs of $11.1 million in pay-at-risk compensation for NBU employees and officers as part of a market median total compensation package. This incentive pay is prudently incurred and, under standard ratemaking principles, should be recovered.

Medical Benefits

- In response to Staff witness Mr. Moore's proposed disallowance, I explain that the Company prudently incurs Test Year costs of $18.1 million in medical benefits for its employees, which are reasonable when compared to a combination of national and more localized benchmarks for trends in employee medical costs and in particular given the particular demographics of NW Natural's workforce.

Full-Time Equivalents (FTEs)

- In response to Staff witness Ms. Cohen, I explain that the Company properly requests cost recovery for a total of 1,169.5 utility FTE employees, as the Company accurately calculates this number from actual FTEs (as opposed to number of positions in the Company) as of September 30, 2019, forecasted through the end of the Base Year, which is then adjusted to reflect incremental new FTEs identified in Mr. Downing's and Mr. Pipes' Direct Testimony,[1] less two FTEs being eliminated (in early 2020), as well as 23.5 FTEs assigned to non-regulated activity.

II. WAGES AND SALARIES

A. Base Pay Escalation

i. Bargaining Unit Employees

Q. What is the total cost of base pay for BU employees included in NW Natural's requested revenue requirement?

A. The Company's requested revenue requirement includes an Oregon-allocated cost of base pay for BU employees of $43.845 million, as reflected in Table 1 of my Direct Testimony.[2]

Q. How did NW Natural project the escalation of base pay for BU employees for the Test Year?

A. The Company calculated BU employee base pay for the Test Year according to the terms of the Collective Bargaining Agreement ("Agreement"), which was

[1] NW Natural/600, Downing/14-24; NW Natural/500, Pipes/47-50.
[2] NW Natural/700, Rogers/5.

established through a negotiated process between the Company and the Office and Professional Employees International Union, Local 11, AFL-CIO ("Union").

BU base pay escalation to the Test Year consists of three components: (1) a market-based reevaluation of pay grades, which affected individual BU employees differently but resulted in a one-time increase in base pay costs for the Company; (2) a series of across-the-board pay increases for all employees that are staged over time through the term of the Agreement; and (3) an estimated annual increase in the Company's base pay costs to account for the Company's implementation of step increases, promotions, and adjustments consistent with the terms of the Agreement.

Q. Please describe the first escalation component.

A. The Agreement establishes a one-time pay grade change for BU employee base wages to bring those wages more in line with current market pay levels. In making these changes, the Union and the Company agreed to utilize select market survey data sources and other Union contracts, primarily of Northwest gas utility companies, as points of comparison. Pay grades were determined based on averages calculated using these agreed-upon sources of competitive pay data. Based on this information, BU employees were moved to a new pay grade effective December 1, 2019.[3] While this grade change affected individual

[3] Staff/405, Cohen/56 ("Effective December 1, 2019 all bargaining unit employees *shall first be moved* to the base rate for their job group . . ..") (emphasis added); *id.* at 94-95 (displaying Schedule B Wage Scale, with third column reflecting the wage scale resulting from "Dec 2019 Wage Rate Structure *Move*") (emphasis added).

BU employees differently, it increased the Company's total BU employee base pay costs by 3.5 percent.[4]

Q. Please describe the second escalation component.

A. For the second component of BU base pay escalation, the new Agreement uses a wage increase formula to provide periodic increases through the term of the Agreement.[5] These increases apply equally to all BU employees across the board. The Union and the Company agreed to consult pay increase trend data and other Union contracts to negotiate these wage increases, as well.

Q. What is the schedule on which these periodic contractual increases occur?

A. These across-the-board increases generally occur once per calendar year through the term of the Agreement. Unlike the Company's previous bargaining unit contract, however, the new Agreement provides for two across-the-board increases during the first contract year. The first is an increase of 1.5 percent, which occurred on December 1, 2019. This is in addition to the costs associated with the pay grade change discussed above that increased the Company's BU base pay costs by 3.5 percent and that took effect on the same date. The second is an increase of 2 percent, which will occur on June 1, 2020.[6] The Union and the Company specifically agreed to undertake this two-step approach to shift the Agreement from a December 1 renewal date to a June 1 renewal date.

[4] NW Natural/1701, Rogers/1.
[5] Staff/405, Cohen/57.
[6] *Id.*

In total, therefore, the Agreement calls for three adjustments during the first contract year, as described in Table 1, below:

Table 1
Contractual Increases in BU Base Pay During the First Contract Year

First Contract Year Adjustments	Percent Change Result	Effective Date
Market Grade Changes	3.5%	December 1, 2019
Wage Increase	1.5%	December 1, 2019
Wage Increase	2.0%	June 1, 2020

After the first contract year, the Agreement calls for an annual increase of 3.5 percent, which will occur every June 1, beginning on June 1, 2021, through the end of the Agreement on May 31, 2023.[7]

Q. Please describe the third escalation component.

A. In addition to the two components described above, the Company's Test Year costs for BU base pay incorporate an increase of 0.80 percent each year to account for BU employee movement through training steps, from the entry rate to the experienced rate, as well as promotions and adjustments. These occasional base pay changes for individual BU employees are necessary to implement the terms of the Agreement,[8] and the Company calculated the average annual collective cost impact associated with implementing these changes based upon past experience.

[7] Staff/405, Cohen/57.
[8] Staff/405, Cohen/22-26, 49, 54-56.

Q. Does any party criticize or rebut the methodology incorporated into the Agreement for escalating BU employee base pay?

A. No.

Q. Does Staff nevertheless propose to adjust Test Year base pay for BU employees?

A. Yes. Staff recommends an Oregon-allocated reduction in BU base pay costs of $998,648, consisting of $633,143 O&M expense and $365,505 capital.[9]

Q. What is the basis for Staff's proposed adjustment?

A. While Staff escalated base pay for BU employees by 1.50 percent on December 1, 2019, Staff does not appear to have accounted for the simultaneous 3.5 percent increase in BU base pay costs resulting from the grade change under the new Agreement. Therefore, Staff increased BU base pay costs by only 1.5 percent on December 1, 2019, rather than a total of 5 percent per the Agreement, which changed pay grades on this date.[10] Thereafter, Staff escalated base pay by 2.0 percent for 2020 (to account for the 2.0 percent increase scheduled in June 2020) and by 2.92 percent for 2021 (to account for the 3.5 percent increase scheduled for June 2021, but prorated to capture the first ten months to the rate effective date of November 1, 2020).

Q. Do you agree with Staff's methodology underlying its proposed adjustment for BU employee base pay?

A. No. I have three concerns with Staff's methodology.

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[9] *See* Staff/400, Cohen/8-9; Staff/406, Cohen/2.
[10] Staff/405, Cohen/48, 94.

Q. What is your first concern with Staff's methodology?

A. First, Staff omits the market-based pay grade change described above. In this regard, Staff's adjustments are inconsistent with the terms of the Agreement developed through the collective bargaining process. In that Agreement, on the contract effective date of December 1, 2019, all BU employees are first moved to a new base pay rate for their job group in accordance with "Schedule A - Job Titles by Pay Group" to the Agreement.[11] This move to new base pay rates results in an average increase of 3.5 percent in BU base pay costs, which Staff fails to incorporate into its calculations.[12]

Q. What would be the impact on Staff's proposed adjustment of correcting for this omission?

A. If Staff's calculations are modified to account for the 3.5 percent grade increase effective December 1, 2019, the disallowance proposed by Staff would decrease by $722,000 overall (meaning the combined disallowances attributed to O&M and capital, respectively).

Q. What is your second concern with Staff's methodology?

A. In accounting for the periodic base pay increases called for in the Agreement, Staff applies a simple annual growth rate to Staff's 2018 total payroll amount. The BU base pay increases do not occur on a calendar-year basis, however, so it is inconsistent with the Agreement to apply an annual growth rate tied to the calendar year.

[11] Staff/405, Cohen/93. *See also id.* at 94-95 (Schedule B, displaying new pay rate effective December 1, 2019, following Wage Rate Structure Move, by Pay Group).
[12] NW Natural/1701, Rogers/1.

Q. Please explain.

A. Under the Agreement, the timing of the pay increases for the BU rates stagger from 2018 through the Test Year, moving from a December 1 date to a June 1 date. In 2018 and 2019, the pay increases occur in December, while in 2020 and 2021, the pay increases occur in June. For this reason, a simple annual calculation (taking the previous year's amount and multiplying it by the current year wage increase rate) does not accurately capture the costs associated with these periodic mid-year pay increases. A month-by-month analysis produces a more accurate calculation of the compounding impact these mid-year pay increases have on the Company's BU base pay costs.

Q. How much would this correction decrease the adjustment proposed by Staff?

A. Correcting Staff's annualization error, as well as accounting for the one-time pay grade increase of 3.5 percent, would eliminate the entire BU wage disallowance of $633,143 O&M and $365,505 capital proposed by Staff.

Q. What is your third concern with Staff's methodology?

A. Staff omitted the additional 0.80 percent annual cost escalation to account for BU employee wage advancement resulting from step increases, promotions, and adjustments. This annual base pay cost increase is based on experience, and the Company believes this is appropriate and reasonable to include in escalating BU base pay costs to the Test Year.

Q. Does the Commission typically adjust BU employee base pay costs that have been negotiated through a bargaining agreement?

A. No. As explained in Order No. 99-697, the "Commission has traditionally accepted changes in union compensation resulting from the collective bargaining process,"[13] In response to a data request about Staff's adjustment to BU employee base pay costs, Staff stated "that it increased Test Year union wages as per Company's union contract."[14] However, as demonstrated above, Staff's methodology and calculations do not accurately reflect the Agreement.

ii. Non-Bargaining Unit Employees

Q. What is the total cost of base pay for NBU employees included in NW Natural's requested revenue requirement?

A. The Company's requested revenue requirement includes an Oregon-allocated cost of base pay for NBU employees of $52.85 million, as reflected in Table 1 of my Direct Testimony.[15]

Q. How did NW Natural project the escalation of base pay for NBU employees for the Test Year?

A. The Company escalated NBU base pay to the Test Year by accounting for three factors: (1) an annual merit increase for NBU employees; (2) an additional increase in NBU base pay costs each year to account for pay changes as a result of job reclassifications, job family movements, promotions, pay equity, and compression adjustments, similar to that described for BU employees above; and

[13] *In the Matter of the Application of Northwest Natural Gas Co. for a General Rate Revision*, Docket UG 132, Order No. 99-697, at 43 (Nov. 12, 1999).
[14] See Staff Response to NWN Data Request 8, included as Exhibit NW Natural/1702, Rogers/1.
[15] NW Natural/700, Rogers/5.

(3) [redacted].

In total, the Company's Test Year NBU base pay costs reflect a 4.00 percent increase in 2020 and a 4.70 percent increase in 2021, displayed in Table 2 as follows:

Table 2
NBU Employee Base Pay Escalation, 2020-2021

	Merit Increase:	Training Steps, Promotions & Adjustments:	[redacted]	Total:
2020	3.4%	0.6%		**4.0%**
2021	3.5%	0.6%	[redacted]	**4.7%**

Q. Please describe the first escalation factor, which is how the Company develops its annual merit increase for NBU employees.

A. NW Natural purchases, participates in, and regularly analyzes comprehensive survey data to ensure that its base pay is aligned with the median of the market for comparable jobs with other companies that would typically compete with the Company for employee talent.[16] The Company utilizes this data in establishing pay practices and structure for NBU positions.

The data trends shown in Exhibit NW Natural/1703, Rogers, and used year to year, along with others sources as a comparator and forecast by NW Natural, are compiled by World at Work, which conducts the largest and longest-running salary budget survey in the United States and provides reliable trend

[16] NW Natural/1703, Rogers/1.

information.[17] The Company's compensation team relies on several benchmarking sources within this and other source datasets, including National General Industry, National Utilities, and Local Portland-Area Cross Industry.[18] To develop a budget recommendation for annual merit increase amounts, the Company forecasts the merit percentage using the anticipated average pay movement of competitor companies provided in these compensation trend surveys.

Q. Please describe the second base pay escalation factor, related to job reclassifications, job family movements, promotions, pay equity, and compression adjustments.

A. The Company determined the additional amount for promotions and equity adjustments based upon these same compensation trend surveys, as well as past experience.

Q. Please describe the third base pay escalation factor, related to [redacted].

A. [redacted]

[17] *Id.*
[18] *Id.*

[redacted]

Q. Does any party criticize or rebut the Company's general methodology for escalating NBU employee base wages or otherwise challenge the underlying compensation trend studies relied upon by the Company?

A. No. No party criticizes the studies used by the Company or asserts that the Company misapplied the studies or that our general approach is flawed.

Q. Does Staff nevertheless propose to adjust Test Year base pay for NBU employees?

A. Yes. Staff recommends an Oregon-allocated reduction in NBU base pay costs of $1.335 million, consisting of $846,460 O&M expense and $488,650 capital.[19]

Q. How does Staff arrive at its proposed adjustment?

A. Staff applies a three-year wage and salary model ("W&S Model") to escalate NBU employee base pay.[20] Rather than utilizing the Company's Base Year (calendar year 2019), Staff looks to a historical year that is three years prior to the Test Year – in this case 2018.[21] Then, to establish a projection for the Test Year, rather than relying on surveys and trend data based on actual market

[19] *See* Staff/400, Cohen/8-9; Staff/406, Cohen/2.
[20] Staff/400, Cohen/5.
[21] *Id.*

salaries in relevant markets for the same positions, Staff adjusts NBU base pay upward for each subsequent year using the All Urban Consumer Price Index ("CPI").[22] The All-Urban CPI is a measure of inflation, *i.e.*, the average change over time in prices paid by urban consumers for goods and services,[23] and does not account for other market conditions that can affect wages and salaries.

Finally, because Staff's projection and the Company's projection differ by less than 10 percent, Staff advocates the Company should recover half of the difference under a "sharing" principle.[24]

Q. Does Staff provide any evidence to suggest that its W&S Model produces more accurate or appropriate base pay estimates for the Test Year than that the data-driven approach used by NW Natural?

A. No. Staff does not produce any evidence to suggest that its W&S Model is superior to the Company's use of a well-accepted and data-driven compensation methodology, described above, which is a meticulous and tailored approach.

Q. Is the survey approach relied upon by the Company for determining NBU employee base pay costs similar to the survey approach agreed to by the Company and the Union for calculating BU employee base pay?

A. Yes. NW Natural relied on the same approach for determining market median wages when negotiating with the Union regarding wage increases in the Agreement—and Staff has largely accepted those wages. It is inconsistent to

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[22] *See id.*
[23] https://www.bls.gov/cpi/questions-and-answers.htm#Question_6.
[24] Staff/400, Cohen/5, 8.

reject the very same approach when determining market median wages for NBU employees.

Q. You mention two primary methodological changes Staff introduces for calculating NBU employee base pay costs—the baseline and the escalation factor. What is the impact of selecting an earlier baseline?

A. In a nutshell, working from an earlier baseline reduces estimated payroll expense for the Test Year.

As mentioned above, Staff rejects the Company's choice of Base Year and instead estimates Test Year costs based on an earlier date, relying on 2018 base pay costs rather than 2019 base pay costs to project forward. This is a significant departure from how most other Test Year expenses are calculated in Oregon rate cases. And since wages and salaries generally tend to increase over time, the selection of an earlier baseline—in combination with an inappropriately low escalation factor as explained below—will invariably and artificially depress wage and salary estimates for the Test Year expense.

Q. Do you have concerns with Staff's escalation methodology as well?

A. Yes. In addition to starting with an artificially depressed baseline, Staff's adjustment is compounded by the use of a metric for inflation of consumer goods and services to estimate changes in wages and salaries over time. The CPI is not a proxy for actual labor market conditions, as inflation may have little to no relationship to the ways in which market compensation has evolved since 2018 and will continue to evolve over the next year. That is, wage and salary trends do not necessarily track changes in price data for goods and services. For example, over the five-year period from 2015-2019, wages and salaries have consistently increased at a faster rate than inflation.[25] For this reason, the compensation profession does not rely on the CPI as an indicator to set wages.

In addition, Staff's escalation methodology is less tailored and therefore less accurate than the methodology used by the Company. The CPI is not specific to the gas industry or any other defined market from which the Company draws many employees. In contrast, the compensation trend surveys relied on by the Company provide information specific to wages and salaries broken down by position categories and are based upon the relevant hiring market, rather than national averages.

Q. Does Staff acknowledge that the CPI may not reflect certain market conditions that affect wages and salaries?

A. Yes. Staff acknowledges that its model, which only escalates for inflation and therefore effectively holds base pay at 2018 real levels, does not account for labor market conditions that can drive up the actual cost of labor at a rate faster than inflation. Staff proposes bridging this gap in part by splitting the difference between its model results and the Company's proposal.[26] While the Company appreciates this reduction in Staff's recommended adjustment, Staff has not provided an evidence-based justification for imposing even a partial disallowance on NBU base pay costs. As noted above, no party has challenged the survey

[25] NW Natural/1703, Rogers/1.

[26] *See* Staff/400, Cohen/6 (explaining that in adjusting for inflation, Staff's model "provid[es] employees the same real level of compensation in the base year . . ." and that "Staff's methodology of equally dividing the difference between the two payroll projections between ratepayers and shareholders also allows for some adjustments to reflect changes in market conditions without allowing unchecked escalation.").

and trend data relied on by the Company or argued that actual base labor costs will be lower in the Test Year than the Company projects based on these data.

Q. Both CUB and Staff suggest that by holding labor cost recovery to inflation, Staff's approach may incentivize the Company to keep labor costs low.[27] Do you agree?

A. No. If the Company were to hold wages below the market median in an effort to keep labor costs down, this would have real costs for utility customers, as NW Natural would lose the most skilled employees to other companies. This phenomenon could compromise the Company's ability to provide safe and reliable service. Paradoxically, it could also increase costs, as the Company experiences more attrition and spends more time and money training new employees, who in turn will leave when they gain the skills to be hired elsewhere at market pay.

Q. Do other factors already incentivize the Company to keep labor costs from escalating above market median levels?

A. Yes. First, labor costs are a component of O&M expenses, and utilities as a general matter have an incentive to keep O&M expenses as low as reasonably possible between rate cases. Second, NW Natural faces competitive pressures, as it competes directly with electric companies for customers, and this further incentivizes the Company to keep its expenses, and thus its rates, as low as reasonably possible. In other words, a disallowance of prudently incurred costs

[27] CUB/200, Gehrke/5; Staff/400, Cohen/6.

is neither appropriate nor necessary to incentivize the Company to lower its expenses.

Q. Is Staff's model consistent with standard regulatory principles?

A. No. Under standard regulatory principles of cost-based ratemaking, the Company should recover all prudently incurred costs. The Company has demonstrated prudence through the fact that it is providing market median compensation to its NBU employees. NBU base pay at market median levels is a necessary cost of providing utility service, so there should be no disallowance of these prudently-incurred costs.

Q. You have presented a detailed critique of Staff's W&S Model—but do you acknowledge that Staff's model has been approved by the Commission in the past?

A. Yes. I acknowledge that more than a decade ago, the Commission considered and approved Staff's W&S Model in a Portland General Electric Company general rate case.[28] In this case, however, NW Natural has presented a robust case supporting its rate case proposal based on a meticulous, data-driven approach, while Staff has not presented any explanation as to why its approach is more accurate or appropriate. For this reason, NW Natural asks the Commission to accept the Company's Test Year base pay cost request for NBU employees.

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[28] *In the Matter of Portland General Electric Co., Request for a general rate revision*, Docket UE 197, Order No. 09-020, at 10 (Jan. 22. 2009).

Q. If the Commission nevertheless decides to escalate base wages and salaries only commensurate with inflation, is the All-Urban CPI the best inflation metric for this purpose?

A. No, it is not. The West Region Urban CPI is a better reflection of the costs experienced in NW Natural's service territory than the All Urban CPI, in which Oregon data represent only a very small percent. As Mr. Davilla explains in detail in his Reply Testimony,[29] Oregon experiences much higher costs than most other states on many attributes, including wages.[30] As such, the West Region Urban CPI would be a better representation of the measure of inflation that NW Natural employees experience, at least as compared to a national rate. Other organizations feel similarly, most notably the Public Employees Retirement System, or PERS, which is using the West Region Urban CPI as an escalator for its cost of living adjustment, or COLA.

Q. If the Commission relies on the West Region Urban CPI rather than the All-Urban CPI, how much would the adjustment proposed by Staff decrease?

A. With this modification, the disallowance proposed by Staff would decrease by $584,000 overall.

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[29] NW Natural/2100, Davilla.

[30] *See* NW Natural/1703, Rogers/1 (demonstrating that Portland-area cross-industry labor costs have exceeded national numbers in recent years).

Q. Setting aside the appropriate metric for inflation, if the Commission decides to rely on Staff's W&S Model to calculate base pay costs for NBU employees, are there any further technical adjustments you would recommend to improve the accuracy of the results?

A. Yes. As with its adjustments to BU base pay costs, Staff incorrectly applies an annual growth rate to its 2018 total payroll amount. The NBU pay increase occurs on March 1 each year, however, not on a calendar-year basis. Therefore, when determining the Test Year amount, it is not as simple as using an annual growth rate, because the Test Year and the pay increase year do not align. The Company corrects for this discrepancy and calculates NBU base pay escalation using the West Region Urban CPI of 7.63 percent, as compared to the Staff model, which uses the All-Urban CPI of 7.48 percent.

Q. How much would this correction decrease the adjustment proposed by Staff?

A. With this modification, the overall disallowance proposed by Staff would decrease by $37,000.

B. <u>Overtime</u>

Q. What is the total cost of overtime included in NW Natural's requested revenue requirement?

A. The Company's requested revenue requirement includes an Oregon-allocated cost for overtime of $6.450 million, which is almost entirely for BU employees.[31]

[31] Staff/408, DR 92 Attachment 1-Amended Supplement.

Q. Does any party challenge the Company's methodology for estimating overtime costs in the Test Year?

A. No.

Q. Does Staff nevertheless propose to adjust Test Year overtime pay for BU employees?

A. Yes. Staff recommends reducing the Company's Test Year overtime costs for BU employees by $1.371 million overall, allocated as $869,000 to O&M and $502,000 to capital.[32]

Q. What is the basis for Staff's proposed adjustment?

A. Based on the Company's 2018 overtime costs, Staff calculates an average cost per FTE. Staff then escalates forward to the Test Year using the periodic wage increases specified in the Agreement. Finally, Staff multiplies that figure by the Company's Test Year FTE number.

Q. Do you agree with Staff's recommendation?

A. No. I have two main concerns with Staff's approach. First, this approach appears to be premised on the assumption that the Company's overtime costs are static over time. Second, Staff's proposed disallowance is inconsistent with the terms of the Agreement negotiated between the Company and the Union, as Staff makes the same methodological mistakes for BU overtime that it did for BU base pay.

[32] Staff/400, Cohen/9.

Q. Please elaborate on your first concern.

A. Staff effectively ties Test Year overtime costs to 2018. In addition to the concerns described above regarding Staff's use of an earlier base year, the overtime costs incurred for BU employees occurred under the previous collective bargaining agreement. An outcome of the negotiations is that under the new Agreement, which only took effect in 2019 (the Company's Base Year), costs for overtime and hazard pay have increased as a percentage of base pay.[33] Furthermore, work performed by BU employees in 2019 requires a different mix of employees than work that was performed in 2018, and not all BU employees are paid the same rate.

Q. What are your methodological concerns with Staff's calculation of BU overtime costs?

A. As with the calculation of BU base pay costs, Staff omits the costs associated with the December 2019 pay grade increase called for in the Agreement. Staff also calculates the periodic mid-year wage increases specified in the Agreement using a simple annual growth rate. Finally, Staff fails to account for the impact to BU overtime costs associated base wage increases resulting from individual BU employee advancement. In sum, overtime follows wage increases. By not following wage increases, Staff is undercounting overtime.

[33] *See* Staff/405, Cohen/60-62.

Q. What would be the impact on Staff's proposed disallowance if Staff corrected for these issues?

A. If Staff were to correct for these issues, the disallowance proposed by Staff would decrease by $247,215 (O&M and capital).

C. Pay-at-Risk

Q. Please summarize NW Natural's proposal with respect to pay-at-risk costs included in the Company's requested revenue requirement.

A. The Company offers pay-at-risk to NBU employees and officers as part of its effort to provide competitive total compensation. Pay-at-risk – or incentive pay – is a component of the overall compensation package necessary for attracting, motivating, and retaining qualified personnel to operate a safe, reliable, cost-effective, and customer-responsive natural gas delivery service. Therefore, the Company requests full recovery of approximately $11.1 million (Oregon-allocated) in prudently-incurred, reasonable and necessary business costs for its pay-at-risk programs. This figure consists of $6.793 million in pay-at-risk costs incurred for NBU employees and $4.307 million in pay-at-risk costs incurred for officers.[34]

NW Natural recognizes that the Commission has disallowed recovery for portions of the Company's pay-at-risk costs in the past.[35] Nevertheless, for the reasons discussed more fully in my Direct Testimony and below, NW Natural requests that the Commission reexamine its past practice in this case.

[34] NW Natural/700, Rogers/17 (Table 3).
[35] Order No. 99-697 at 45.

Q. Does Staff propose adjustments to the Company's pay-at-risk costs?

A. Yes. Staff recommends the Commission disallow 100 percent of pay-at-risk costs for officers. In addition, for pay-at-risk for NBU employees, Staff recommends a disallowance of 75 percent of those pay-at-risk costs that are tied to the Company's financial performance and 50 percent of those pay-at-risk costs for NBU employees that are awarded based on merit.[36] Accordingly, Staff proposes an Oregon-allocated adjustment of ($7.870 million), consisting of ($4.990 million) for O&M and ($2.881 million) for capital.[37] Staff also proposes disallowing $4.237 million of officer incentives capitalized in plant based on 2015-2019 data.[38]

Q. What is the basis for Staff's proposed adjustments?

A. Staff argues its proposed adjustments are consistent with past Commission practice.[39] Staff's proposed adjustments are based on its assumption that officer pay-at-risk is typically awarded based on "increased earnings and other 'financial, business, and corporate goals' that 'primarily benefit shareholders.'"[40] Staff asserts that pay-at-risk for NBU employees "based on the company's increased earnings and other financial metrics[]" is "more beneficial to

[36] *See* Staff/400, Cohen/6, 13-14.
[37] Staff/400, Cohen/17.
[38] *Id.*
[39] Staff/400, Cohen/6, 13-14.
[40] Staff/400, Cohen/6 (quoting the Commission's summary of Staff's position in *In the Matter of Qwest Corp., fka US West Communications, Inc.*, Docket UT 125, Order No. 97-171, at 74-76 (May 19, 1997)). The Commission rescinded Order No. 97-171 in Docket UT 125 *et al.*, Order No. 00-190, at 18 (Apr. 14, 2000), to accommodate settlement on other issues. That same day, it readopted portions of Order No. 97-171 without modification in Docket UT 125 *et al*., Order No. 00-191, at 112-116 (Apr. 14, 2000), including the section of Order No. 97-171 addressing incentive plans.

shareholders . . . ."[41] In contrast, Staff assumes that "merit-based bonuses[,]" by which Staff presumably refers to pay-at-risk tied to operational goals, "provide equal benefit to shareholders and ratepayers."[42]

Q. Does CUB propose similar adjustments?

A. Yes. CUB also appears to recommend the Commission disallow 100 percent of officer pay-at-risk, 75 percent of non-officer pay-at-risk based on financial performance measures, and 50 percent of all other non-officer pay-at-risk.[43] CUB's recommended adjustment would result in the removal of $5.089 million in O&M expense and $2.9 million in capital costs.[44]

Q. Do you agree with the reasoning behind the proposed disallowances?

A. No. Staff and CUB seek to disallow recovery for significant portions of pay-at-risk programs they presume are designed to incentivize employee behavior that primarily or solely serves shareholder interests. Their proposed disallowances reflect a general philosophy that the interests of shareholders and customers are zero-sum and segregable, and accordingly, that a cost should not be recoverable to the extent it may benefit shareholders. NW Natural understands that although there has been some inconsistency in how the Commission treats pay-at-risk and incentive compensation, there is indeed Commission precedent for imposing flat percentage disallowances such as those recommended by Staff and CUB.[45] Nevertheless, standard regulatory principles support moving away from this blunt

[41] Staff/400, Cohen/6; *see also id.* at 14.
[42] *See* Staff/400, Cohen/6-7; *see also id.* at 14.
[43] *See* CUB/200, Gehrke/6.
[44] CUB/200, Gehrke/8.
[45] *Compare* Order No. 97-171 at 93-94 (readopted in Order No. 00-191 at 115-116) (examining the underlying goals of the incentive programs to determine recovery) *with* Order No. 99-697 at 44-45 (imposing flat percentage disallowances).

instrument approach, which discourages best practices for employee compensation and results in a substantial disallowance of prudently incurred and necessary business expenses that form part of the utility cost of service.

Q. Please elaborate on why pay-at-risk costs are a necessary business expense that forms part of the Company's cost of service.

A. First, as explained in my Direct Testimony, the Company structures employee compensation, including base pay and pay-at-risk, to ensure both individual elements and the total compensation package are comparable to market levels.[46] Competitive pay helps the Company attract and retain qualified employees and officers, which is necessary to ensure the Company operates a safe, reliable, cost-effective, and customer-responsive gas distribution business.

Second, the pay-at-risk program costs NW Natural has included in its requested revenue requirement are structured to compensate employees for achieving baseline targets tied to standard business operations, not for exceptional performance going above and beyond the call of duty. By contrast, the costs associated with incentive programs rewarding extraordinary performance are not included in the requested revenue requirement, as the Company proposes these be absorbed entirely by shareholders. For the pay-at-risk programs at issue in this proceeding, employees receive their pay-at-risk as a result of achieving normal, expected levels of performance, both individually and for the Company as a whole. In fact, every NBU employee's compensation package incorporates some element of pay-at-risk, not just those employees

[46] NW Natural/700, Rogers/2-3, 8.

whose positions officially require them to consider shareholder implications. Funding for pay-at-risk at target levels is therefore expected and included in annual budgeting. Because the Company is well-managed, in the ordinary course employees and officers generally receive their pay-at-risk compensation. In other words, it is typically only when individual and/or Company performance is sub-par that employees see a reduction in their total compensation package through reductions to or elimination of pay-at-risk. Accordingly, pay-at-risk payouts represent the steady state of operations. The total compensation package under those normal circumstances, inclusive of salaries and pay-at-risk payouts, is a necessary cost of operating the utility business.

Q. CUB expresses concern about shareholders benefitting under a scenario in which customers pay for pay-at-risk programs, but the Company does not in turn distribute this at-risk compensation to its officers and employees.[47] Is this concern well-founded?

A. No. As I just explained, pay-at-risk compensation is nearly always distributed, making this scenario unlikely to occur with any regularity. Furthermore, there are generally two sets of circumstances under which payouts may be reduced or withheld: (1) if the Company's economic performance dictates reductions in at-risk compensation for a particular year; or (2) if an individual's performance on the job is not meeting standard targets, making a pay reduction necessary to motivate behavioral changes. Neither of those scenarios involve underlying circumstances that benefit either shareholders *or* customers, whereas taking

[47] CUB/200, Gehrke/8.

corrective action by adjusting pay-at-risk for the year ultimately benefits both sets of stakeholders, for the reasons discussed further below.

Q. You mentioned above that pay-at-risk payouts represent the steady state of operations. That being the case, why does the Company persist in placing this portion of compensation in an "at risk" category, rather than shifting all compensation to base pay, as suggested by CUB?[48]

A. Placing a portion of an employee's total compensation at risk is a standard best practice in the human resources field. Pay-at-risk is widely incorporated into the compensation packages offered by competitors, preferred by the industry, and expected by the workforce. When implemented effectively, pay-at-risk helps to motivate strong performance, increase productivity, reduce problematic behaviors, communicate to employees they are valued, give them a greater degree of control over their salary, and improve morale and retention.

Q. CUB observes that the Company agreed to eliminate pay-at-risk compensation for Union employees in the most recent Agreement, suggesting that the Company could do so for NBU employees as well.[49] **How do you respond?**

A. First, at the request of the Union, the Company agreed in the latest bargaining agreement to make this change for BU employees. This provision reflects part of the give and take of the overall negotiation process and is currently only in place for the duration of the current Agreement. The Company is closely monitoring

[48] CUB/200, Gehrke/6 (suggesting NW Natural employees would be indifferent to such a change if the total compensation package remained the same).
[49] CUB/200, Gehrke/6.

the outcome of this approach and at the time of entering the next contract, the Company will reevaluate the situation based on whether it has been able maintain strong BU employee performance.

Second, while it is true, we could eliminate pay-at-risk for NBU employees and shift all compensation to base pay, we believe that this would depart from best practice for NBU employees. In fact, CUB's position shines a spotlight on the fundamental problem with the regulatory framework of pay-at-risk recovery. CUB's position suggests that NW Natural could recover the amounts in base pay that would otherwise be disallowed if those amounts were included in pay-at-risk. This position incentivizes a utility to put the likelihood of cost recovery over management's best practices. Despite this incentive, the Company would only consider making such a change in the future if it were confident that eliminating pay-at-risk would not adversely impact performance.

Q. So, in other words, placing some compensation at risk is a prudent business decision?

A. Yes. Providing market-median total compensation is a necessary cost of operating a gas distribution utility, and the Company's decision to continue offering some of that compensation in the form of pay-at-risk rather than base pay is reasonable and prudent.

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Q. Why has the Commission disallowed a significant portion of the Company's pay-at-risk costs in the past?

A. As noted above, the Commission has previously found that pay-at-risk programs linked to a utility's financial performance primarily benefit shareholders rather than ratepayers and has disallowed the costs of such programs on this basis.[50]

Q. From the Company's perspective, is an effort to segregate customer benefit from shareholder benefit the right approach for determining the extent to which pay-at-risk compensation costs should be recoverable?

A. No. While shareholder and customer interests may occasionally diverge on a particular issue in a particular case, in general, shareholder and customer interests are aligned when it comes to business operations and the overall health of the Company, as the provision of adequate service and the ongoing financial health of the Company are interrelated core pillars for sustaining a gas distribution service.

In short, when the Company provides satisfactory service to customers, the customers benefit from that good service, the Company retains and grows its customer base, and it remains financially healthy and better-positioned to earn a reasonable rate of return on shareholder investments. This benefits both customers and shareholders in the long run, because a financially healthy utility is able to sustain adequate service at lower rates.

[50] Order No. 97-171 at 93-94 (readopted in Order No. 00-191 at 115-116); *see also* Order No. 99-697 at 45.

Q. Can you elaborate on the relationship between work performance and customer benefit?

A. There is a clear connection between incentive-based compensation, employee work performance, and the service that customers ultimately receive. It is indisputable that safety, reliability, rates, and customer service all are affected by how employees and officers perform on the job. For example, when a customer service employee resolves a customer issue efficiently, the customer benefits directly, while shareholders benefit from lower costs and increased customer loyalty. Similarly, when a company engineer designs a new pipeline for greatest system benefit and efficiency, the optimally-designed system benefits both customers purchasing the gas and shareholders who own the company distributing that gas.

Q. Staff appears to concede that *operational* performance can benefit customers,[51] but what about programs geared toward incentivizing behaviors that contribute to the *financial* health of the Company? Do those programs benefit customers as well?

A. Absolutely. Financial goals encourage employees to spend dollars wisely, work efficiently and safely, eliminate redundancies, and suggest and justify capital projects that will increase efficiency and return more than the cost of capital over the life of the project. These behaviors serve customer interests, because customers benefit in the long term when the Company is financially sound. A utility with strong financial metrics will enjoy stronger credit ratings, enabling the

[51] *See* Staff/400, Cohen/15-16.

utility to raise capital efficiently, which results in a lower cost of capital and ultimately a lower revenue requirement and lower rates for customers.

Q. In other words, both operational and financial performance goals can benefit both customers and shareholders?

A. Yes.

Q. And is this the case with respect to the specific performance goals adopted by the Company?

A. Yes. As I described in my Direct Testimony, NW Natural currently provides both shorter-term and longer-term pay-at-risk programs for NBU employees and officers.[52] All of these programs are driven by goals designed to benefit customers and shareholders simultaneously.

Q. Please describe how the goals associated with the Company's short-term pay-at-risk programs benefit customers.

A. Four operational goals underpin all of the Company's short-term pay-at-risk programs: (1) health and safety; (2) customer satisfaction; (3) Company growth; and (4) cost management:

- **Health and safety:** This goal measures call response time when customers report odor or damage. Customers directly benefit when the Company works quickly to resolve leaks and other potentially dangerous situations.

- **Customer satisfaction:** This goal involves customer surveys to measure satisfaction with the Company as a whole and satisfaction with employee interaction. Employees generate customer satisfaction by providing efficient, courteous, and knowledgeable service in customer interactions and by representing the Company positively through community involvement. Customers directly benefit from employee behavior that improves the customer service experience.

[52] NW Natural/700, Rogers/9-10, 12.

- **Company growth:** This goal measures the number of new meter sets for customers. Employees contribute to this goal by providing timely hook-ups for new customers. New customers benefit when their meters are installed in an efficient manner, and existing customers benefit from growth because the costs are shared among a larger customer base, which helps keep rates lower.

- **Cost management:** This goal involves controlling O&M costs to serve customers. Customers benefit when employees manage costs by working efficiently and looking for ways to save time and add value, expand work skills, and develop flexibility to meet changing customer and Company needs. Effective cost management also helps keep rates lower over the long term through a reduced revenue requirement.

Q. Do the goals associated with the Company's longer-term pay-at-risk programs also benefit customers?

A. Yes. NW Natural's longer-term pay-at-risk programs, which are offered to a select group of officers, managers, and senior employees, involve compensation in the form of Company stock ownership. These programs are linked to retention and Company financial performance goals. For the reasons discussed above, customers ultimately benefit when the Company retains qualified personnel and when it maintains financial health.

Q. Given that customers clearly benefit from the performance incentivized under these pay-at-risk programs, does the Company believe it is appropriate to impose a substantial disallowance to account for financial goals because shareholders *also* benefit?

A. No, disallowing recovery for any pay-at-risk related to financial metrics is not appropriate under these circumstances. Ratemaking treatment does not generally turn on whether an embedded cost of service benefits shareholders, but rather, whether the expenditure is "necessary for furnishing utility service…"[53] The costs of attracting and retaining qualified personnel and motivating adequate performance on the job are clearly "necessary for furnishing utility service" and therefore should receive the same ratemaking treatment as other prudently-incurred expenditures associated with operating the gas distribution business. Concomitant benefits for shareholders should not have any bearing on this determination.

Q. You mention above that the longer-term pay-at-risk programs included in the Company's requested revenue requirement involve stock compensation. What is your response to CUB's implication that this form of compensation in particular should not be recoverable?[54]

A. As an initial matter, to the extent CUB assumes the Company offers pay-at-risk entirely in the form of stock ownership,[55] I would like to clarify that stock compensation is only a subset of the total pay-at-risk compensation offered by the Company. In fact, the majority of the Company's pay-at-risk costs consist of cash payouts distributed through its short-term programs.[56]

Stock compensation is standard practice in the industry and serves two very important functions. First, stock compensation is designed to encourage retention of strong performers, as it does not fully vest until a participant has worked with the Company for four years. Employee retention reduces costs by

[53] Order No. 97-171 at 94 (readopted in Order No. 00-191 at 115) ("'Only expenditures necessary for furnishing utility service should be reflected in rates.'") (quoting *In The Matter Of Revised Tariffs Of Pacific Northwest Bell*, Docket UT 43, Order No. 87-406, at 42 (March 31, 1987)).
[54] *See* CUB/200, Gehrke/7, 8.
[55] *See* CUB/200, Gehrke/7.
[56] *See* NW Natural/700, Rogers/9-10, 12 (describing the various short- and long-term pay-at-risk programs offered by the Company).

avoiding the need to train and hire new employees and generally increases the expertise of the Company's employees. Second, stock ownership aligns officers' and employees' interests with the success of the Company, as participants feel more invested in contributing to smooth functioning and successful initiatives. In serving these functions, stock ownership serves the interests of customers as well as shareholders.

For those employees and officers who are eligible, stock compensation forms part of a complete compensation package, the economic value of which, in total, is comparable to market-median levels. For all of the reasons discussed above, the provision of competitive compensation – with some pay-at-risk built in to motivate adequate employee performance – is a necessary cost of providing utility service and should be recoverable, subject to a prudence review, like all other cost of service expenditures included in the Company's requested revenue requirement. But whether that compensation takes the form of cash disbursements or stock ownership should not matter. So long as the cost is reasonable and prudent, it also should not matter if shareholders benefit more from one form of payment or the other, assuming for the sake of argument that is even the case.

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Q. Notwithstanding all of the foregoing reasons supporting a change in practice, if the Commission decides to continue its past approach of disallowing pay-at-risk costs tied to financial performance, are the adjustments proposed by Staff and CUB consistent with the Commission's policy in this regard?

A. No. In docket UT 125, the Commission determined that it must engage in a fact-specific inquiry in each case to examine "the stated goals" of a utility's incentive-based compensation, that is, the "purpose for which the bonuses are awarded."[57] As applied to the facts in that proceeding, the Commission determined that the telecommunications carrier's compensation programs were not recoverable because goals "benefit[ted] shareholders rather than ratepayers."[58] The Commission noted, however, that in a future rate case, if the utility were to seek recovery for pay-at-risk compensation tied to "goals that would benefit *both ratepayers and shareholders*, we will include those expenditures in revenue requirement."[59]

Therefore, if the Commission continues this approach (which the Company does not recommend), then a faithful application of this policy would entail examining the underlying goals of the Company's pay-at-risk programs to determine the actual percentage of those programs that further economic versus operational purposes. While Staff acknowledges this direction from the

[57] Order No. 97-171 at 94 (readopted in Order No. 00-191 at 116).
[58] *Id.*
[59] *Id.* (emphasis added).

Commission in its Opening Testimony,[60] both Staff and CUB ultimately recommend imposing a blanket disallowance of all officer pay-at-risk compensation; they do not examine the underlying goals of these programs and tailor their recommendations accordingly.[61] Their total disallowances of officer pay-at-risk appear to be arbitrary and are not consistent with the direction by the Commission in docket UT 125.

Q. What would an adjustment consistent with the Commission's direction to consider the underlying program purposes look like?

A. As I explain above, NW Natural believes that all of its pay-at-risk programs included in the requested revenue requirement benefit customers – even the portions based on financial goals – and the Company therefore seeks full recovery for these programs. If Staff and CUB had looked to the purpose and goals underlying the Company's short-term officer pay-at-risk program, however, they would have found that a significant portion of this program – approximately 45 percent – is tied to operational and other non-financial goals that plainly provide a customer benefit.[62] Similarly, officers receive restricted stock units ("RSUs") that vest over four years at 25 percent each year to encourage them to remain with the Company in the long-term.

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[60] Staff/400, Cohen/16 (quoting Order No. 97-171 at 76).
[61] *Compare* Staff/400, Cohen/13-14, 17 (recommending 100 percent disallowance of officer pay-at-risk costs) *with id.* at 16 (apparently acknowledging that only 50 percent of the Company's Executive Incentive Plan, which is the short-term pay-at-risk program for officers, is tied to financial goals). *See also* CUB/200, Gehrke/6-8.
[62] For officers other than the CEO, 45.50 percent of short-term pay-at-risk is based on operational and non-financial goals. For the CEO, this figure is 44 percent.

Q. Please explain why the Company's short-term pay-at-risk program for officers would be eligible for 45 percent cost recovery under this approach.

A. The Company provides an "Executive Annual Incentive Plan" for officers, which I describe in my Direct Testimony.[63] This plan is based upon three separate components: net income (50 percent), the operational goals described above (20 percent), and individual goals specific to the officer (30 percent). Examples of individual goals include ensuring smooth and timely installation of new services. For all executives other than the CEO, only 15 percent of individual goals (4.5 percent of the total goals) are financial, and for the CEO 20 percent of individual goals (6.0 percent of total goals) are financial. Staff and CUB propose to disallow recovery of 100 percent of the Executive Annual Incentive Plan, but their proposal is inconsistent with Commission precedent because at least 45 percent of the program is associated with the operational goals described above and with non-financial individual goals that benefit customers.

Q. Please explain why the Company's long-term RSUs would be eligible for full cost recovery.

A. As stated above, the purpose of RSUs is to encourage officers to remain with the Company, which is why they vest over four years. This is not a financial goal. While RSUs will not vest if the Company has a very poor year, this does not determine the underlying purpose of the incentive, which is to ensure that NW Natural retains qualified officers.

[63] NW Natural/700, Rogers/10.

Q. If the Commission looks to the purpose underlying both the short-term incentive program and RSUs, how much would the adjustment proposed by Staff decrease?

A. If the Commission agrees that the Company should be permitted to recover all prudently-incurred costs associated with its pay-at-risk programs, then the entire amount of Staff's adjustment should be removed. On the other hand, if the Commission instead allows recovery for the non-financial portions of the Company's pay-at-risk programs, based on the actual goals underlying these programs as detailed above, then the disallowance proposed by Staff would decrease by $1.79 million.[64]

Q. Is the Company proposing that the Commission adopt the approach of looking to each program's purpose and disallowing those costs associated with financial goals?

A. No. The foregoing discussion merely serves to point out that Staff's and CUB's recommended adjustments are inconsistent with the Commission's previous direction on this topic in docket UT 125.

Q. How do you respond to CUB's implication that NW Natural must not actually need to recover these costs, because Company shareholders continue to approve pay-at-risk for officers even knowing these costs are unlikely to be recoverable?[65]

A. The Company is committed to best practices in all of its operations and management, including human resources best practices regarding placing a

[64] *See* Staff/418, Cohen/1.
[65] CUB/200, Gehrke/7.

portion of compensation at risk. The Company has determined the most effective compensation policy and is not driven by cost recovery considerations in designing its compensation practices. But the decision to continue providing pay-at-risk to officers and employees notwithstanding past Commission practice disallowing a substantial portion of these costs does not mean the Company is not harmed by this practice. Standard regulatory principles support a utility's right to recover reasonable and necessary business costs that are prudently incurred. The Company believes that in the absence of a finding of imprudence, it is wrong to deny recovery for a portion of market-based compensation.

Q. Staff argues that the Commission's past practice with respect to pay-at-risk treats all regulated utilities alike, so there is no competitive disadvantage.[66] Do you agree?

A. No. NW Natural is primarily competing with regulated electric utilities for customers. Unlike the electric companies, however, which own most of their generation facilities, NW Natural is just a distribution company and does not have nearly as much capital in rate base, so O&M costs are a much more significant portion of the Company's overall revenue requirement. NW Natural's labor costs comprise two-thirds of its overall O&M costs. Therefore, even though the Commission may disallow the same categories of costs for electric utilities, this practice ultimately hurts NW Natural more because labor costs are a much more significant portion of its overall revenue requirement. Staff's recommended disallowance would place NW Natural at a competitive disadvantage by

[66] Staff/400, Cohen/17.

disallowing approximately $7.870 million of market-median compensation related directly to operating the natural gas distribution company (over $3.231 million of which is for non-officer employees).[67]

Q. Can you summarize the Company's position on pay-at-risk costs?

A. NW Natural's position is that even financial-based portions of the pay-at-risk programs are necessary business expenses that comprise a part of the utility's cost of service. The Company continues to seek full recovery for all of its pay-at-risk costs included in the requested revenue requirement. And importantly, even if the Commission were to disallow those portions of pay-at-risk that are tied to financial performance, the result would be a significantly smaller disallowance than that proposed by Staff.

Q. How do you recommend the Commission evaluate this element of the utility's cost of service for purposes of ratemaking treatment?

A. As a prudently incurred element of the utility's cost of service, the Commission should treat the question of cost recovery for pay-at-risk on a case-by-case basis, with an evaluation to ensure that utilities are paying at market and that the pay-at-risk programs are reasonable. This approach would be more in line with the regulatory construct in Oregon that allows utilities to recover prudently-incurred costs necessary to the provision of utility service.

Q. Does Staff recommend a further disallowance for officer pay-at-risk?

A. Yes. As mentioned above, Staff recommends an additional disallowance of $4.237 million for officer pay-at-risk costs that have been allocated to capital

[67] Staff/418, Cohen/1.

projects.[68] Mr. Kravitz discusses this aspect of Staff's proposed adjustment in detail in his Reply Testimony.[69]

III. MEDICAL BENEFITS

Q. Please summarize NW Natural's proposal with respect to medical benefit costs included in the Company's requested revenue requirement.

A. The Company has included $18.1 million of Oregon-allocated medical benefit costs for 2021 in its requested revenue requirement for this case.

Q. Does Staff propose an adjustment to the Company's medical benefit costs?

A. Yes. Staff recommends an Oregon-allocated adjustment of $347,715 in Test Year medical benefit costs.[70]

Q. What is the basis for Staff's proposed adjustment?

A. Using the Company's reported figures for medical and dental benefit costs in the Base Year and the Test Year, Staff calculates the Company as seeking a "per FTE" rate of increase of 6.2 percent per year over this period. Staff then compares this rate of increase to recent historical national trends for costs of health care premiums per family, which were reported by the Kaiser Foundation to have increased 3.4 percent in 2017, 4.5 percent in 2018, and 4.9 percent in 2019. Based on this trend data, Staff recommends holding the Company's annual rate of increase to five percent per year during 2020 and 2021, to be more in line with the recent national average increases.[71]

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[68] Staff/400, Cohen/17.
[69] NW Natural/1300, Kravitz.
[70] Staff/600, Moore/10.
[71] Staff/600, Moore/9-10.

Q. Do you agree with the reasoning behind Staff's proposed disallowance of medical and dental benefits?

A. No. There are significant errors in Staff's calculation that vastly inflate the size of Staff's recommended adjustment. In addition, for the reasons discussed below, the Company does not believe it is appropriate to use the Kaiser Foundation's backward-looking national trend numbers as the basis on which to judge the prudency of the Company's Test Year projections for medical and dental benefits costs in Oregon.

Q. What are the calculation errors you have identified?

A. Staff uses total-system FTE numbers rather than utility-only FTE numbers to calculate what it presents as the Company's "per FTE" rate of increase. This is a comparison of apples and oranges, since the Company's Base Year and Test Year costs for medical and dental benefits are for utility employees only. Additionally, in calculating the Base Year "per FTE" cost, Staff relies on an outdated total-system FTE number, which was generated from data known as of September 30, 2019. The Company has since provided Staff with 2019 actual average FTE, which is a more appropriate number to use in creating a per-FTE metric for the Base Year.

Q. Correcting for these errors, what is the Company's true "per FTE" rate of increase during the Base Year to Test Year period?

A. The Company's corrected "per FTE" rate of increase for medical and dental benefits costs during this period is 5.4 percent per year.

Q. If the Commission is inclined to implement Staff's recommendation and hold the Company's costs to a 5.0 percent rate of increase, how much does this correction reduce Staff's proposed disallowance?

A. This correction reduces Staff's proposed disallowance by $265,866, bringing the adjustment down to $81,709.

Q. Apart from these calculation errors, what other concerns do you have with Staff's proposed adjustment?

A. The entire premise of Staff's recommendation to hold the Company to a 5.0 percent per-FTE rate of increase is to bring that rate of increase more in line with the national historical average. There are a number of reasons why it is not appropriate to compare the Company's per-FTE cost with the Kaiser Foundation's national numbers

Q. Are the national historical numbers reported by the Kaiser Foundation reflective of NW Natural's employees?

A. No. A Company-specific report from Willis Towers Watson ("WTW") demonstrates the demographics of NW Natural employees—including average age, gender ratio, and family size—all contribute the higher-than-average medical costs. For example, not only are NW Natural employees older than the average (51.4 years compared to the national average of 44.9 years), they have higher percentage of dependent enrollment. Sixty-nine percent of NW Natural employees include one or more dependents compared to a national average of 50 percent. These and other factors make NW Natural's workforce more expensive to insure. Therefore, a comparison to national average numbers is inappropriate.

Q. Do the Kaiser Foundation's national historical numbers reflect costs specific to this region?

A. No. Use of a national average does not take into account geographical differences, such as higher tax rates in particular states like Oregon. In contrast, NW Natural's approach considers both national and state-specific projections ***and*** takes into account the specific characteristics of the Company's NBU employee population discussed above. Based on periodic survey data provided by WTW, the national trend was 5.0 percent for 2019 and is expected to be 5.0 percent for 2020.[72] At the local level, however, WTW's Oregon-specific survey predicts an increase of 7.7 percent for Medical PPO plans (used by the majority of the Company's employees), and a 3.0 percent increase for Medical HMO plans.

Q. Do the Kaiser Foundation's national historical numbers look at the utility industry in particular?

A. No. In contrast, in 2019, WTW completed an analysis of the Company's medical benefits relative to 12 peer utilities and 81 other utility/energy companies for comparison purposes for the bargaining group. NW Natural's medical benefits were rated by WTW on an overall basis to be equal to both the 12 peer companies and the overall Energy database.[73]

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[72] *See* NW Natural/704, Rogers/1.
[73] *See* NW Natural/706, Rogers/5, 7.

Q. Does the national historical trend analysis relied upon by Staff take into account recent changes that are likely to impact medical and dental benefits costs going forward?

A. No. Staff relies on data from the Kaiser Foundation from 2017 to 2019 to calculate the average national increase in medical benefits. However, this is backward looking and does not reflect costs going forward. Due to the uncertainties of costs related to COVID-19, however, rates for both PPO and HMO plans are expected to increase by at least an additional 2 percent in 2021. Further, the Kaiser Foundation's backward-looking trends do not take into account recent changes in tax law, which increased NW Natural's health insurance costs by $220,000. Specifically, the Federal Health Insurer fee was reinstated in 2020 for fully insured plans, and the Oregon Premium Tax increased from 1.5 percent to two percent. The Kaiser Foundation's national projection covers the period from 2017 to 2019 and, therefore, would not factor in these tax increases.

Q. Is the Kaiser Foundation data the only national information available?

A. No. Even if it were appropriate to rely solely on national projections, the Kaiser Foundation survey is just one of several such projections. The Company also consulted the Segal survey, which projects increases up to 7.2 percent.

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Q. Even if the Commission were nevertheless inclined to hold the Company's medical and dental benefits costs to a 5.0 percent per-FTE rate of increase, as corrected above, are there any further technical adjustments you would recommend to improve the accuracy of the results?

A. Yes. Medical and dental benefit expense is included in payroll overhead and follows how employees charge, so this should not be an O&M adjustment only. Instead $29,905, or 36.6 percent, should be allocated to rate base.

IV. FULL-TIME EQUIVALENTS (FTEs)

Q. Please summarize NW Natural's proposal with respect to FTE costs included in the Company's requested revenue requirement.

A. As described in my Direct Testimony and the Direct Testimony of Mr. Davilla, NW Natural is seeking cost recovery of 1,169.5 regulated utility FTEs.[74] This number reflects a total system Test Year FTE count of 1,193, less 23.5 FTEs that are assigned to non-regulated activity. The Company's Test Year FTE is based on actual hired FTE (filled chairs), not total number of positions – the latter of which would include vacant positions. Accordingly, the Company's revenue requirement for the Test Year only incorporates the cost of Base Year FTEs (consisting of actual FTE as of September 30, 2019, projected forward through the end of the year) plus a net of 14 additional FTEs to reflect new positions in the recruitment process.

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[74] NW Natural/700, Rogers/25-27; NW Natural/900, Davilla/4-9.

Q. Please describe the new positions that were in the process of recruitment when the Company filed this rate case.

A. At the time of filing this rate case, there were 16 incremental FTEs that were still in the recruitment process: 14 for Information Technology & Services ("ITS") and two for Security. On the other hand, two FTEs will no longer be needed due to outsourcing the customer communication printing and mailing function in the first half of 2020.

As explained in detail in Mr. Downing's Reply Testimony, 12 of the 14 Information Technology and Services ("IT&S") positions have been filled—i.e., have either started or have an offer accepted— and have either already begun work or have firm start dates.[75] The remaining two new IT&S positions are in the hiring process.[76] In addition, as described in Mr. Pipes' Reply Testimony, both Security positions have also been filled.[77]

Q. What is the Company's FTE count?

A. We have been providing Staff monthly updates to our FTE counts through the discovery process. In our most recent monthly update at the end of April, our total system FTE count was 1,172. The current FTE count is 21 FTE lower than our total rate case request. Importantly, however, those 21 FTEs that are unfilled represent current positions at the Company, which is very different than the 27 FTE adjustment proposed by Staff related to vacant positions for which the Company has not requested cost recovery.

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[75] NW Natural/1600, Downing.
[76] *Id.*
[77] NW Natural/1500, Pipes.

Q. Has the COVID-19 pandemic impacted the Company's process for hiring for these new positions, or its hiring plans or processes in general?

A. Only slightly. As an employer providing essential services, NW Natural is not planning on reductions to its workforce through job cuts, furloughs, or otherwise. It is definitely the case that social distancing requirements and travel restrictions have required that we alter some of our recruiting and onboarding methods (such as job fairs and interviewing). At this point, however, we have identified workarounds for our processes, and I fully anticipate filling those last two new IT&S positions.

Q. Does Staff propose an adjustment to the Company's FTE costs?

A. Yes. Staff recommends a disallowance equivalent to the costs associated with 27 FTEs, resulting in an Oregon-allocated overall adjustment of $1.975 million ($1.252 million O&M and $723,000 capital), plus an additional $408,000 for the cost of medical benefits associated with 27 FTEs.[78]

Q. What is the basis for Staff's proposed adjustment?

A. In short, Staff focuses on a list of positions that were added since 2016 and points out that 27 of those positions are unfilled. Specifically, since 2016, the Company has added 83 new positions. Staff observes that 27 of those 83 positions, while filled at one time, have since become vacant, with 19 of the positions vacant since 2017 or earlier. Based on that observation, Staff seeks to

[78] Staff/400, Cohen/11.

impose a disallowance equivalent to 27 FTE in the Test Year (consisting of 23 BU FTEs and four NBU FTEs).[79]

Q. Do you agree with Staff's proposed adjustment?

A. No. I disagree with Staff's adjustment. The Company has calculated FTE costs for this rate case using an FTE count that it expects to fill based on positions that were filled, or expected to be filled, at the time NW Natural filed the rate case. Unrelated to the positions we requested in this case, Staff focuses on 27 vacancies that the Company is not currently seeking to fill. Based on how the Company has developed this rate case, however, those vacancies simply are not relevant.

Q. Can you explain why those 27 vacancies exist?

A. Yes. The vast majority of the vacancies – 23 of the 27 – are for entry-level or internship positions for construction work.[80] The Company created these positions to serve as stepping stones. The purpose is to train less-experienced new hires and ultimately advance those individuals into other positions with higher pay grades. The internship positions are term-limited and only periodically filled, by design, and it was never the Company's intent to backfill the entry-level construction positions as soon as the initial hires are advanced into higher paying positions. Those 27 vacancies Staff identified, including the 23 construction

[79] Staff/400, Cohen/10.
[80] Staff/410, Staff DR 355 Att. 1.

positions, are simply not relevant, because the costs associated with those positions are not included in the Test Year revenue requirement.[81]

Q. Staff also suggests the Company's FTE number has grown disproportionately since 2016, relative to the number of utility customers.[82] Is this a fair characterization?

A. No. Staff has miscalculated the ratio of customers per FTE. Specifically, Staff appears to have confused the Company's total-system FTE numbers with its gas utility FTE numbers. Staff then compares *utility* customer numbers to *total-system* FTE numbers, rather than *utility* FTE numbers, resulting in an apples-to-oranges comparison.[83] Once this error is corrected, it becomes clear that the Company's utility-customer per utility-FTE ratio has declined by just 0.3 percent since 2016, which is an entire order of magnitude less than the two percent decrease presented in Staff's testimony.[84]

Q. Staff states that the Company provided inconsistent FTE counts in its responses to data requests.[85] How do you respond?

A. NW Natural disagrees that we have provided inconsistent responses to Staff's data requests. The Company has been fully forthcoming in all of its responses and supplemental responses to ongoing requests. Staff does not clearly

[81] In emphasizing the 27 vacancies, Staff focuses on the number of new positions added since 2016 that have since become vacant. This is one-sided, however, because those 27 vacancies are more than outweighed by the number of positions (39) that were vacant as of December 31, 2016, but have since been filled and remain filled, which includes positions for 25 BU employees, 14 NBU employees, and one officer.
[82] Staff/400, Cohen/9-10.
[83] Staff/412, Cohen/1.
[84] Staff/400, Cohen/10.
[85] Staff/400, Cohen/9 & n.23.

articulate what are the purported inconsistencies it has identified, merely citing to a string of data responses in a footnote, making it challenging for the Company to identify and address Staff's concern.[86] That said, Staff's allegation may reflect confusion regarding distinctions between total-system versus utility-only FTE numbers.

For example, in SDR 92, Staff requested total-system FTEs for the period 2016-2019, which the Company initially provided.[87] The Company later amended its response to provide utility-only FTEs rather than total-system FTEs, and, in response to Staff's request in DR 161, the Company also updated the 2019 FTE numbers to actuals.[88] In DR 280, Staff once again requested total-system FTEs, which NW Natural provided for both the Base Year and the Test Year, and these numbers (1,151 and 1,193, respectively) precisely match the total-system numbers provided by the Company in response to SDR 92.[89] Similarly, in DR 282, in response to Staff's request for all Company workpapers used to generate its Test Year salaries, wages, incentives, overtime, and payroll costs, the Company reported its Test Year FTEs both in terms of total-system numbers (1,193) and utility-only numbers (1,170.5).[90]

[86] Staff/400, Cohen/9 n.23.
[87] Staff/408, Staff DR 92 Att. 1.
[88] Staff/408, Staff DR 92 Att. 1 Amended; Staff/408, Staff DR 92 Att. 1 Amended Supplement; Staff/408, Cohen/3-5.
[89] Staff/408, Staff DR 280 Att. 1.
[90] Staff/408, Staff DR 282 Att. 1. The utility-only FTE number presented in DR 282 Attachment 1 (1,170.5) is the sum of the Test Year FTE numbers displayed for O&M and capital. This number differs by 1 FTE from the utility-only FTE number included in the Company's proposed revenue requirement (1,169.5). This is due to indirect cost allocation, where NW Natural sends dollars to affiliates; this allocation is the dollar equivalent of 1 FTE.

In response to Staff's request for ongoing supplementation of FTE numbers in DR 161, the Company has provided monthly updates in 2020 with its most recent actual FTE numbers (both total-system and utility).[91] These more recent numbers are not noticeably different from the Base Year FTE number provided in prior data responses, nor do the slight changes reflect any inconsistency. The post-filing numbers simply demonstrate the natural fluctuation in actual hired FTE over time as a result of normal business operations.

Finally, in response to DR 281, NW Natural walked through the various responses to data requests the Company had already provided to Staff, in an effort to explain the relationship among those responses. The Company was not asked and did not provide any additional FTE numbers in this response.[92] It is unclear, therefore, why Staff cites to this DR as a source of alleged inconsistency in FTE numbers.[93]

Q. Staff also states that the number of new positions the Company reports that it added between 2016 and 2019 (83) does not match Staff's calculation (117).[94] Can you explain this discrepancy?

A. Yes. Here as well, Staff is confusing "positions" with actual FTEs, resulting in an apples-to-oranges comparison. The 83 figure Staff references consists of new positions that the Company has created since 2016, including the 27 positions

[91] Staff/408, Cohen/3-5.
[92] Staff/408, Staff DR 281 Att. 1.
[93] Staff/400, Cohen/9 n.23.
[94] *Id.* at 9-10 & n.23.

that have since become vacant, as discussed above.[95] This is a different metric from the actual FTE numbers that the Company reported in response to SDR 92.[96] Those actual FTE numbers are limited to filled positions (with the exception of the Test Year numbers, which reflect the 14 incremental new positions discussed above).

The Company acknowledges that it may have contributed to Staff's confusion in this regard. Staff's data request was for "the business case for each year over year increase or decrease in *actual FTE* by employee category for each calendar year 2016 through the Test Year."[97] In response, the Company stated that "[t]he Utility added 83 *new positions* between the beginning of 2016 and the end of 2019[,]" and that, "[i]n addition, the Utility has approved 14 *new positions* to be added in 2020, which are included in the Test Year."[98]

Staff compounds its error, however, by comparing inapposite time periods.[99] That is, the 83 positions identified by the Company in DR 162 were added during the period from 2016-2019.[100] Staff improperly compares this figure to changes during different time periods, namely, from 2016-2021 and from 2019-2021.[101]

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[95] Staff/409, Cohen/1-2; Staff/410, Staff DR 355 Att. 1.
[96] Staff/408, Staff DR 92 Att. 1; Staff/408, Staff DR 92 Att. 1 Amended; Staff/408, Staff DR 92 Att. 1 Amended Supplement.
[97] Staff/409, Cohen/1 (emphasis added).
[98] *Id.* (emphases added).
[99] Staff/400, Cohen/9-10 & nn.25-27.
[100] Staff/409, Cohen/1.
[101] Staff/400, Cohen/9-10 & nn.25-27.

Q. What is your response to Staff's recommended disallowance of medical benefits costs associated with 27 FTE?

A. For the reasons just discussed, the Company does not believe an FTE disallowance is appropriate. If the Commission agrees, then this related adjustment should be removed as well.

If the Commission decides to disallow 27 FTEs, however, then the associated medical benefits adjustment should not be allocated entirely to O&M, as this expense is included in payroll overhead costs and follows how employees charge. Accordingly, if there is a disallowance, 36.6 percent, or $149,509 should be allocated to rate base instead.

Q. Does this conclude your Reply Testimony?

A. Yes.

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Melinda B. Rogers

COMPENSATION & BENEFITS

EXHIBIT 1701

May 29, 2020

December 1, 2019 impact of job grade change	
Annual employee wages prior to job grade change	$ 43,762,740
Annual employee wages after to job grade change	$ 45,313,156
BU annual wage increase due to job grade change	3.54%
BU contracted wage Increase Dec 1, 2019	1.50%
Total Impact of movement on Dec 1, 2019	5.10%

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Melinda B. Rogers

COMPENSATION & BENEFITS

EXHIBIT 1702

May 29, 2020

Date: May 20, 2020

TO:
ERIC NELSEN
NORTHWEST NATURAL GAS
220 NW SECOND AVENUE
PORTLAND, OR 97209
efiling@nwnatual.com

FROM: Heather H. Cohen
Rates & Accounting Program
Energy Rates, Finance and Audit Division

OREGON PUBLIC UTILITY COMMISSION
Docket No. UG 388 - NWN Data Request filed May 11, 2020

NWN Data Request No 08:

Please refer to Staff/400/Cohen/8, lines 3-4.

a. Did Staff intend to escalate Test Year wages for union employees in accordance with the union contract? If Staff intended to escalate union employees' wages in a manner that was not consistent with the union contract, please explain your reasoning for doing so.
b. Did Staff intend to propose a disallowance or adjustment for union employees' wage increases that are specified in the union contract? If Staff intended to propose a disallowance for wage increases that are specified in the union contract, please explain your reasoning for doing so.

OPUC Response No 08:

a. Staff increased Test Year union wages as per Company's union contract (DR 189 page 49).
b. See answer to above.

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Melinda B. Rogers

COMPENSATION & BENEFITS

EXHIBIT 1703

REDACTED VERSION

This exhibit contains protected information subject to
General Protective Order No. 19-437 and has been redacted in its entirety.

May 29, 2020

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Brody J. Wilson

PENSION EXPENSE

EXHIBIT 1800

REDACTED

May 29, 2020

EXHIBIT 1800 - REPLY TESTIMONY - PENSION EXPENSE

Table of Contents

I. INTRODUCTION & SUMMARY

Q. Please state your name and position at Northwest Natural Gas Company dba NW Natural ("NW Natural" or "Company").

A. I am Brody J. Wilson. My current position at NW Natural is Vice President, Treasurer, Chief Accounting Officer, and Controller.

Q. Are you the same Brody Wilson who previously provided Direct Testimony in this docket?

A. Yes, I presented NW Natural/200, Wilson.

Q. What is the purpose of your Reply Testimony in this proceeding?

A. The purpose of my Reply Testimony is to respond to Opening Testimony filed on April 17, 2020, by Public Utilities Commission ("Commission") of Oregon ("Staff") regarding the Company's estimated pension expense and OPEB (other post-employment benefits) in the Test Year.

Q. Please summarize your Reply Testimony.

A. In my testimony, I provide a detailed description of the pension expense included in NW Natural's Test Year in this case, including the key inputs to that expense: expected return on assets ("EROA") and discount rate. I explain that NW Natural appropriately calculated these key inputs in conformance with applicable guidelines, and that these inputs have been confirmed by NW Natural's actuaries and auditors.

In response to Staff's proposal to replace NW Natural's EROA and discount rate with the average value of these inputs used by other utilities, I explain why the EROA and discount rates will reasonably differ among various utilities, which indicates that Staff's approach will not produce accurate results for NW Natural. Moreover, I explain that even if it were appropriate to replace NW Natural's EROA and discount rate with the average values of the inputs used by other utilities, Staff has erred by relying on those utilities' inputs from the incorrect period. I will demonstrate that if Staff had used inputs from the correct time period, Staff's methodology would have resulted in only a very slight decrease to NW Natural's pension expense.

II. BACKGROUND ON PENSION PLANS AND PENSION EXPENSE

Q. Please describe the pension plans giving rise to the pension expense included in the Company's Test Year forecast.

A. NW Natural, like all Oregon jurisdictional energy utilities, has historically offered defined benefit pension plans for employees. In an effort to contain costs, NW Natural closed its defined benefit pension plans for non-bargaining employees in 2007 and bargaining employees in 2009. Accordingly, after those dates new employees were no longer allowed to participate in these plans. However, the Company must continue to fund and manage the plans for participating employees and retirees. Accordingly, NW Natural has and will continue to have financial obligations associated with its pension plans for the lifespan of the covered employees and retirees.

Q. How do employers account for and recover the costs of their pension plans?

A. Since 1987, employers are required to use the Financial Accounting Standards Board's ("FASB") Financial Accounting Standard 87 ("FAS 87") for financial reporting of pension cost. FAS 87 has been subsequently codified into FASB Accounting Standards Codification ("ASC") Topic 715, Compensation – Retirement Benefits. The Company currently refers to this expense as either "ASC 715", or simply "pension expense". ASC 715 requires employers to recognize the cost of their pension plans on an accrual rather than a cash basis. In other words, pension cost is recognized over the period during which benefits are earned, or "accrued"—that is during the working years of the employees who will receive the pension benefits during retirement.[1]

Importantly, soon after the adoption of FAS 87, the Commission adopted this accounting standard as the basis for pension cost recovery for utilities under its jurisdiction. As stated by the Commission, "the use of FAS 87 . . . has been favored because it spreads the cost of the plan over a reasonable period of time and is less volatile than actual cash contributions."[2]

Q. How is ASC 715 expense calculated?

A. ASC 715 expense is calculated based on four components:

- Service cost—the value of the benefits earned or accrued during the current year, based on the applicable benefit formula for each participant.

- Discount rate— the interest on the pension plan liability for the year. This amount increases pension cost and represents the time value of money on the benefit obligation.

- Expected return on assets ("EROA") —the expected return on the assets for the year, which if positive, will reduce pension costs.

[1] In addition to FAS 87 expense, the employers account for the funded status of the pension plan and the amount of unrecognized pension expense as a liability on their financial statements. The difference between total cumulative contributions made to the pension trust and the cumulative FAS 87 expense recognized over the life of the plan equals either a prepaid pension asset (contributions in excess of FAS 87 expense) or accrued pension liability (FAS 87 expense recognized in excess of contributions).
[2] *In the Matter of Pub. Util. Comm'n of Or., Investigation into Treatment of Pension Costs in Utility Rates*, Docket UM 1633, Order No. 15-226 at 4 (Aug. 3, 2015).

- Amortizations of unrecognized costs—the change in liability due to plan changes, changes in actuarial assumptions used to value plan liabilities, etc.

Q. What process does NW Natural follow to calculate the ASC 715 expense for its pension plans?

A. Each year, NW Natural's actuaries calculate the Company's ASC 715 expense for the coming year. In preparing its calculations, our actuaries rely on three inputs that are provided by the Company: EROA, discount rate, and the percentage wage increase planned for the following year. The Company determines the EROA and discount rate in consultation with its advisors, as further discussed below. Importantly, each year our auditors review these assumptions to ensure they are in compliance with ASC 715 regulations in our annual financial audit.

Q. Please explain the FASB guidance to employers for determining the EROA for their plans.

A. The FASB has provided guidance on the accounting for pensions in ASC 715, which includes guidance on how to determine an acceptable EROA for pension plans. The guidance states that the EROA should reflect the average rate of return expected to be earned on the funds invested over the period until the benefits are expected to be paid. Accordingly, the EROA selected will reflect on each individual plan's asset allocations and the expected returns from those assets.

Q. How does NW Natural determine the EROA for its plans?

A. Each year NW Natural's Pension Committee evaluates and provides guidelines to the Company's asset manager, Fidelity, with regards to the mix of return-seeking investments versus liability-hedging investments the plan should be invested in. The investment manager then works within those guidelines to make investment decisions on behalf of the plan. In determining the EROA each year, NW Natural, in consultation with its investment managers at Fidelity, evaluates the current asset mix and historical returns of those assets in assessing what the long-term investment return for the plan will be. NW Natural then provides the EROA to our actuaries at Fidelity for use in their calculation of ASC 715 expense. At that point, Fidelity's actuaries will review our mix of plan investments against "reasonableness corridors" to determine whether the EROA provided is appropriate. And finally, as part of the annual audit of NW Natural's financial results, PricewaterhouseCoopers ("PwC") actuaries will review the EROA calculation in a similar way as that of our actuaries to ensure the rate used is reasonable based on the specific asset mix of our plan.

Q. Has the Company made any recent changes to the EROA?

A. Yes, in November of 2019, the Company worked with our investment advisors at Fidelity to develop an EROA for 2020, and we selected an EROA of [redacted] percent. This value is [redacted] percent lower than the rate used in the previous year and reflects a decision made by the Company's Retirement Plan Committee to reduce the plan's exposure to equity investments from an 80 percent target allocation to 70 percent target allocation. The decision to reduce the equity allocation was made in consultation with our investment advisors considering the current economic outlook and the funded status of the plan. Decreasing the equity target reduced the risk profile of the plans, but also reduced the overall expected return on investment.

Q. Please explain the approaches available to companies like NW Natural in selecting the appropriate discount rate for its plans.

A. As it has for EROA, the FASB has also provided guidance for how to develop an appropriate discount rate. The guidance is codified in ASC 715-30-35-43. ASC 715-30-35-43 requires the discount rate to reflect rates at which the defined benefit obligation could be effectively settled. In the estimation of those rates, it would be appropriate for an employer to use information about rates implicit in current prices of annuity contracts that could be used to settle the obligation. Alternatively, employers may look to rates of return on high-quality fixed-income investments that are currently available and expected to be available during the benefits' period to maturity.

Consistent with this guidance, one acceptable method of deriving the discount rate is to use a model that reflects rates of zero-coupon, high-quality corporate bonds with maturity dates and amounts that match the timing and amount of the expected future benefit payments. Since there are a limited number of zero-coupon corporate bonds in the market, models are constructed with coupon-paying bonds whose yields are adjusted to approximate results that would have been obtained using zero-coupon bonds. Constructing a hypothetical portfolio of high-quality instruments with maturities that mirror the benefit obligation is one method that can be used to achieve this objective. Other methods that can be expected to produce results that are not materially different would also be acceptable—for example, use of a yield curve constructed by a third-party such as an actuarial firm. The use of indexes may also be acceptable.

Q. Does NW Natural use one of the U.S. Securities and Exchange Commission ("SEC's") accepted approaches to selecting a discount rate?

A. Yes. NW Natural has historically used a third-party yield curve, or benchmark, as the least cost approach to select a discount rate. NW Natural uses the "FTSE Above-Median Double-A Curve" ("FTSE Curve")[3]—which is specifically designed to model pension liabilities as described by ASC 715.

Each year-end, the Company uses the FTSE Curve to identify the correct discount rate, as of December 31, to calculate its ASC 715 obligation for the next year. We then validate the reasonableness of our benchmark discount rate by comparing it to other pension discount rate benchmarks. Once validated, we provide the rate to our actuaries, who confirm its appropriateness before using it to calculate our ASC 715 expense.

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[3] The FTSE Curve was formerly the "Citi Group Above-Median Curve" which was acquired by FTSE Russell, a unit of the London Stock Exchange Group.

Q. Has NW Natural ever received any indication that the discount rate produced each year by the FTSE Curve is an inaccurate or inappropriate value with which to calculate its pension liabilities?

A. No. Every year the Company has used that curve it has been validated by us through comparison to other benchmark discount rates and has been approved by our auditors and actuaries.

III. <u>TEST YEAR PENSION EXPENSE</u>

Q. Please describe the Test Year pension expense for which the Company seeks recovery in this case.

A. NW Natural seeks to recover a projected total system Test Year pension expense of $16.9 million, which was included in the requested revenue requirement on an Oregon-allocated basis.

Q. How did the Company calculate the Test Year pension expense?

A. To determine the Test Year pension expense, the Company relied on projections from our actuaries, Fidelity, which were provided on November 14, 2019. Specifically, we asked Fidelity to forecast pension expense utilizing our most current EROA and FTSE curve discount rate for both 2020 and 2021. Fidelity forecast 2020 pension expense for the Test Year in accordance with our annual process described above. To produce a forecast for 2021, Fidelity assumed that actual returns matched our expected returns, that interest rates remained flat, and that wage increase assumptions were consistent with what we provided for 2020.

Then, to produce a Test Year pension expense, the Company prorated the 2020 and 2021 expenses, using two months of 2020, and 10 months of 2020, reflecting the November 1, 2020, to October 31, 2021 Test Year.

IV. RESPONSE TO STAFF'S RECOMMENDATIONS

Q. Has Staff proposed adjustments to the Company's ASC 715 pension expense proposed in this case?

A. Yes. Staff proposes to recalculate NW Natural's ASC 715 expense, using different values for the EROA and discount rates included in the projected expense provided by our actuaries. Specifically, Staff asks the Commission to require that NW Natural discard its actuarially-validated EROA and discount rates in favor of inputs based on the average values for EROA and discount rates used by the other five jurisdictional energy utilities. As a result, instead of using the [redacted] percent EROA and [redacted] percent discount rate that NW Natural had indicated had been used by its actuaries, Staff has recalculated NW Natural's Test Year Pension expense using a [redacted] percent EROA and a [redacted] percent discount rate to calculate NW Natural's Test Year ASC 715 pension expense. The change to the EROA increases pension costs by $1,544,000, while the change to the discount rate decreases pension costs by $5,362,000, producing a net decrease to pension costs of $3,406,000 on an Oregon-allocated basis.[4]

[4] Staff/800, Storm/34, See also, Storm workpaper, UG 388, Exhibit 800 Issue 15 CONF Storm.xlsx, attached as NW Natural/1801, Wilson.

Q. Does NW Natural have a correction to the information it had provided to Staff regarding the discount rate used by NW Natural's actuaries to calculate its Test Year pension expense?

A. Yes. In SDR 59, NW Natural had mistakenly identified the discount rate used by its actuaries to calculate Test Year pension expense as [redacted] percent, when in fact the number used by its actuaries was [redacted] percent. Staff relied on the incorrect discount rate to calculate its downward adjustment to pension expense. Had Staff used the actual discount rate used by NW Natural's actuaries, its downward adjustment would have been even greater.[5]

Q. What is Staff's rationale for revising the discount rate and EROA used by NW Natural's actuaries?

A. Staff has provided no rationale for its recommendation. To be clear, Staff has not claimed that either the EROA or discount rate used by NW Natural are inappropriate or inaccurate. Staff simply states that it has evaluated the impact to NW Natural's Test Year pension costs by substituting the average discount rates and EROA of the other five jurisdictional energy utilities, and recommends that the Commission require NW Natural use these average discount rates and EROAs, which reduce Test Year pension costs by approximately $3.4 million.[6]

[5] NW Natural has recalculated Staff's adjustment using the actual discount rate used by NW Natural's actuaries to calculate its Test Year pension expense, which produces a total downward adjustment of $4,396,000.
[6] Staff/800, Storm/34-35.

Q. Does NW Natural agree with Staff's proposed approach?

A. No. First, I would point out that over the past several years this Commission has reiterated its view that utilities should recover their FAS 87—now ASC 715—pension expense in rates, and have provided no indication that, as a general matter, actuarially-validated inputs should be discarded in favor of average values used by other utilities.[7]

Second, it is highly inappropriate for Staff to recommend a downward adjustment to NW Natural's pension expense without any evidence that would suggest that the inputs used by the Company are inaccurate or otherwise inappropriate. As explained above, NW Natural's approach to selecting the discount rate and EROA is based on sound practices consistent with FASB and SEC guidance, which are designed to identify the inputs appropriate for its own plans. It would make no sense for NW Natural to instead rely on an average of the values used by other utilities whose plans may be materially different from NW Natural's, which would drive differences in these critical assumptions. Moreover, even if the Commission were to accept Staff's approach of using average values based on those used by other jurisdictional utilities, Staff is relying on dated information about the values, which has significantly inflated its downward adjustment.

[7] I am aware that in one instance the Commission did substitute an average EROA from the other utilities for that used by Avista. However, in that case the Commission specifically found that Avista's EROA was unduly conservative. *In re Avista Corporation Request for General Rate Revision*, UG 288/UM 1753, Order No. 16-109, p. 17. In this case, Staff has not criticized either NW Natural's EROA or its use of the FTSE Curve on which its discount rate is based, as it has no basis to do so.

Q. Please explain why the EROA used by NW Natural to calculate FAS 87 expense may reasonably differ from those used by other utilities.

A. As directed by FASB, the EROA used by each employer must reflect the specific asset allocation of the plan. Exhibit NW Natural/1802, Wilson shows that the asset allocations in the other utilities' plans vary significantly— ranging from 35 percent equity for Avista to 65 percent for Portland General Electric Company, as compared to 70 percent for NW Natural. As a result, the EROA for these utilities will not be identical.

Q. Are there good reasons as to why the asset allocations might differ among the utilities' plans?

A. Yes. Different asset allocations may be appropriate for different companies' pension plans, depending on the open or closed status of the plan, the length of the plan, and various demographic factors specific to the plan participants. And while NW Natural does not know all the details of the other utility plans, it is aware that there are key differences. For instance, Idaho Power Company's plan is still open, PacifiCorp's has been completely closed for many years, while NW Natural's plan has been closed to new participants since 2007/2009.

In short, there is no reason to believe that the EROA of any one of the other utilities—or an average of the other utility EROAs—is somehow superior to that used by NW Natural.

Q. Please explain why the discount rate used by NW Natural to calculate ASC 715 expense may reasonably differ from those used by other utilities.

A. Above, I explained that there are a variety of approaches that an employer can take to determine their discount rate to calculate ASC 715 expense, including modeling a "custom" rate designed to reflect the specific characteristics of their pension plans, or using a benchmark curve. To the extent any of the other Oregon utilities are using a "custom" discount rate, that rate will take into account the unique characteristics of their pension plans—including the length of their liabilities that may be inapplicable to NW Natural. And to the extent any of them are using benchmark curves, there will be differences as well, as different benchmark curves will produce slightly different discount rates. This fact is illustrated in Figure A below, which shows a comparison of four benchmark curves. In either case, there is no reason to believe that the discount rate adopted by other utilities is more appropriate for NW Natural.

Q. As noted above, Staff has asked the Commission to "require" NW Natural to use the average discount rate used by the other five jurisdictional utilities to calculate pension expense. Would it be a simple matter for NW Natural to switch to a different approach to selecting a discount rate as Staff proposes that the Commission should direct it to do?

A. No, it would not. The SEC has provided guidance to employers regarding changes to discount rates and has stated that any change needs to be to a more "preferable" rate. This means that any employer that wishes to change its approach to selecting a discount rate must demonstrate that the change will result in a more accurate estimate of the liability. This is certainly a high bar. On this point, the SEC has indicated that it might be preferable for an employer to switch from a benchmark approach to a custom approach, by selecting specific high-rated bonds to match the liabilities. However, it is difficult to believe that the SEC would ever accept the averaging approach recommended by Staff.

Q. Even if it were appropriate to substitute average EROA and discount rates from other utilities, has Staff used the correct comparators?

A. No, Staff has used inputs from the wrong period. For both discount rates and EROA, Staff has relied on the rates reported by the other utilities for their 2019 pension expense. These rates would have been determined for 2019 either in December of 2018 or January of 2019. In contrast, the EROA and discount rates used to calculate NW Natural's Test Year pension expense were selected ***one year later***—in November of 2019. So, even if it were appropriate for Staff to substitute average values from the other utilities for those used by NW Natural (which it is not), Staff would have had to use the values selected at year-end 2019 for 2020 pension expense.

Q. What is the likely impact of Staff's decision to use these outdated inputs?

A. For EROA, it is hard to say, as expected returns do not necessarily fluctuate unless a company alters its asset allocation, or if there are changes to the long-term return associated with certain investment types. For example, after the recession in 2008/2009 many asset returns were significantly impacted and ultimately it was determined that the long-term return for categories of investments was going to be lower than previously expected. As a result, many companies reduced their EROA's during that time period or in the period following the recession.

However, the decision by Staff to rely on discount rates selected at year-end 2018 or January 2019, instead of year-end 2019, has certainly resulted in an average discount rate attributed to the other utilities that is significantly higher than is appropriate, which in turn has caused Staff to recommend a substantial downward adjustment to NW Natural's pension expense.

Q. Please explain.

A. Figure A shows the discount rates produced by four separate benchmarks, including the FTSE Curve from the January 2018 to April 2020, and marks the actual discount rates NW Natural used to calculate its 2019 and 2020 ASC 715 expense.

Figure A: Discount Rate Movement - January 2018 to April 2020

[redacted]

This figure shows a very marked decline in discount rates from year-end 2018, until year-end 2019, and illustrates four important points:

- ***First,*** Figure A confirms the appropriateness of NW Natural's selection of a [redacted] percent discount rate for its 2019 pension expense, which is very close to the discount rates produced by the other curves as well.
- ***Second,*** Figure A confirms the appropriateness of the discount rates used by the other utilities for 2019, as shown in exhibit NW Natural/1801, Wilson, which are relatively close to those used by NW Natural for that same year.
- ***Third,*** Figure A confirms the appropriateness of the lower discount rate of [redacted] percent that NW Natural selected for its 2020 pension expense, which was included in the Test Year expense.
- ***Fourth****,* Figure A strongly suggests that had Staff made an apples-to-apples comparison, and relied on the other utilities' discount rates used to calculate 2020 pension expense, those discount rates would have been very significantly lower than the values used by Staff to create its "utility average" discount rate and likely very close to that used by NW Natural to produce Test Year pension expense. As a result, had Staff been able to identify and use the discount rates used by the other utilities for 2020 pension expense, this approach would have either significantly decreased or eliminated altogether Staff's downward adjustment.

Q. Is it possible for Staff to approximate the EROA and discount rates used by the other utilities for 2020 pension costs, based on public information?

A. Yes. While these utilities have not yet released the EROA and discount rates used to estimate 2020 pension costs, they have released comparable information. Specifically, at each year end in their 10-K's these utilities report the discount rates and EROA that they use to remeasure their pension liabilities for that year. Because this exercise occurs so close in time to their calculation of their next years' pension costs, the values for both EROA and discount rate used by these utilities to remeasure their 2019 pension expense should be very close to those used to project their 2020 pension expense. If Staff wishes to substitute average values from the other utilities to recalculate NW Natural's Test Year expense, Staff can use the average of the EROA and discount rates determined for these utilities as of December 31, 2019—which are the values most analogous to those used by NW Natural for the Test Year.

Q. Have you determined the result of such a calculation?

A. Yes. The average EROA of the other five jurisdictional utilities determined at year end of December 2019 is 6.82 percent, while the average discount rate as of that date is 3.38 percent. If Staff were to substitute these average values for those NW Natural used to produce Test Year pension expense, the result would be a decrease to ASC 715 expense of $95 thousand—less than one percent. My calculation is shown on NW Natural/1802, Wilson.

Q. What do you conclude about Staff's proposal to use an average of other utilities' EROA and discount rates?

A. NW Natural objects to Staff's proposal to calculate the Company's pension expense using inputs from other utilities. NW Natural has provided strong support for its pension expense, including the incorporated EROA and discount rates. However, if the Commission were to accept Staff's approach, it would need to base any adjustments on values used by the other utilities to calculate 2020 pension expense. And as noted above, use of the correct inputs for 2020 would result in an adjustment that is a fraction of that recommended by Staff.

Q. Are there any other reasons why Staff's adjustment to the Company's pension expense is inappropriate?

A. Yes. The Company recently received projections from our actuaries for our 2021 pension expense, which was calculated as of April 24, 2020, which estimates 2021 expense at [redacted], as opposed to the $16.2 million which was included in the Test Year pension expense requested in this case. The significant increase in pension expense is being driven largely by a lower discount rate, which is currently [redacted] percent, as opposed to the [redacted] percent included in our Test Year calculation.[8] Given this change, it would be especially punitive for the Commission to accept the downward adjustment that Staff proposes in this case.

V. OTHER POST-EMPLOYMENT BENEFITS

Q. Please explain what "other post-employment benefits" ("OPEB") refers to.

A. OPEB refers to retirement benefits other than pension payments, such as medical insurance and life insurance.

Q. How are OPEB costs calculated?

A. Like pension expense, OPEB costs are also calculated in accordance with ASC 715, and includes inputs for discount rate and EROA.

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[8] The increased pension expense is also driven by asset losses through April 24, 2020 of nine percent, which losses will be amortized over seven years.

Q. Has NW Natural requested recovery of OPEB in the Test Year?

A. Yes. NW Natural has requested recovery of Test Year OPEB expense of $863 thousand on an Oregon-allocated basis.

Q. Does Staff comment on the OPEB costs included in this case?

A. Yes. Staff notes that NW Natural's Test Year OPEB was calculated using an EROA of [redacted] and[9] discount rate of [redacted] percent. Using the same approach it employed in pension expense, Staff averaged the input for EROA and discount rates used by the other five jurisdictional utilities for 2019 expense, which resulted in inputs that were 6.19 percent and 0.88 percent higher respectively than the values used by NW Natural. Substituting Staff's EROA value for the one used by NW Natural increased OPEB cost by $42.6 million, while substituting Staff's discount rate decreased OPEB cost by $221 thousand. Staff refers to the increase resulting from the substitution of the EROA as "anomalous,"[10] and therefore states that it will continue to investigate the matter.

Q. What is your response?

A. For all of the reasons discussed above, NW Natural believes that it is inappropriate to substitute EROA and discount rates in the fashion that Staff proposes. If Staff does propose an adjustment in future testimony, NW Natural will respond with specificity.

Q. Does this conclude your Reply Testimony?

A. Yes.

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9 [redacted]

10 Staff/800, Storm/38.

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Brody J. Wilson

PENSION EXPENSE

EXHIBIT 1801

This exhibit is being filed in its original Excel format and contains protected information subject to General Protective Order No. 19-437.

May 29, 2020

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Brody J. Wilson

PENSION EXPENSE

EXHIBIT 1802

REDACTED VERSION

This exhibit contains protected information subject to
General Protective Order No. 19-437 and has been redacted in its entirety.

May 29, 2020

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Cory Beck

CUSTOMER COMMUNICATIONS

EXHIBIT 1900

May 29, 2020

EXHIBIT 1900 - REPLY TESTIMONY - CUSTOMER COMMUNICATIONS

Table of Contents

I. INTRODUCTION AND SUMMARY

Q. Are you the same Cory Beck who filed Direct Testimony in this proceeding on behalf of Northwest Natural Gas Company ("NW Natural" or the "Company")?

A. Yes, I presented NW Natural/800, Beck.

Q. What is the purpose of your Reply Testimony in this proceeding?

A. The purpose of my Reply Testimony is to respond to the Opening Testimony of: 1) Russell Beitzel of the Public Utility Commission of Oregon ("Staff"), and 2) Bob Jenks, William Gehrke, and Sudeshna Pal of the Oregon Citizens' Utility Board ("CUB"), concerning NW Natural's customer communications expenses for the Test Year (November 1, 2020 to October 31, 2021).

Q. Please summarize your testimony.

In my testimony, I:

- Agree with Staff's conclusion that NW Natural's request to recover customer communications expenses in the Test Year is appropriate; and
- Respond to the concerns raised by CUB regarding NW Natural's customer communications expenses.

II. CUSTOMER COMMUNICATIONS EXPENSES

A. Staff correctly analyzed NW Natural's customer communications expenses.

Q. Please describe Staff's conclusions regarding NW Natural's Category A customer communications expenses.

A. Staff concluded that NW Natural's Category A expenses are reasonable.[1] Category A expenses are utility service advertising expenses and utility information advertising expenses.[2] Under OAR 860-026-0022(3)(a), Category A expenses are presumed just and reasonable if they do not exceed 0.125 percent of gross retail operating revenues ($754,495 in Category A expenses or about $1.14 per customer, in NW Natural's case). For Category A expenses that exceed that amount, the utility must show these amounts are just and reasonable.[3] Staff found that NW Natural made such a showing for its Category A expenses ($1,560,000 in total, or about $2.54 per customer), agreeing with my Direct Testimony that setting NW Natural's Category A expense at 0.125 percent of gross retail operating revenues would lead to a skewed result. This is due to low natural gas commodity costs, which in turn lowers gross retail operating revenues.[4] Staff also found that NW Natural's Category A expenses have declined on an overall and a per-customer basis every year since 2017,[5] and the Company's "approach is consistent with the treatment of Category A expenses in the prior rate case."[6]

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[1] Staff/500, Beitzel/8.
[2] OAR 860-026-0022(2)(a).
[3] OAR 860-026-0022(4).
[4] Staff/500, Beitzel/8.
[5] *Id.* at 9.
[6] *Id.* at 8.

Q. Please describe Staff's conclusions regarding NW Natural's Category B and Category C customer communications expenses.

A. Staff found that NW Natural's Category B expenses of $1,010,000 in the Test Year are reasonable.[7] Category B expenses are legally mandated natural gas safety advertising expenses.[8] Staff found that expenses increased by only 3 percent from the Base Year, and I adequately explained the reasons for the increase in my Direct Testimony.[9] Specifically, the increase is mainly due to increasing construction activities in NW Natural's service territory, which necessitates increasing damage prevention and emergency preparedness awareness and education. Staff also noted that NW Natural did not propose to recover Category C expenses, which are promotional expenses, but recommended adding $70,983 to the revenue requirement due to a small error that the Company made.[10]

Q. Do you agree with Staff's analysis of Category A, B, and C expenses?

A. Except for the addition of $70,983 to the revenue requirement, I agree with Staff's analysis. Staff's proposed addition of $70,983 was caused by an error NW Natural made by offsetting Category C expenses of $634,979 with a credit for that same amount applied to non-payroll. NW Natural should have applied a non-payroll credit of $563,996 and a payroll credit of $70,983, totaling $634,979. In other words, the error only concerns how the credit was divided between

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[7] *Id.* at 11.
[8] OAR 860-026-0022(2)(b).
[9] Staff/500, Beitzel/11.
[10] *Id.* at 11-12.

payroll and non-payroll. The overall amount of the credit, $634,979, was correct. Therefore, NW Natural does not believe it is appropriate to include an additional $70,983 to its revenue requirement.

B. CUB's proposed adjustment to NW Natural's Category A customer communications expense should not be adopted.

Q. Please summarize CUB's testimony regarding NW Natural's Category A expenses.

A. CUB believes that NW Natural should only be allowed to recover Category A expenses that are equal to 0.125 percent of its gross retail operating revenues ($754,495, or about $1.14 per customer).[11] While this amount is presumed reasonable under OAR 860-026-0022(3)(a), CUB argues that NW Natural has not demonstrated that Category A expenses that exceed it are just and reasonable.[12] Specifically, CUB argues that setting Category A expenses at 0.125 percent of NW Natural's gross retail operating revenues does not produce a skewed result, contrary to NW Natural's and Staff's findings.[13]

Q. Why does CUB argue that setting Category A expenses at 0.125 percent of NW Natural's gross retail operating revenues does not produce a skewed result?

A. CUB argues that both electric utilities and natural gas utilities have experienced decreased costs due to lower natural gas prices because electric utilities also

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[11] CUB/300, Pal-Gehrke/11.
[12] *Id.*
[13] *Id.* at 3-4.

use natural gas to generate electricity.[14] CUB further argues that natural gas is used primarily in winter, whereas electricity is used throughout the year and is generated from a variety of sources, such as biomass, photovoltaic, wind, coal, gas, geothermal and hydro power.[15] Finally, CUB argues that if NW Natural is allowed to surpass the "cap" in OAR 860-026-0022(3)(a) in each rate case, it would no longer serve as a reasonable spending limit.[16]

Q. How do you respond to these arguments?

A. We strongly disagree with CUB's positions. CUB's first argument is that electric utilities have also experienced decreased costs resulting from lower natural gas prices. This overstates the impact of the cost of natural gas on electric utilities. In 2006, for example, when natural gas prices were high, NW Natural's revenue was approximately $891 million,[17] whereas NW Natural's revenue was approximately $603.5 million in 2018.[18] This $287.5 million reduction in annual revenue occurred despite NW Natural increasing its customer base by over 95,000,[19] and was primarily due to low natural gas costs. Oregon's investor-owned electric utilities, on the other hand, have seen increased revenues since 2006. Portland General Electric's ("PGE") annual revenue was approximately

[14] *Id.*
[15] *Id.*
[16] *Id.*
[17] 2014 Oregon Utilities Statistics Book, available at https://www.oregon.gov/puc/forms/Forms%20and%20Reports/2014-Oregon-Utility-Statistics-Book.pdf.
[18] 2018 Oregon Utilities Statistics Book, available at https://www.oregon.gov/puc/forms/Forms%20and%20Reports/2018-Oregon-Utility-Statistics-Book.pdf.
[19] Per the Oregon Utilities Statistics Book, NW Natural had 564,517 customers in Oregon in 2006. It had 659,959 customers in Oregon in 2018.

$1.3 billion in 2006[20] and has since increased to $1.7 billion in 2018.[21] PacifiCorp's annual revenue in Oregon was approximately $817 million in 2006[22] and has increased to $1.2 billion in 2018.[23] Clearly the price of natural gas has a much more dramatic effect on NW Natural's revenue than electric utilities. CUB actually recognizes this in its testimony, stating that electricity is generated from a variety of other sources, whereas NW Natural only uses natural gas.[24] Given that the price of natural gas has been the most significant factor in reducing NW Natural's annual revenue by over a quarter of a billion dollars, while at the same time electric utilities' annual revenues are increasing by even more than that amount, it is simply not accurate to suggest that the price of natural gas affects electric and gas utilities' revenues in a comparable way.

Second, CUB's argument that natural gas is used primarily in winter, whereas electricity is used throughout the year, is similarly misplaced. Natural gas is used throughout the year for water heating and cooking by residential customers. In fact, water heating consumes more energy than any other use in the average home except for space heating.[25] In addition, commercial and

[20] 2014 Oregon Utilities Statistics Book, available at https://www.oregon.gov/puc/forms/Forms%20and%20Reports/2014-Oregon-Utility-Statistics-Book.pdf.
[21] 2018 Oregon Utilities Statistics Book, available at https://www.oregon.gov/puc/forms/Forms%20and%20Reports/2018-Oregon-Utility-Statistics-Book.pdf
[22] 2014 Oregon Utilities Statistics Book, available at https://www.oregon.gov/puc/forms/Forms%20and%20Reports/2014-Oregon-Utility-Statistics-Book.pdf.
[23] 2018 Oregon Utilities Statistics Book, available at https://www.oregon.gov/puc/forms/Forms%20and%20Reports/2018-Oregon-Utility-Statistics-Book.pdf.
[24] CUB/300, Pal-Gehrke/3-4.
[25] https://www.eia.gov/todayinenergy/detail.php?id=37433

industrial customers typically use nearly 30 percent of the gas NW Natural sells for cooking, heating, water heating and manufacturing on a year-round basis.

Third, CUB incorrectly characterizes OAR 860-026-0022(3)(a) as a "cap" on Category A expenses. Instead, for Category A expenses that exceed 0.125 percent of gross retail operating revenues, a utility must show that the expenses are just and reasonable, just like any other expense a utility incurs. CUB states that without a rule-based standard, other utilities would also request increasing customer communications costs charged to customers. Yet CUB provides no examples of other utilities actually doing this, even though it acknowledges that NW Natural has sought recovery of Category A expenses that exceed 0.125 percent of gross retail operating revenues in its last three rate cases. Even if utilities are seeking recovery of customer communications expenses that exceed 0.125 percent of gross retail operating revenues, their requests should be evaluated for reasonableness based on their own merits.

Finally, NW Natural delivers more energy on an annual basis than any other Oregon utility,[26] and its per-customer Category A expenses should be comparable to electric utilities. NW Natural's proposed Category A expense of $2.54 per customer is similar to the amount PGE and PacifiCorp are allowed under OAR 860-026-0022(3)(a) ($2.64 and $2.50 per customer, respectively). If NW Natural's Category A expense was limited to 0.125 percent of gross retail operating revenues, it would only be allowed to recover $1.14 per customer,

[26] http://lesswecan.com/

which would be virtually unchanged from its 1999 amount of $1.12 per customer.[27] This is less than half the amount that PGE and PacifiCorp are allowed. Simply calculating Category A expense using 0.125 percent of gross retail operating revenues does not always provide a just and reasonable result, which is why a utility can exceed that amount by showing that its spending is reasonable.

Q. Does CUB offer any other arguments as to why NW Natural's Category A expenses should not exceed 0.125 percent of gross retail operating revenues?

A. Yes. CUB argues that: 1) NW Natural's spending on television is not justifiable,[28] 2) NW Natural should re-allocate its spending on television in favor of less expensive digital customer communications,[29] 3) the geographical diversity of NW Natural's service territory does not significantly contribute to Category A expenses,[30] 4) the "Less We Can" campaign should not be solely funded by ratepayers because it is partially a corporate imaging strategy and no renewable natural gas ("RNG") currently is being consumed by NW Natural's customers,[31] and 5) the Commission should not allow NW Natural additional customer communications expenditures as the economy goes into recession.[32]

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[27] Per the Oregon Utilities Statistics Book, NW Natural had revenues of $406,197,026 in 1999. Multiplying that amount by 0.125 percent equals $507,746. Dividing $507,746 by the amount of NW Natural's customers had at that time—451,662—equals $1.12 per customer.
[28] CUB/300/Pal & Gehrke/6-7.
[29] *Id.* at 9-10.
[30] *Id.* at 8-9.
[31] *Id.* at 10-11.
[32] *Id.* at 11.

Q. Please summarize CUB's argument that NW Natural's spending on television is not justifiable.

A. CUB cites one the *New York Times* article that television viewership is declining among young people.[33] CUB also cites a Nielsen study that the majority (56 percent) of adults in the United States streamed non-linear video to their television.[34] Using only these two sources, it concludes that NW Natural's television spending is not justifiable because the majority of NW Natural's customers are under 50 years of age and television viewership is declining among that age group.

Q. Do you agree with CUB's argument?

A. No. The single article cited by CUB is from a national newspaper, the *New York Times*, and does not reference or specifically discuss NW Natural's customer base in Oregon. Therefore, it carries less weight than the customer survey that I cited in my Direct Testimony, which found that NW Natural's customers rated television as their most important source for news and information. This is why the majority of NW Natural's television media coverage occurs during local news programming.

Further, CUB only examines how much time people spend watching live television, and does not discuss other metrics that show that television is an effective way to reach customers. CUB ignores evidence that demonstrates the

[33] *Id.* at 6.
[34] *Id.*

effectiveness of television. In my Direct Testimony, I cited third-party research that shows television messages are recalled at a higher rate—as high as 60 percent—over other media, and that attentiveness is the highest while watching television—ahead of smartphones, computers and tablets. Television is still a very important media channel that is part of an effective communications strategy.

Q. Please respond to CUB's argument that NW Natural should re-allocate its spending on television in favor of less expensive digital customer communications.

A. Digital and television media channels do not exist in isolation and all media channels need to work together to deliver an effective message. NW Natural is increasing the amount it spends on digital customer communications, but, as shown above, television remains an important medium. Although media fragmentation, consumption habits and audience demographics continue to evolve, NW Natural must ensure its media strategy includes television and traditional media, as well as streaming media services, online, and mobile, to effectively reach all of its customers.

To accomplish this, NW Natural's process for developing and managing the Category A budget involves strategic planning to ensure important customer messages are distributed through a multi-channel effort, and messages are emphasized appropriately throughout the year. Distribution of those messages by communications channel is informed by regulatory requirements, customer research results, industry trends (such as popular media viewing channels) and issues that may be most pertinent or that arise during a given time period (seasonally or annually).

Finally, as stated above, CUB's proposal would result in NW Natural's Category A expense being virtually unchanged from its 1999 levels and would be less than half the amount that electric utilities are allowed to spend. This means there would be very little money to spend on any Category A customer communications, including digital.

Q. Please respond to CUB's argument that NW Natural's service territory is not geographically diverse.

A. NW Natural serves customers in two designated market areas ("DMAs") – Portland and Eugene. Satellite areas such as Coos Bay are also purchased separately. Customers that are not located in the Portland area demand and deserve the same level of communication and attention. In order to reach these customers in the Eugene DMA and other satellite areas, NW Natural must divert 10 percent of an already modest annual media budget. This results in a reduction in media spend to effectively reach customers in the Portland DMA – an area that ranks 22nd in the nation in terms of media costs, making Portland among the more expensive media markets to operate in. This fact further reinforces the challenge the gross retail revenue allowable creates for NW Natural in effectively reaching our customers. Because NW Natural serves the same Portland DMA as our electric utility counterparts, I believe that our funding levels should be in line with theirs on a per-customer basis.

Q. Please respond to CUB's argument that the "Less We Can" campaign is partially a corporate imaging strategy that should not be solely funded by ratepayers.

A. CUB mischaracterizes the Less We Can campaign. Less We Can is designed to inform customers about local and state efforts to act on carbon reduction policy that addresses climate change, which is a paramount concern for our customers, and to educate our customers on how they and the Company and can reduce emissions through energy efficiency and innovative energy solutions such as RNG.

One of the important insights learned in developing the Less We Can content was that customers wanted to learn what NW Natural was doing – not just what customers can do – to lower energy use and emissions. There was clear feedback from focus groups that customers believe NW Natural has a responsibility to be a partner in the effort and to be leading the way in many cases. This insight was why we structured the Less We Can website content into two buckets, "What we are doing" and "What you can do."

CUB cites only two specific examples where the Less We Can campaign is partially a corporate imaging strategy. NW Natural purchased on-field banners, which state "NW Natural: Less We Can," at Providence Park in Portland, and the Company distributed sandwich holders and magnets. But, as CUB acknowledges, these customer communications were paid by shareholders (i.e., classified as Category C), not ratepayers. NW Natural is very careful to record the costs of any communications expenses, such as the examples CUB cites, that do not meet Category A messaging guidelines to Category C (which is not in customer rates). For the sponsorship at Providence Park and alternate media, there is very little space for multiple messages. Nonetheless, displaying the Less We Can logo is a key communications tool to drive overall awareness and traffic to lesswecan.com, where customers can learn about the customer benefits the Less We Can platform offers – energy efficiency and ways to reduce carbon emissions.

Q. Please respond to CUB's argument that the Less We Can campaign should be a shareholder expense because there is no RNG serving NW Natural's customers.

A. NW Natural is planning for RNG to be an important part of our future supply mix, and we are in the process of adding RNG to serve our customers. Senate Bill 98, which became law in 2019, allows NW Natural to purchase RNG, and sets certain targets for the acquisition of RNG, starting at 5 percent of gas purchased from 2020 to 2024 and stepping up over time until it reaches 30 percent beginning in 2045. Since Senate Bill 98 was passed relatively recently, the rules that implement the bill are still in development, which is an obstacle to near-term RNG procurement. However, Senate Bill 98 requires these rules to be adopted by July 31, 2020. The Less We Can outreach initiative is an important part of educating customers about the utility and its services, by describing the direction that the utility is heading, and the tangible steps we are taking to get there.

Q. Please explain why the "Less We Can" campaign meets the definition of a Category A expense.

A. Both energy efficiency and RNG, which would displace conventional natural gas and dramatically lower emissions, are topics that fall under Category A Communications categories[35]:

- "Energy efficiency or conservation advertising expenses;" and
- "Utility information advertising expenses" (e.g., "generation and transmission methods…, environmental considerations, and other contemporary items of customer interest").

NW Natural/1901, Beck maps the two defined areas specified by OAR 860-026-0022 Category A Communications to the associated relevant content (highlighted in yellow) for current Less We Can video, TV and digital advertising. Similar messages are used throughout all Less We Can materials.

Q. Please describe what percentage of NW Natural's Category A budget is spent on the Less We Can campaign.

A. As shown in exhibit NW Natural/1902, Beck, the Less We Can campaign only accounted for 20 percent of total Category A expenses.[36] 38 percent of Category A expenses are used for television, digital and social media communications. Of the 38 percent, 20 percent was dedicated to Less We Can Category A communications. The primary purposes of these customer communications are

[35] OAR 860-026-0022(1)(b), (g) and (j) and (2)(a).
[36] In its testimony, CUB states it is concerned that NW Natural will spend ratepayer money lobbying for RNG. CUB/100, Jenks/11-12. NW Natural's Category A budget does not include any money for lobbying.

to: 1) decrease the total consumption of utility services, 2) increase customer understanding of utility systems and the function of those systems, and 3) discuss generation and transmission methods, utility expenses, environmental considerations, and other contemporary items of customer interest such as RNG.

Q. Please describe the effects of CUB's proposal on NW Natural's Category A budget.

A. If CUB's proposal were adopted and NW Natural's Category A expense were reduced to $754,495 or about $1.14 per customer, there would be very little money for Category A customer communications. CUB's proposed reduction would result in NW Natural only spending about $100,000 per year on Category A communications after expenses for salaries and overhead are removed. This would not even cover the cost of six bill inserts, or a single-channel customer communication every other month.

Q. Please respond to CUB's argument that the Commission should disallow NW Natural's additional Category A expenses because the economy is going into recession.

A. A down economy can be difficult for everyone – customers and businesses alike. During these times, it would be a disservice to reduce communications to customers when they need information from their utilities the most. Customers require more frequent information about:

- Energy savings options, to help reduce costs;
- Payment programs and low-income assistance, to help those who are having trouble paying their gas bill;

- Safety measures, to assure customers that the Company is still protecting the public and employees; and
- Other helpful resources that are available in response to environmental concerns customers have and how the Company is addressing them.

Multi-channel communications are the key to delivering helpful and educational messages to customers and reaching customers where they want to receive information most, such as TV, digital, social media, additional bill inserts and community event support. Nonetheless, NW Natural is sensitive to the cost of customer communications, no matter the economic climate. As Staff notes, NW Natural's Category A expenses have declined on an overall and a per-customer basis every year since 2017. While it is unclear whether the economic decline caused by COVID-19 will extend throughout the Test Year, NW Natural is committed to carefully considered and prudent customer communications spending.

Q. Does CUB have any other recommendations?

A. Yes. CUB recommends that NW Natural disclose its fuel mix–– "specifically the percentages of renewable and non-renewable gas that it sells to retail customers in its standard product on an annual basis through [a] bill insert and on its web page."[37]

[37] CUB/100/Jenks/13

Q. Do you agree with this recommendation?

A. Yes. NW Natural always intended to disclose this type of information, and it is the type of communications that would be part of our Less We Can campaign. We plan to incorporate this messaging when NW Natural acquires RNG to serve our customers. Prior to that time, NW Natural does not believe that such a disclosure would be warranted because its “fuel mix” would be from a single source (conventional natural gas).

Q. Does this conclude your Reply Testimony?

A. Yes.

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Cory Beck

CUSTOMER COMMUNICATIONS

EXHIBIT 1901

May 29, 2020

Exhibit 1901

Category A Definition Applied to "Less We Can" Campaign.

This exhibit maps the two defined areas specified by OAR 860-026-0022 Category A Communications ("Conservation Advertising Expense" and "Utility Information Advertising Expense") to the associated relevant content (highlighted in yellow) for current Less We Can video, TV and digital advertising.

Specifically, the left column defines Category A advertising, and then lists Less We Can video, TV and digital advertising. The middle column defines "Conservation Advertising Expense" and then highlights in yellow the portion of each advertisement that meets the definition of that term. Finally, the right column defines "Utility Information Advertising Expense" and then highlights in yellow the portion of each advertisement that meets the definition of that term.

Similar messages are used throughout all Less We Can materials.

Categories A advertising includes: Energy efficiency or conservation advertising expenses that do not relate to a Commission-approved program, utility service advertising expenses, and utility information		**OAR 860-026-0022 Part b: "Conservation Advertising Expenses"** means advertising expenses, the primary purpose of which is to decrease the total consumption of utility services		**OAR 860-026-0022 part g: "Utility Information Advertising Expenses"** means advertising expenses, the primary purpose of which is to increase customer understanding of utility systems and the function of those systems, and to discuss generation and transmission methods, utility expenses, rate structures, rate increases, load forecasting, environmental considerations, and other

advertising expenses				contemporary items of customer interest
Advertising channels		*Advertising messages that does not relate to a Commission approved program and promotes conservation and energy-efficiency.*		*Advertising that increases customer understanding of utility systems, environmental considerations and other contemporary items of customer interest [carbon emissions, climate change]*
Less We Can Residential Efficiency Video		In a world that has become all about more. Some people are choosing just the opposite. By finding small ways to conserve energy, lower emissions and reduce their impact on the environment. Getting us closer to a future of less.		In a world that has become all about more. Some people are choosing just the opposite. By finding small ways to conserve energy, lower emissions and reduce their impact on the environment. Getting us closer to a future of less.

		Join us in finding more ways to do less. NW Natural. Less We Can.		Join us in finding more ways to do less. NW Natural. Less We Can.
Less We Can Business Efficiency Video		When Morgan Gary first started Spin Laundry Lounge. It was about finding more ways to do less. Use less water, less energy and have less impact on the environment. One of those ways is using high-efficiency natural gas appliances. Because when we work together to conserve our		When Morgan Gary first started Spin Laundry Lounge. It was about finding more ways to do less. Use less water, less energy and have less impact on the environment. One of those ways is using high-efficiency natural gas appliances. Because when we work together to conserve our

		energy use, we can greatly reduce our carbon emissions. Join us in finding more ways to do less. NW Natural. Less We Can.		energy use, we can greatly reduce our carbon emissions. Join us in finding more ways to do less. NW Natural. Less We Can.
Less We Can Waste Video		**Oregon's population continues to grow.** And with that growth comes waste. From cows, from food and from all of us. Waste that creates greenhouse gases that can harm our atmosphere.		**Oregon's population continues to grow.** And with that growth comes waste. From cows, from food and from all of us. Waste that creates greenhouse gases that can harm our atmosphere.

		But now those gases can be captured and converted into renewable natural gas. So there will be less harmful emissions in the air and more clean-burning energy where we need it. Join us in finding more ways to do less. NW Natural. Less We Can.		But now those gases can be captured and converted into renewable natural gas. So there will be less harmful emissions in the air and more clean-burning energy where we need it. Join us in finding more ways to do less. NW Natural. Less We Can.
Less We Can Renewable Natural Gas TV Spot		What if all of this waste wasn't waste at all. What if it was renewable energy that could be stored and delivered through existing pipelines.		What if all of this waste wasn't waste at all. What if it was renewable energy that could be stored and delivered through existing pipelines.

		Capturing greenhouse gasses before they enter our atmosphere. Welcome to what if, and meet the newest renewable. Renewable natural gas. An energy source that can get us closer to a future of less. NW Natural. Less We Can.		Capturing greenhouse gasses before they enter our atmosphere. Welcome to what if, and meet the newest renewable. Renewable natural gas. An energy source that can get us closer to a future of less. NW Natural. Less We Can.
Equipment Innovation Video		We're working with organizations like the Gas Technology Institute and the Northwest Energy Efficiency Alliance to encourage innovation in products for things like		We're working with organizations like the Gas Technology Institute and the Northwest Energy Efficiency Alliance to encourage innovation in products for things like

		Zero Net Energy Homes, Solar Thermal heating systems and other cutting edge energy technologies. NW Natural, Less We Can.		Zero Net Energy Homes, Solar Thermal heating systems and other cutting edge energy technologies. NW Natural, Less We Can.
Conservation Tariff Video		We were among the first utilities in America to decouple the cost of maintaining our pipelines from the natural gas inside them. Decoupling removes the financial incentive to sell more gas, allowing us to mean it when we say we want everyone to use less. NW Natural, Less We Can.		We were among the first utilities in America to decouple the cost of maintaining our pipelines from the natural gas inside them. Decoupling removes the financial incentive to sell more gas, allowing us to mean it when we say we want everyone to use less. NW Natural, Less We Can.

Conserve Video		Using less energy is the easiest way to reduce carbon emissions. And our customers have already cut theirs in half by upgrading to high efficiency equipment and through simple things like low flow shower heads, better insulation and window coverings to control temperature. It all adds up to less. NW Natural, Less We Can.		Using less energy is the easiest way to reduce carbon emissions. And our customers have already cut theirs in half by upgrading to high efficiency equipment and through simple things like low flow shower heads, better insulation and window coverings to control temperature. It all adds up to less. NW Natural, Less We Can.
Upgrade Video		Maintenance is a fact of life. It's also a prime opportunity to become more energy efficient through upgrades to things like on-demand water		Maintenance is a fact of life. It's also a prime opportunity to become more energy efficient through upgrades to things like on-demand water

		heaters, high-efficiency furnaces and gas fireplaces. Best of all incentives and rebates can help make every dollar you spend greener. NW Natural, Less We Can.		heaters, high-efficiency furnaces and gas fireplaces. Best of all incentives and rebates can help make every dollar you spend greener. NW Natural, Less We Can.
Offset Video		Our Smart Energy program offers customers a voluntary opportunity to offset some or all of the CO_2 produced by their natural gas use. The program's mantra, "Use Less, Offset the Rest," makes clear that offsets are a valuable tool to help lower emissions. NW Natural, Less We Can.		Our Smart Energy program offers customers a voluntary opportunity to offset some or all of the CO_2 produced by their natural gas use. The program's mantra, "Use Less, Offset the Rest," makes clear that offsets are a valuable tool to help lower emissions. NW Natural, Less We Can.

Transportation Video		Transportation is the largest contributor to emissions. Today, Compressed natural gas vehicles offer a viable path to address carbon emissions and air quality issues from heavy-duty vehicles, producing 90% less air pollution than even the cleanest diesel engines. NW Natural, Less We Can.		Transportation is the largest contributor to emissions. Today, Compressed natural gas vehicles offer a viable path to address carbon emissions and air quality issues from heavy-duty vehicles, producing 90% less air pollution than even the cleanest diesel engines. NW Natural, Less We Can.
RNG Video		Renewable Natural Gas is produced from organic materials like wood and food waste, agricultural waste and, well, human waste. When these materials decompose they produce methane		Renewable Natural Gas is produced from organic materials like wood and food waste, agricultural waste and, well, human waste. When these materials decompose they produce methane

		which can be converted to Renewable Natural Gas, sustainably reducing emissions and closing the loop on waste. NW Natural, Less We Can.		which can be converted to Renewable Natural Gas, sustainably reducing emissions and closing the loop on waste. NW Natural, Less We Can.
Power to Gas Video		Power to Gas is a cutting-edge process that captures surplus wind and solar energy and converts it to hydrogen or renewable natural gas through electrolysis. That means this renewable energy can be stored and then blended in into our existing pipeline system. NW Natural, Less We Can.		Power to Gas is a cutting-edge process that captures surplus wind and solar energy and converts it to hydrogen or renewable natural gas through electrolysis. That means this renewable energy can be stored and then blended in into our existing pipeline system. NW Natural, Less We Can.

Digital/Social Media		What if all this waste Wasn't waste at all What if it was energy? Meet the newest renewable Renewable natural gas Learn more. Less We Can.		What if all this waste Wasn't waste at all What if it was energy? Meet the newest renewable Renewable natural gas Learn more. Less We Can.

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

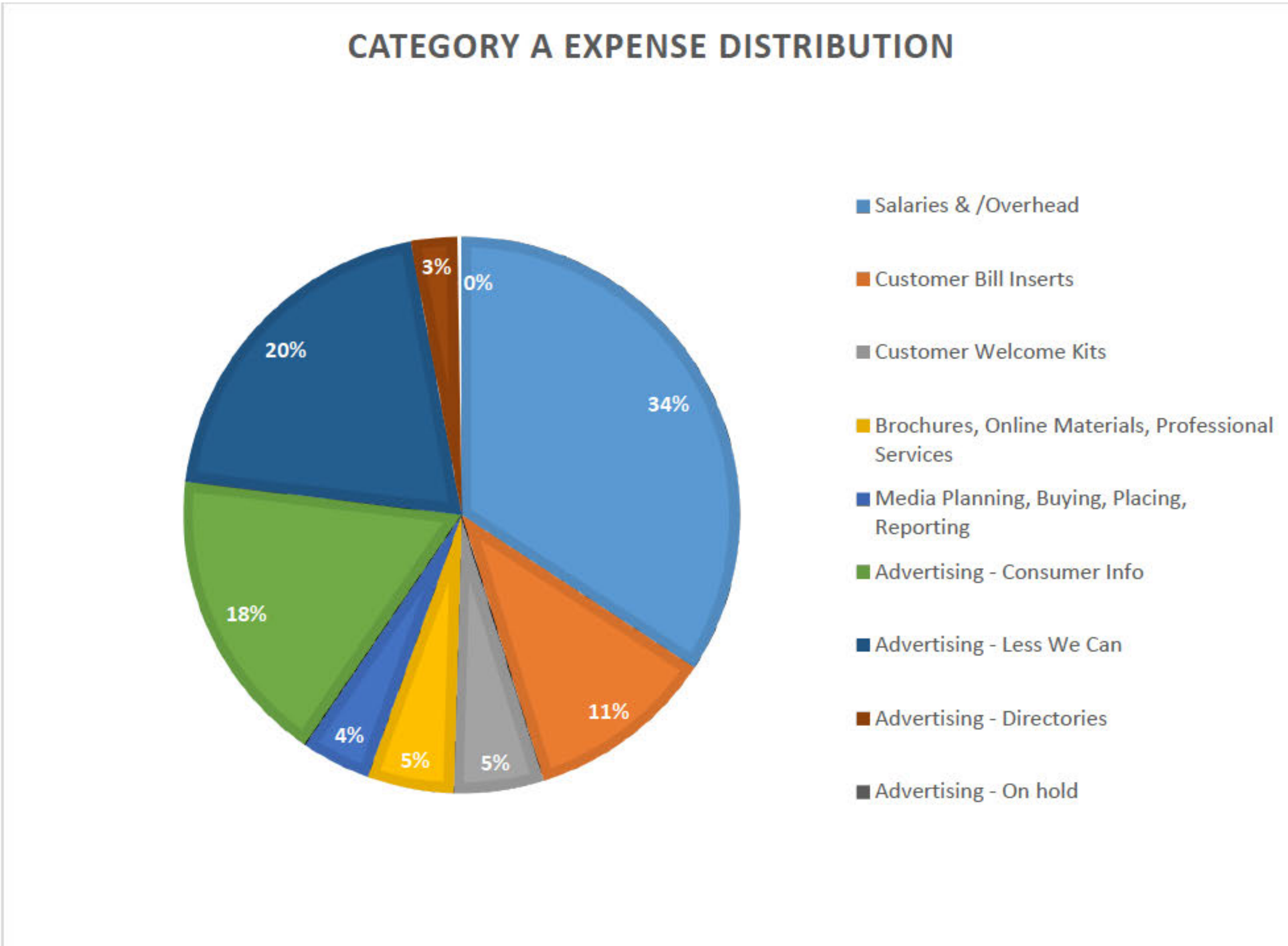
NW Natural

Reply Testimony of Cory Beck

CUSTOMER COMMUNICATIONS

EXHIBIT 1902

May 29, 2020


CATEGORY A EXPENSE DISTRIBUTION
34%
11%
5%
5%
4%
18%
20%
3%
0%
Salaries & /Overhead
Customer Bill Inserts
Customer Welcome Kits
Brochures, Online Materials, Professional Services
Media Planning, Buying, Placing, Reporting
Advertising - Consumer Info
Advertising - Less We Can
Advertising - Directories
Advertising - On hold

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Amanda Faulk

ACCOUNTING DATA / TRAVEL EXPENSE / COST ALLOCATIONS

EXHIBIT 2000

May 29, 2020

EXHIBIT 2000 – REPLY TESTIMONY OF AMANDA FAULK – ACCOUNTING DATA / TRAVEL EXPENSE / COST ALLOCATIONS

Table of Contents

I. INTRODUCTION AND SUMMARY

Q. Please state your name and position with Northwest Natural Gas Company ("NW Natural" or the "Company").

A. My name is Amanda Faulk. I am the General Accounting Manager for NW Natural, responsible for the day-to-day operations of the accounting department. I oversee the planning, recording, compliance and analysis of general and operational accounting and serve as the lead on various interdepartmental and intracompany projects including shared services management. I also oversee the Sarbanes-Oxley ("SOX") compliance department.

Q. Please describe your education and employment background.

A. I graduated from Oregon State University with Bachelor's degrees in Accountancy and Business Administration-Finance, and I am a licensed Certified Public Accountant in the State of Oregon. In 2017, I received a Certificate in Utility Management from the Atkinson School of Management at Willamette University. I started at NW Natural in 2013 overseeing NW Natural's SOX Compliance Program, and in 2015 I took on the additional general and operational accounting manager duties. Before joining NW Natural in 2013, I worked at PricewaterhouseCoopers, LLP for six years, in the audit practice.

Q. What is the purpose of your testimony?

A. The purpose of my testimony is to respond to Staff's Opening Testimony regarding the adequacy of the Company's accounting data and travel expense support, and respond to Staff's concerns about executive time tracking for work on affiliate matters. I also respond to the Opening Testimony of the Alliance of

Western Energy Consumers ("AWEC") regarding the headquarters expense charged to affiliates through the administrative overhead charge.

Q. Please summarize your testimony.

A. First, in response to Staff's concerns about the Company's accounting data, I explain some of the changes that we have implemented for our accounting system that allow us to better track and report transaction detail, and describe the accounting software upgrades that are planned for the future. I also explain that NW Natural accepts Staff's proposal for a workshop to address the Company's responses to Standard Data Requests ("SDRs"), and that we will consider Staff's input as we plan for how our accounting and regulatory reporting needs will be addressed with our new accounting software.

Second, I respond to Staff's proposed adjustment for travel-related O&M. In particular, I explain and support the more detailed travel expense data that the Company provided to the parties to address concerns about the information provided earlier in this case.

Third, I address Staff's concerns regarding the Company's time tracking for work performed on affiliate matters, supporting our current practice of tracking time in 30-minute increments and noting that we do track time outside an 8-hour work day.

Fourth, I respond to AWEC's concern about the amount of lease expense included in the Company's administrative overhead charge, and present an updated calculation for the administrative overhead for the Test Year.

II. ACCOUNTING DATA

Adequacy of the Company's Accounting Data

Q. Does Staff express concerns about the adequacy of the Company's accounting data?

A. Yes. Staff witness Marianne Gardner expresses concern about the Company's accounting data that was provided in response to the Commission's SDR 57, which requested transaction summaries for all Non-Labor costs recorded in all FERC accounts for the Base Year. Staff asserts that the data the Company provided in response to SDR 57 lacked the transaction level detail needed for Staff to analyze the Company's operations and maintenance ("O&M") expense and understand the utility business purpose for the underlying transactions.[1] Further, Staff states that after working with NW Natural to obtain supplemental responses to SDR 57, those responses were also insufficient.[2] Staff acknowledges that there are limitations in the Company's accounting software systems that prevent the Company from providing the level of detail Staff requested, but comments that the shortcomings in the accounting data for O&M expenses have limited Staff's ability to review the case.[3] Staff also comments that there were similar issues with the Company's accounting data in the last rate case.[4]

[1] Staff/100, Gardner/15.
[2] *Id.* at 16.
[3] *Id.*
[4] *Id.* at 15.

While Ms. Gardner does not propose any specific adjustments in connection with her concerns about the Company's accounting data, several other Staff witnesses voice similar concerns about what they perceive to be missing or inadequate accounting data to support the Company's non-labor O&M expenses, such that they could not verify whether the expenses were incurred for a legitimate utility business expense. Those other Staff witnesses propose adjustments to the Company's non-labor O&M expense.[5] For example, Staff witness Paul Rossow suggests disallowing recovery for all travel expense based on his view that the Company did not provide adequate support for those expenses.[6]

Q. How do you respond to Staff's general concerns about the Company's accounting data?

A. Through the discovery process, we strived to provide Staff with transaction level detail for all of our non-payroll O&M. We were able to provide a description for every requested transaction, but we recognize that there are improvements that we can make to our accounting system and processes to improve the speed of reporting and the level of detail included in our reports. Based on our communications with Staff, we understand that there are two separate issues related to potential improvements to our accounting systems and processes that could help resolve Staff's concerns: (1) there are structural limitations within our accounting system that impact our ability to generate reports that present all of

[5] Staff/300, Fjeldheim/34-35; Staff/500, Beitzel/16; Staff/600, Moore/5-8; Staff/1200, Rossow/8-9.
[6] Staff/1200, Rossow/8-9.

the transaction level detail in an easily accessible manner; and (2) while NW Natural tracks and records business purpose-related data through its transaction coding in several different fields in its accounting software, Staff would like to see additional narrative description for each transaction. The Company is still considering how to best address these issues, but anticipates implementing updates to both the Company's accounting system and its transaction recording processes, and continuing to collaborate with Staff outside of this rate case to address these issues.

Q. Please provide additional background and context for the structural limitations in NW Natural's accounting system.

A. Historically, our accounting system and transaction tracking processes have not been set up to easily accommodate reporting of the detailed support for each transaction. Our current system collects information for each transaction across different "modules" in our accounting system, and the current SAP structure does not allow those modules to link up in a report when extracting transactions from the General Ledger Module. These modules are different groupings of data within SAP, each supporting a different function—for example, the General Ledger Module, Supply Chain Module, Purchasing Module, and Real Estate Module, among others. Additionally, certain categories are not currently in SAP at all—for example, the Company's procurement credit cards ("Pcards") and travel expenses are housed in a different part of the Company's system, and in some instances the supporting transactional detail only resides on the hard copy invoice or expense account form. Because these different modules and data groupings do not link to each other, there is currently no automated way to extract and report all of that data out, and instead the supporting detail must be retrieved manually.

In response to Staff's concerns raised in the last rate case, we worked to improve our processes, and have in fact been able to provide more detailed reporting for some cost centers in this case.

Q. Please explain how the Company currently captures business purpose information in its accounting system.

A. The Company's approach to capturing the "business purpose" may vary across cost centers depending on the type of transaction. For certain categories of transactions, the Company includes a brief narrative description regarding the purpose of the expense, and then for other categories, the business purpose is evident based on how the transaction is coded in the accounting system. Specifically, the Company uses a number of fields in SAP, to define, identify and describe the transaction and business purpose – including but not limited to:

- The cost center name (which is the department – the "who" and often the "why" for a transaction);
- The account (defines the "what");
- The statistical internal order FERC (detail on the "what for"); and
- Other fields that may vary depending on the type of transaction, and may include document header text, purchase order description, and settlement activity.

Together, these fields define the transactions and provide additional context for the transactions.

With that framework in mind, we are aware that further improvements to our accounting systems and processes can make our reporting more uniform, accessible and easily understandable. We have plans to continue to improve our accounting and regulatory reporting, and expect that deploying new accounting software systems will resolve structural limitations within our accounting systems and streamline the production of more detailed and accessible reports.

Q. Are there additional safeguards in your transaction approval process that ensure that transactions recorded in SAP have a business purpose?

A. Yes. Prior to a transaction being recorded in SAP, each transaction must first be approved by a secondary source, which may be a supervisor or other authorized employee. The approval process varies depending on the type of transactions, but for example, all vendor invoices for purchases are approved prior to purchase and recording in SAP, and all Pcard transactions and travel transactions and expense reimbursements are approved prior to recording in SAP. All materials used are authorized before they are issued to the department, consistent with applicable Company purchasing policies.

Due to our rigorous process around approving transactions, the Company's supervisors and authorized employees ensure that all transactions have a business purpose, even if it may not always be documented in narrative form in the SAP general ledger. We also have to operate within our budgets that are prepared annually based on anticipated expenses for the year and that are reviewed and evaluated on a monthly basis. As an additional safeguard, we have segregated duties regarding accounting controls, which also ensures that all transactions are separately prepared and approved and no transactions can be recorded to SAP in a silo.

Finally, NW Natural's accounting data is also subject to audit. The Company's financial statements are audited annually by PricewaterhouseCoopers, which performs a full integrated audit over all of the Company's financial statement balances and internal controls, including auditing the review and approval safeguards noted above, and the existence and accuracy of the Company's expenses.

1. Changes Made in Response to UG 344

Q. In docket UG 344, what concerns did Staff raise about the Company's response to SDR 57?

A. In its review of SDR 57, Staff observed that for certain accounts, the Company had not provided transaction level detail for each transaction.[7] Staff informally raised these concerns early in that case, shortly after the Company filed its application (and responses to SDRs) in late December 2017, and NW Natural provided additional detail.[8] Through this informal process with Staff, NW Natural discovered that its transaction recording and accounting systems did not fully link

[7] *In the Matter of Nw. Natural Gas Co. dba NW Natural Request for a Gen. Rate Revision,* Docket UG 344, Staff's Opening Testimony, Staff/800, Moore/4 (Apr. 20, 2018).
[8] *Id.*

up, and as a result the Company could not readily generate reports with the level of detail that Staff was seeking.

Q. What changes did the Company make to its accounting system in response to Staff's feedback in UG 344?

A. Beginning in early 2018—at the same time we were working with Staff on the response to SDR 57 in UG 344—we started making improvements to our internal processes for recording accounting entries. We specifically focused on improving recording for the business justifications for Pcard transactions, travel transactions, manual journal entries, and purchase orders. For these types of transactions, we added new fields in our accounting system, SAP, to specify the business purpose for the transaction. Before this change was implemented, we collected information about the business justifications for the Pcard and travel expenses, but it was recorded in their respective non-SAP systems and exported to Excel spreadsheets rather than being included in SAP—which in turn made creating detailed reports more cumbersome.

Q. When were these changes implemented?

A. These changes were fully rolled out in mid-2018. Around that same time, we also made presentations to our management staff to explain these changes and to emphasize the importance of capturing and tracking the business purpose when recording a transaction.

Q. Even with these changes, do you think additional improvements could be made?

A. Yes. While we believe the transaction level detail supporting the O&M expense data is better in this case than it was in UG 344, we recognize that there is still room for additional improvements to streamline our transaction recording and improve our ability to generate more detailed reports.

2. NW Natural's Plans For Additional Improvements to its Accounting System and Data Collection Processes

Q. What is the Company currently doing to improve its data collection and reporting?

A. Similar to the improvements that we made to our practices in response to Staff's input in docket UG 344, in response to Staff's Data Requests in this case, we have identified additional opportunities to modify our data collection practices to improve our use of an existing field for entries in the General Ledger Module. Making better use of the existing field will allow us to include additional detail for manually entered accounts payable accruals, Real Estate Module transactions, and receiving on purchase orders, similar to how we rolled out the 2018 improvements. We plan to take advantage of this opportunity for improvement, and the Accounting Department will provide training and direction to those involved in other departments so that they may capture more detail in their entries.

Q. Is the Company making any changes to its current accounting software to help improve its data collection and reporting?

A. Yes. In the near term, we are implementing a new program for SAP, which is called Concur Travel & Expense ("Concur"). Concur will move travel and Pcard expenses, as well as employee expense reimbursements and per diems, into SAP. Doing so will improve SAP reporting and data collection regarding the business purposes for Pcard transactions, travel expenses, account reimbursements, and per diems. As a result, we believe that Concur will improve our ability to generate reports with enhanced transaction level detail.

In the longer term, we are retiring our current accounting system as it is reaching the end of its life and will no longer be supported. Both the existing accounting system and new accounting system are supported by SAP, so we expect the transition will be seamless. This project is included as part of the Company's Horizon 1 Project, which is discussed in greater detail in Jim Downing's Direct Testimony, NW Natural/600, and Reply Testimony, NW Natural/1600.

Q. Will the new accounting system implemented through Horizon 1 allow the Company to include more transaction level detail in its accounting reports?

A. Yes, we expect that it will, because the new system is anticipated to break down the barriers across the different SAP modules and allow the data to be linked up when the Company needs to generate a report. Additionally, the new system is expected to improve our accounts payable functions by enhancing automation and reducing the number of manual entries that need to be made. For example, the new automated process is expected to extract transaction detail from the face of the invoice, that may not be entered into SAP at all today, and will directly incorporate that data into the business purpose of the transaction and therefore will be included in reports.

Q. When will these improvements be completed?

A. The Concur project is currently in progress, and we expect it to go live in June 2020. The Horizon 1 project is a significantly larger project, and we currently expect that will be ready in 2022.[9]

3. Staff's Proposals for Further Engagement on Accounting Data

Q. Does Staff make any specific recommendations to address its concerns about the Company's accounting data and responses to SDRs?

A. Yes. Staff recommends that:

(1) The Horizon 1 project result in accounting reports and queries that will facilitate discovery especially as it concerns transparency with transactional accounting data.

(2) NW Natural include at a minimum one Energy, Rates, Finance & Audit ("ERFA") Staff in the planning/needs assessment phase for regulatory reports from its new enterprise resource planning ("ERP") platform.

(3) Prior to filing its next rate case, the Company should work with Staff and ensure that its responses to SDRs at the time of filing are complete

[9] NW Natural/600, Downing/12.

and satisfactory. Staff recommends, as part of this proceeding, a workshop and timeline be set to accomplish this process.[10]

Q. How do you respond to Staff's proposals regarding the Horizon 1 project and including one ERFA Staff in the planning/needs assessment phase for the new ERP platform?

A. Consistent with Staff's request regarding the Horizon 1 project, we expect that the new system will yield improvements to our accounting reports and facilitate discovery regarding transactional accounting data. As described in the testimony of Company witness Jim Downing, the Company is still scoping and planning the work to be performed in connection with the Horizon 1 project, but anticipates that it will include a new universal accounting approach that provides a single source of reporting data that can be readily translated into regulatory reports, with the ability to provide additional detail from source documents.

We also agree to include ERFA Staff in the planning/needs assessment phase for Horizon 1, regarding the regulatory and accounting reporting functions of our new accounting software. The planning phase for Horizon 1 is currently underway, and we will engage with Staff on this topic over the next few months.

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[10] Staff/100, Gardner/16.

Q. How do you respond to Staff's proposal for ongoing collaboration regarding the Company's responses to SDRs and proposal for a workshop?

A. NW Natural appreciates Staff's recommendations and commits to continue working informally with Staff to address Staff's concerns about the Company's SDR responses. Prior to our next rate case filing, we will work with Staff to ensure that we have a mutual understanding of the expectations of NW Natural in responding to the SDRs. In our recent experience in our last two rate cases, we have tried to answer these responses consistently and fully, but we are committed to identifying and addressing any perceived gaps or insufficiencies in our responses. While we understand that SDRs are intended to be standardized for all energy utilities, we think it is a worthwhile exercise to identify SDRs that may require a revision or specific edits for NW Natural, so that the SDRs not only provide the information that Staff requests, but also ensures that the request is targeted to provide the most useful information from NW Natural. NW Natural agrees to participate in a workshop with Staff and suggests that the workshop be scheduled within three months of the rate effective date in this case.

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4. Additional Transaction Level Detail Provided in Discovery

Q. You had mentioned that other Staff witnesses had concerns about the adequacy of the Company's accounting data. Has the Company provided additional transaction level detail in discovery since Staff filed its Opening Testimony?

A. Yes. In response to Staff's stated concerns in its Opening Testimony and to Staff's data requests that were pending at the time it filed that testimony, we provided additional transaction level detail and expanded business purpose descriptions when requested. Specifically, we expanded on the explanations to provide the background and justification for each transaction, including noting transactions that are incurred in the normal course of business. The additional supporting information was provided in the Company's responses to OPUC Data Requests 173, 175, 385, 390, 391, and 392.

Q. Given the limitations you described with your current accounting software and systems for recording transaction detail, how did you extract this information?

A. Because the modules in SAP do not link up, and to the extent that the requested information is included on external invoices only, providing this additional information took approximately 130 hours across departments, in many instances requiring line-by-line review and updating the transaction detail manually across thousands of transactions. For certain transactions, we were able to trace the item from the General Ledger Module into the originating modules (for example, the Supply Chain Management Module) to obtain additional information to expand on the explanation, such as the material description and quantity that was issued. For other transactions, we reviewed the original hard copy invoice to extract any additional information included on the invoice that was not already included in SAP. We also utilized the other SAP General Ledger Module attributes that explain the transaction but are not included in the original description field, including the cost element, cost center, and FERC internal order that are intended to describe the transaction and were originally included elsewhere in the original transaction level detail. Finally, as much as possible, we expanded on the explanations to provide the background and justification for each transaction, including noting transactions that are incurred in the normal course of business. Please refer to Table 1, below, for a summary of the types of supplemental information provided in discovery and a description regarding how the Company prepared this data:

Table 1. Summary of Supplemental Accounting Information Provided in Discovery and Description of Review Process.

DR	DR Topic	What	How	# of transactions
Staff DR 173	All non-payroll transactions	Added additional columns and added respective transaction detail for any 'blanks'	Extracted additional columns and information from SAP General Ledger, and manually explained any 'blanks'	94,861
Staff DR 175	Pcard transaction descriptions	Expanded descriptions from SAP character limit	Provided the reports from the separate Pcard system which includes the entire description	20,570
Staff DR 385	Subscriptions	Added business purpose and justification	Reviewed transactions in SAP, reviewed some hard copy vendor invoices, manually expanding for business justification	951
Staff DR 390	FERC 816-847 (Underground Storage and Maintenance Expenses and Other Storage Operating and Maintenance Expenses)	Added business purpose and justification	Extracted additional information from other SAP modules including Supply Chain Management, reviewed hard copy vendor invoices, manually expanding for business justification	1,109
Staff DR 391	FERC 912 (Demonstrating and Selling Expenses)	Added business purpose and justification	Extracted additional information from other SAP modules including Purchase Orders, reviewed hard copy vendor invoices, manually expanding for business justification	439
Staff DR 392	Travel	Added business purpose and justification	Expanded Pcard descriptions from DR 175, reviewed hard copy invoices, manually expanding for business justification	139

Q. Do other Company witnesses also address Staff's proposed adjustments and provide additional explanation regarding the Company's business justifications for its non-labor O&M expense?

A. Yes. In the next section, I will address the travel expense category of non-labor O&M. In his Reply Testimony, Company witness Tobin Davilla (NW Natural/2100, Davilla) includes all of the other proposed adjustments for non-labor O&M, and provides additional explanation regarding the business justifications for these expenses that have been provided in discovery.

<u>Travel Expenses</u>

Q. Does Staff propose an adjustment related to the Company's travel expenses?

A. Yes. Staff witness Mr. Rossow proposes to exclude all of the Company's travel expenses for the categories of business travel, employee conference travel, and travel in territory, in the amount of $930,867.[11]

Q. What is Staff's rationale for its adjustment?

A. Staff argues that the transactions within this cost area lack sufficient supporting detail to determine the nature of the business purpose, and asserts that the Company has not established its business case for the requested travel expense.[12] Staff also notes that it had outstanding Data Requests on this topic

[11] Staff/1200, Rossow/8-9.
[12] *Id.* at 8.

at the time Staff filed Opening Testimony, but did not expect to receive the Company's response before that filing.[13]

Q. How do you respond to Staff's adjustment?

A. The Company has provided additional information to support our travel expenses, including additional detail to support the business purposes for the travel expenses, and accordingly Staff's adjustment should be rejected. In the following sections of my testimony, I will explain the additional supporting information that we provided regarding the business justifications for our travel expense, and I will also describe our travel approval policies to further support the reasonableness of our travel expenses.

1. Business Justification for Travel Expenses

Q. Did Staff request additional information about the Company's travel expenses in discovery?

A. Yes. As noted in its testimony, Staff served OPUC Data Request 392 regarding travel expenses on April 14, 2020—just three days before Staff's Opening Testimony was filed.[14] The Company's response to OPUC Data Request 392 was due on April 28, 2020.

Q. Has NW Natural provided additional transaction-level detail regarding travel expenses in response to OPUC Data Request 392?

A. Yes. The Company initially provided its response to OPUC Data Request 392 on April 27, 2020, and then noticed that its response included a filter error that

[13] *Id.*
[14] Staff/1200, Rossow/8; Staff/1203, Rossow/1-2.

inadvertently excluded the additional descriptions of certain transactions. Accordingly, the Company also filed a supplemental response to OPUC Data Request 392 on May 5, 2020. In the Company's supplemental response to OPUC Data Request 392, the Company provided transaction-level detail for all of its Base Year travel expenses.[15] This supplemental response provides the date and business purpose for each travel-related expense exceeding $1,000, and supporting documentation for the ten expense items exceeding $3,000. As demonstrated in this response, the Company's travel-related expenses are necessary to support the Company's essential business functions, such as obtaining meeting space for labor agreement negotiations, providing for travel to educational conferences and trainings, and registering employees for such events.[16] I have included the supplemental response to OPUC Data Request 392 as exhibit NW Natural/2001, Faulk.

Q. Please provide additional detail regarding the business justifications for these travel expenses.

A. Generally, the Company's travel expense can be broken down into three categories of costs: (1) travel in territory; (2) business travel; and (3) conference travel. I will provide an explanation of the types of expense incurred for each of these categories and describe how these travel activities are essential to our gas utility business.

[15] NW Natural/2001, Faulk, NW Natural's Response to OPUC Data Request 392, Attachment 1.
[16] *Id.*

Q. Please describe the travel in territory category.

A. Although the Company has its operations center in Portland, the Company's Oregon service territory includes most of the Interstate 5 corridor, as well as certain areas along the Oregon coast and the Columbia River Gorge. The travel in territory category includes costs for travel within the Company's Oregon service territory in support of the Company's day-to-day operations and strategic planning activities. The costs largely consist of travel costs of mileage and hotels, and may include construction, distribution and transmission main maintenance and customer installation; costs for employees working at or covering at another company service location, including visits by Safety, Human Resources, Training, etc. as well as position coverage across the service territory; and travel between service territory locations for meetings, off-site team meetings and trainings, and liaison trips. Many of these expenses support our core operations. For example, employees working on a multi-day, off-site construction project incur travel expenses for mileage and hotels, and these costs would be recorded as travel in territory. Employees may also incur travel expenses supporting other service locations due to job vacancies, vacations, or sick days. For example, an Albany employee covering a week at Astoria would incur travel expenses that would be recorded as travel in territory. This is a routine scenario—especially to support our smaller service locations.

Q. Please describe the business travel category.

A. The Company also incurs travel expenses that are recorded as business travel, which primarily include travel associated with directors' meetings, meetings with external parties and companies, peer gas company meetings, industry research, court hearings, job candidate travel, customer meetings, government meetings, meetings with other utilities, off-site board meetings, and KB Pipeline and Jonah Energy meetings. These types of travel expenses include activities that are essential for us to carry out our utility business, including meetings with regulators, external parties, and our peers in the industry. For example, we included costs associated with meeting space for our labor negotiations in this category, which is an essential part of our utility business. Another example is travel costs for customer meetings with Fortis and Northwest Pipeline. These are education and planning meetings that are essential for the efficient and reliable use of the pipeline system.

Q. Please describe the conference travel category.

A. The Company's employees attend conferences that are important for professional development and to stay abreast of industry trends and best practices. These conferences provide our employees with enhanced industry knowledge and technical expertise, and employees are approved to attend conferences based on their role and position and select the respective conferences that will directly benefit their role in the Company. This category includes travel costs associated with employee attendance at conferences such as those hosted by the American Gas Association ("AGA"), National Association of Regulatory Utility Commissioners ("NARUC"), Internal Audit Conferences, Allegro for our ETRM system, Accounting & Finance Conferences, National Postal Forum, Tax Conferences, Disaster Recovery, National Association of

Corrosion Engineers, Gas Technology, Itron Utility Week, EUCI, etc. The AGA conferences typically have discrete areas of focus, such as operations, legal, audit, or safety, among others, and are important to the continuing education and best practices of our employees working within those functions for the Company.

2. NW Natural's Travel Policy

Q. How does the Company manage its travel expenses?

A. The Company has a travel policy, included as exhibit NW Natural/2002, Faulk, that applies to all employees and anyone else traveling at the Company's expense to manage travel-related costs. The travel policy requires that employees use the most appropriate and economical transportation and accommodations for business travel that are reasonably available. To achieve this end, the Company requires the use of the Company's discount travel agent, and does not reimburse air travel arrangements that are made without using the Company's discount travel agent. Additionally, in 2018, the Company secured a preferred airline partner, Alaska Airlines, and as a result, obtained a 3 percent discount on all Alaska Airlines airfare purchased through the travel provider.

Q. Does the Company maintain review and approval processes for employee travel expenses to ensure the expenses' legitimacy and business purpose?

A. Yes. All business travel expenses must relate to a clearly stated business purpose. Managers are responsible for the legitimacy, integrity, and accuracy of the items they approve, and must pre-approve business travel expenses before employees make reservations.[17] Additionally, managers are responsible for managing travel expense within the overall budget for each department. The budget includes a fixed amount for travel expense, which is set annually based on the historical travel expense for the department and projected updates.

Q. Does the Accounting Department also have a role in monitoring and enforcing approvals for travel transactions?

A. Yes. The Accounting Department also monitors approvals for airfare and other Pcard travel transactions. As provided in the Travel Policy, if an employee incurs travel expenses without proper approval or without following the guidelines in the travel policy, the employee will not be reimbursed for the excess costs. Accordingly, if Accounting discovers that the transaction record did not have required approvals, Accounting will follow up to confirm whether the transaction should have been approved or whether the employee will need to reimburse the Company.

III. AFFILIATE AND COST ALLOCATION ISSUES

Q. Does Staff comment on the Company's Master Services Agreement ("MSA") and Cost Allocation Manual ("CAM")?

A. Yes. In her Opening Testimony, Staff witness Sabrinna Soldavini indicates that she reviewed the MSA and CAM,[18] and concludes that the Company's allocation factors were generally consistent with and based on the cost drivers as outlined

[17] NW Natural/2002, Faulk/1-2.
[18] Staff/700, Soldavini/12.

in the NARUC cost allocation manual.[19] Ms. Soldavini also notes that Staff supports the direct assignment of costs as much as possible.[20]

Q. Notwithstanding Staff's general support for the Company's approach to and calculation of its allocation factors, does Staff express concerns regarding affiliate and cost allocation issues?

A. Yes. Staff notes concerns with three issues that it characterizes as being related to affiliate and cost allocations in this case:

(1) Investor and Shareholder Expenses;

(2) Regulatory Expenses that Should be Directly Allocated; and

(3) Executive Time Charging to Affiliates.

Q. Who will address each of these three areas of concern in the Company's Reply Testimony?

A. I will respond to Staff's concern regarding executive time charging to affiliates. Company witness Tobin Davilla will address the investor and shareholder expenses and the interjurisdictional allocation of regulatory expenses.[21]

Time Tracking

Q. Please summarize Staff's concerns with executive time tracking.

A. Staff observes that NW Natural executives and employees are involved in merger and acquisition work on behalf of NW Natural Holdings, and expresses concern that the Company's executives have not charged enough time to non-

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[19] *Id.* at 13.
[20] *Id.*
[21] See NW Natural/2100, Davilla.

utility accounts.[22] Staff speculates that executives may not be tracking all of the time that they spend working on affiliate matters and as a result, affiliates may be receiving "free" executive level work that is actually paid for by the Company's gas utility customers.[23] While Staff acknowledges that there is no evidence indicating that executives are not charging time appropriately, Staff nonetheless expresses concern with the Company's practice of charging time in 30-minute increments during an 8-hour work day, and recommends that the CAM and MSA should be clarified to track and charge time in 15-minute increments, and that time tracking should not be based on an 8-hour day or FTE status.[24]

Q. Please provide an overview of the Company's approach to tracking executive time for affiliate matters.

A. As we explain in the CAM, NW Natural has various departments[25] that may provide services to affiliates. In the SAP reporting system, these departments direct-charge time incurred in aggregate of 30 minutes per day directly to the respective affiliate, or non-utility activity, to which the time relates. The costs are assigned directly to the entity for which the service is being provided through intercompany accounts. NW Natural charges labor rates for these shared

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[22] Staff/700, Soldavini/17.
[23] Staff/700, Soldavini/17-18.
[24] Staff/700, Soldavini/17-19.
[25] The departments that direct charge time incurred include: Accounting, including Shared Services Management, Accounts Payable, Clerical Administrative Services, Corporate Communications, Engineering and Operations, Environmental, Executives – Management Oversight, Facilities and Security, Gas Accounting, HR and Payroll, Information Technology & Services, Legal, Marketing, Public Policy and Government Affairs, Purchasing and Stores, Rates and Regulatory, Risk and Land, Safety, Strategic Planning, Business Development, Tax, and Treasury. *In the Matter of Nw. Natural Gas Co. Affiliated Interest Report and Revised Cost Allocation Manual*, Docket RG 8, Supplemental Application, Confidential Exhibit B, 2019 Cost Allocation Manual at 4 (Apr. 29, 2020) ("CAM").

services at cost per the payroll systems, grossed up for payroll overheads and administrative overhead.

1. Sufficiency of Time Charged to Affiliates

Q. How do you respond to Staff's concern that NW Natural executives may not have charged "enough" time to affiliate matters?

A. It is unclear what Staff views as "enough" time. In 2019, NW Natural had 11 executives and 70 employees charge a total of approximately 26,000 hours on affiliate matters. NW Natural believes that this amount accurately reflects the time that was spent on affiliate matters. Additionally, the Company's management team reviews the monthly shared services reports for completeness and accuracy of the time being charged consistent with the work being performed on affiliate matters to ensure the time charged is accurately captured. We also routinely provide executives and employees instructions and reminders on how to charge their time that was spent on affiliate matters.

Q. Does Staff also comment on the total volume of merger and acquisition work that may be performed by NW Natural's employees?

A. Yes. Staff speculates that the successful acquisitions may represent "just a fraction" of the acquisitions explored by NW Natural Holdings, and therefore represents just a fraction of the time spent on such acquisitions.

Q. Does the Company only record time spent on "successful" acquisitions?

A. No. The Company records all time spent on affiliate matters, including preliminary exploration and due diligence activities for all potential acquisitions.

This time is recorded and charged out whether or not the acquisition is completed.

2. Time Tracking – 8-Hour Workdays

Q. What is Staff's specific concern regarding 8-hour workdays?

A. Staff notes that executives may often work in excess of 8-hour days, and expresses concern that time falling outside the 8-hour workday may not be captured in the Company's time tracking.[26] Staff also suggests that the CAM and MSA should be updated to clarify that time tracking should not be based on an 8-hour day.

Q. Do the CAM and MSA address time tracking outside of an 8-hour day?

A. Not specifically. While the Company's CAM and MSA do not specifically address time tracking outside of an 8-hour day, the CAM and MSA do address the policy that employees within the direct labor departments direct charge all time incurred on non-utility activities in aggregate of 30 minutes. This policy applies regardless of the length of the workday.

Q. Are the Company's executives and other employees in fact working and charging time outside of an 8-hour work day?

A. Yes. Staff is correct in its assertion that NW Natural executives and other employees may frequently work in excess of 8 hours a day. However, it is the expectation that those individuals are tracking and charging all of their non-utility time worked in accordance with the CAM. Regardless of whether an employee

[26] Staff/700, Soldavini/18.

worked an 8-hour day or a 12-hour day, they are expected to track their time in to non-utility activity in 30-minute increments. And as previously explained, the Company routinely monitors and reviews the time charged to ensure it is complete and accurate consistent with the work being performed.

Q. Based on the foregoing, how do you respond to Staff's recommendation that the CAM and MSA be revised to clarify that time tracking should not be based on 8-hour days?

A. We appreciate Staff's recommendation, however, the CAM and MSA addresses this concern with the policy that employees within the direct labor departments direct charge all non-utility time incurred in aggregate of 30 minutes which applies regardless of the length of the workday, and therefore, we do not believe it needs to be updated.

3. Time Tracking – 15-Minute Increments

Q. What is Staff's rationale for its recommendation that the Company track time for work spent on affiliate matters in 15-minute increments?

A. While Staff does not state precisely why it believes tracking time in 15-minute increments would be an improvement over 30-minute increments, Staff observes that the Company's policy is to only charge time in excess of 30-minute increments, and Staff has more generally expressed concern about time on affiliate matters not being fully captured. Thus, NW Natural's understanding is that Staff is proposing this change in an effort to capture more time spent on affiliate matters. Staff commented in a footnote: "Though seemingly insignificant, note that 30 minutes of an 8-hour day is 6.25 percent of an 8-hour workday.

Changing to 15-minute increments means that anything more than 3.125 percent of an 8-hour workday would need to be charged to non-utility."[27]

Q. Do you agree with Staff's recommendation to move to 15-minute time tracking?

A. No. When the Company reorganized to establish a holding company, in docket UM 1804, we agreed in the Stipulation in that case that we would record time spent on holding company and affiliate matters to within one hour.[28] Our current approach of tracking time in 30-minute increments is more granular and captures more time than the one-hour increment required in accordance with the UM 1804 Stipulation, and we believe that using the 30-minute increment appropriately balances the need to track time for work performed on affiliate matters with administrative efficiency. Accordingly, Staff's proposal to update the CAM and MSA to require time to be tracked in 15-minute increments should be rejected.

<u>**Allocation of Headquarters Expense to Affiliates**</u>

Q. What concerns did AWEC raise regarding allocation of headquarters expense to affiliates?

A. AWEC argued that there are three employees of the Company's affiliates that will be occupying space at the new operations center, 250 Taylor ("250 Taylor"), and that the Company should make an adjustment to exclude the lease expense for

[27] *Id.* at 19, fn. 26.
[28] *In the Matter of Nw. Natural Gas Co., dba NW Natural Application for Approval of Corporate Reorganization to Create a Holding Co.*, Docket UM 1804, Order No. 17-526, App. A at 16 (Dec. 28, 2017).

the space occupied by affiliate employees.[29] AWEC also argued that the amount of headquarters expense charged out to affiliates through the administrative overhead rate on executive time tracking is likely understated because the Company used historical lease costs in its allocations.[30]

Q. Are other Company witnesses also addressing AWEC's testimony regarding lease expense assigned to affiliates?

A. Yes. Company witness Tobin Davilla addresses AWEC's arguments regarding the direct assignment of lease expense for the three affiliate employees working at 250 Taylor in his Reply Testimony, NW Natural/2100, Davilla. In my testimony, I will respond to AWEC's argument regarding the inclusion of lease expense in the administrative overhead rate.

Q. What is AWEC's criticism of the Company's inclusion of lease expense in the calculation of administrative overhead?

A. AWEC states that the "intercompany allocations NW Natural proposes are based on historical lease costs" and comments that because "the costs of the new lease are materially higher than the historical lease costs, the intercompany allocations for these employees are likely understated."[31]

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[29] AWEC/100, Mullins/19-21.
[30] *Id.* at 20-21.
[31] *Id.* at 21.

Q. How is administrative overhead reflected in the Company's charges to affiliates?

A. In accordance with our CAM, all employees that perform work on affiliate matters track and bill their time to affiliates. The time billed to affiliates also carries additional charges for payroll overhead and for administrative overhead.

Q. Please explain how the Company calculates the administrative overhead rate.

A. The Company calculates the administrative overhead load rate using annual amounts recognized for administrative occupancy overhead costs with a focus on FERC Account 921 – 'Administrative Office Staff'[32] related occupancy costs. The occupancy cost amount is then divided by Total Payroll and Benefits Cost of Account 921 Administrative Office Staff Employees of the Utility. This methodology ensures the costs of the office space used by the gas utility employee follows that employee's time charged to affiliates.

Q. What types of expenses are included in the occupancy costs?

A. Office rent expense is the main component of the administrative occupancy costs, and the other components include phones, office supplies, furniture, utilities, copier and printer costs, software and hardware costs, and amortization of the office space leasehold improvements.

[32] FERC 921 includes all of the office staff that may charge time to affiliates under our Master Services Agreement including Accounting, Executives, Purchasing, IT, etc.

Q. Is AWEC correct that the current administrative overhead rate is based on historical lease costs?

A. Yes. The Company calculates the administrative overhead rate in arrears using the prior year actuals to arrive at the administrative overhead rate to be used for that fiscal year.

Q. How frequently does the Company review and update the administrative overhead rate?

A. Per the CAM, the Company calculates the overhead amount for allocations on an annual basis.[33] We ordinarily perform this review in the first quarter after all costs for the prior year are known.

Q. Has the Company changed the administrative overhead rate recently?

A. No. The 27.5 percent overhead rate reflected in the current CAM[34] has not changed since the Company's original CAM, as each year's calculation has come close to that standard rate.

Q. Have you calculated an updated administrative overhead rate taking into account the increase in lease expense associated with 250 Taylor and other cost increases that are projected to occur in the Test Year?

A. Yes. We performed an updated calculation for administrative overhead to reflect Test Year lease expense, which is shown on exhibit NW Natural/2003, Faulk.

[33] CAM at 6.
[34] *Id.*

Q. Please explain how you calculated the Test Year forecast for administrative overhead.

A. To calculate the administrative overhead rate for the Test Year, we started with the forecasted administrative overhead occupancy costs, and divided the occupancy costs by the total payroll and benefits forecasted for the FERC 921 Administrative Staff employees in the Test Year. For the payroll portion, the Test Year calculation started with the 2019 payroll actuals as shown in the Company's Response to OPUC Data Request 308, adjusted for the respective pay rate increases used in the O&M Model as shown in the Company's Response to OPUC Data Request 282.

Q. How is the expense associated with 250 Taylor reflected in your calculation?

A. As shown in exhibit NW Natural/2003, Faulk, we started with the Oregon O&M headquarters expense of $6,910,346, and then adjusted that amount to reflect the Administrative Office Staff that charge time to affiliate matters. Specifically, the portion allocated to FERC 921 Administrative Office Staff only is 42.45 percent of the headquarters employees as of December 2019, and that same ratio was applied for our Test Year calculation as well.

Q. What is the updated administrative overhead rate?

A. The updated administrative overhead rate is projected to be approximately 28.5 percent.[35]

[35] As shown in exhibit NW Natural/2003, Faulk, the updated administrative overhead rate is 28.6 percent, which rounded to the nearest half percentage is 28.5 percent.

Q. Will the Company adjust the administrative overhead rate charged to affiliates to reflect this increase?

A. Yes. The Company proposes to increase the administrative overhead rate to 28.5 percent starting November 1, 2020.

Q. Does AWEC propose any adjustment to revenue requirement in connection with its comment about lease expense potentially being understated?

A. No.

Q. Did you analyze the revenue requirement impact of updating the administrative overhead rate?

A. The impact to Oregon-allocated O&M for the Test Year using the new forecasted administrative overhead rate of 28.5 percent is a reduction to expense in the amount of $12,900. This adjustment is reflected in the updated revenue requirement presented in the Reply Testimony of Kyle Walker, NW Natural/2400, Walker.

Q. Does this conclude your Reply Testimony?

A. Yes.

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Amanda Faulk

ACCOUNTING DATA / TRAVEL EXPENSE / COST ALLOCATIONS

EXHIBIT 2001

This exhibit is being filed in its original Excel form.

May 29, 2020

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Amanda Faulk

ACCOUNTING DATA / TRAVEL EXPENSE / COST ALLOCATIONS

EXHIBIT 2002

May 29, 2020

NW Natural®
Company Policy

Business Travel Procurement and Expense Reimbursement Policy

Index No. 80.1 Effective date: June 12, 2012 Page 1 of 3
Cancels version dated: May 22, 2006

Application

This Policy applies to all Company employees and anyone else traveling at the Company's expense.

Purpose

Business travel is a significant expense to NW Natural. Minimizing the costs of business travel while giving due consideration to employees' comfort and convenience requires a balanced approach, which is addressed by this Policy.

Designated Travel Agent

It is the Company's objective to utilize travel discount programs. Therefore, Azumano Travel is designated as the Company's travel agent and online reservation tool (Concur-Cliqbook) for all air travel. Airline reservations fulfilled through any other travel agency or service are not reimbursable. Car rentals and hotel reservations should also be booked through Azumano, however, employees may take advantage of other booking mechanisms to obtain conference rates and other discounts.

Employees are responsible for making their own business travel reservations and may do so by accessing the Azumano Travel online reservation tool or by calling the agent-assisted reservations desk. The online reservation tool is the preferred method for fulfilling reservations and is available through an Intranet (Hub) portal.

Policy

1.1 It is the policy of NW Natural that employees use the most appropriate and economical transportation and accommodations for business travel. To minimize the costs of business travel and streamline the travel reservation process, all airfare reservations are fulfilled through the Company's designated travel agent, as are hotel and car rental reservations when the Company's designated travel agent can procure the best price.

1.2 Employees will be reimbursed for certain expenses incurred during business travel. All business travel expenses must relate to a clearly stated business purpose. Managers, designated as business expense approvers, are responsible for the legitimacy, integrity, and accuracy of the items they approve.

Travel Guidelines

2.1 All employees who travel on business are expected to follow this Policy and the following guidelines. Employees who incur travel expenses exceeding these guidelines, without proper approval, will not be reimbursed for excess costs.

Making Travel Arrangements

3.1 Employees must receive their manager's pre-authorization before making reservations for business travel. A manager's pre-authorization is informal and documentation is tracked through the manager's internal process.

3.2 Once business travel reservations are fulfilled, the manager and employee will receive an email from Azumano Travel confirming payment. The manager will review the confirmation with the employee as appropriate, especially if any components are not in compliance with this Policy. Prior to employee's travel date, the manager will forward the email to *Accounting-Travel as formal documentation of the authorization.

Payment Methods

4.1 Air travel reservations must be fulfilled through Azumano Travel and are centrally billed to a Company credit card.

4.2 Rental car reservations fulfilled through Azumano Travel are paid with the employee's Company Purchasing Card (p-card), or for an employee who does not have a Company Purchasing Card, with a personal credit card and the employee is later reimbursed for costs.

4.3 Hotel reservations fulfilled through Azumano Travel are held by the employee's Company Purchasing Card or a personal credit card. When the employee checks out, a Company Purchasing Card (p-card) is used; for an employee who does not have a Company Purchasing Card, a personal credit card is used and the employee is later reimbursed for costs. Employees should make hotel reservations through the host organization (conference or other event) when a discount rate is offered.

4.4 Cash advances can be requested if an employee does not own a personal credit card or chooses not to use it. Cash advances are for the estimated hotel costs, meals, and other out of pocket expenses. The employee needs to reconcile actual expenses with cash advanced.

Air Travel

5.1 When fulfilling air travel reservations, employees should not exceed the lowest airfare listed by Azumano Travel by more than $50. Employees are required to explain the reason for exceeding this limit during the reservation process.

5.2 Airline reservations should be made at least 14 days in advance to take advantage of discounted fares.

5.3 All reservations are for economy class. Exceptions require approval of a division officer.

5.4 Employees may keep any points accumulated through frequent flyer programs. However, employees are prohibited from passing on low cost flights in order to accumulate points on another airline. The use of points for business travel is not a reimbursable business expense.

5.5 If an employee does not use an airline ticket, he/she must contact Azumano Travel before the travel date to initiate credit processing. Unused paper tickets must be returned to Azumano Travel.

Rental Cars

6.1 Rental cars should only be used when an employee's personal car, a company car, or public transportation is not a practical alternative
6.2 A mid-size car is standard, unless employee requests a smaller car or circumstances warrant a larger car
6.3 All optional insurance offered by the car rental agent must be declined. All necessary insurance is already provided through the Company's insurance carrier

Use of Personal Vehicle

7.1 If use of the employee's personal vehicle is authorized in lieu of air travel or rental car, the employee will be reimbursed for actual expenses in accordance with the current mileage reimbursement rate and Policy Index 100.
7.2 Mileage will not be reimbursed in excess of the airfare equivalent.

Reimbursable Daily Expenses

8.1 Employees will be reimbursed for reasonable meal expenses while traveling. Business meals, which include customers or business guests discussing Company business, are reimbursable.
8.2 While attending conferences or other events where meals are included as part of the event, employees will not be reimbursed for personal meals unless approved by the employee's manager.
8.3 Reasonable parking fees, bridge tolls, telephone charges, public transportation fares and travel related tips are reimbursable with supporting receipts.
8.4 BU employees should refer to Joint Accord and Compensation for Travel Joint Accord Guideline for additional guidance and information.

Companion Travel

9.1 Business travel with a companion is allowed, but the travel costs of the companion are not reimbursable. Business travel, which includes a companion, must be fulfilled through the agent-assisted reservation desk of Azumano Travel, so companion costs can be paid for with a personal credit card.

Extended Time for Personal Travel

10.1 Additional time for personal travel may coincide with business travel. Reservations for personal travel, which coincide with business travel, may be fulfilled through Azumano Travel. Any costs beyond the costs of the business travel are not reimbursable and those days spent for personal travel will be charged to the employee's vacation/PTO allowance.

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

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NW Natural

Reply Testimony of Amanda Faulk

ACCOUNTING DATA / TRAVEL EXPENSE / COST ALLOCATIONS

EXHIBIT 2003

May 29, 2020

The Company calculates the additional administrative overhead load using annual amounts recognized for administrative overhead occupancy costs with a focus on FERC 921 -'Administrative Office Staff' related occupancy costs of the Utility divided by Total Cost of FERC 921 'Administrative Office Staff' employees of the Utility.

Total Administrative Occupancy cost is inclusive of the following items:

	DR 308 2019	Test Year Forecast	Variance	
RENTS AND LEASES	$ 1,243,284	$ 2,933,419	$ 1,690,135	Increase in rent and leases attributable to administrative employees/FERC 921 due to 250 Taylor
TELEPHONE	$ 966,644	$ 1,010,626		
CELLULAR PHONES	$ 872,059	$ 911,738		
OFFICE SUPPLIES	$ 106,367	$ 111,207		
FURNITURE < 500	$ 9,435	$ 9,864		
UTILITIES	$ 86,400	$ 90,331		
COPIER LEASE/MAINT	$ 99,580	$ 104,111		
SOFTWARE MAINT	$ 3,869,899	$ 4,045,979		
HARDWARE MAINT	$ 769,155	$ 804,152		
DEPRECIATION	$ 5,281,529	$ 5,521,838		
AMORTIZATION	$ 118,760	$ 124,163	$ 554,182	Remaining increase due to normal CPI increases
Total Administrative Occupancy Overhead Cost	$ 13,423,110	$ 15,667,427	$ 2,244,317	Total Administrative OH cost increase

Total Cost of Administrative Office Employees is calculated as follows: (Total payroll, for purposes of this calculation, is limited to 921 employees)

	2019	Test Year Estimate		
SALARY PAYROLL	$ 25,613,697.81	$ 27,681,577.01		
SALARY OVERTIME	$ 1,675.00	$ 1,810.23		
SALARY P/T PAYROLL	$ 30,448.00	$ 32,906.17		
VACATION, SICK & HOL	$ 3,678,141.00	$ 3,975,089.58		
PAYROLL OH - OFFICER	$ 2,206,458.52	$ 2,393,580.91		
PAYROLL OVERHEAD	$ 13,402,748.02	$ 14,484,796.54		
Hourly Regular Pay	$ 1,293,983.00	$ 1,387,413.75		
P/T Hourly Payroll	$ 20,518.00	$ 21,999.48	3,731,504	Payroll Rate Increases
PENSION COSTS	$ 3,976,635.28	$ 4,820,513.14	843,878	Pension non-service costs increase
Total Payroll	$ 50,224,304.63	$ 54,799,686.82	4,575,382	Total Administrative Payroll Cost increase

Total Administrative overhead load is calculated as follo	2019	Test Year Calc
Total Administrative Overhead Cost	$ 13,423,110.01	$ 15,667,427.13
Total Payroll	$ 50,224,304.63	$ 54,799,686.82
Total Administrative Overhead Rate	26.7%	28.6%
In line with 27.5%	Yes	No - Above
Difference	0.8%	-1.1%

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Tobin Davilla

OPERATIONS & MAINTENANCE / CAPITAL

EXHIBIT 2100

May 29, 2020

EXHIBIT 2100 – REPLY TESTIMONY – OPERATIONS & MAINTENANCE / CAPITAL

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- NW Natural/2104, Davilla - Overlap of Shareholder and IR Expense Adjustment
- NW Natural/2105, Davilla - AWEC Response to NWN DR 3

I. INTRODUCTION AND SUMMARY

Q. Mr. Davilla, please state your name and position with Northwest Natural Gas Company ("NW Natural" or "the Company").

A. My name is Tobin Davilla. I am the Budget and Financial Analysis Manager at NW Natural. I am responsible for producing the annual operations and maintenance ("O&M") budget, the capital expenditures ("capex") budget, and the income statement budget. I also support the development of the short-term and long-term financial forecasts for senior management and support the organization with financial modeling and analysis.

Q. Are you the same Tobin Davilla who previously provided Direct Testimony in this docket?

A. Yes, I presented NW Natural/900, Davilla.

Q. What is the purpose of your Reply Testimony in this proceeding?

A. The purpose of my Reply Testimony is to respond to testimony filed on April 17, 2020, by the Public Utility Commission of Oregon ("Commission") Staff ("Staff"), the Alliance of Western Energy Consumers ("AWEC"), and the Oregon Citizens' Utility Board ("CUB") related to O&M expenses and capital forecasts. I will respond to issues presented in the testimony of Staff witnesses Marianne Gardner (Staff/100), John L. Fox (Staff/200), Brian Fjeldheim (Staff/300), Russ Beitzel (Staff/500), Mitchell Moore (Staff/600), Sabrinna Soldavini (Staff/700), and Paul Rossow (Staff/1200); CUB witness William Gehrke (CUB/200); and AWEC witness Bradley G. Mullins (AWEC/100).

Q. Please summarize your Reply Testimony.

A. In my testimony, I respond to proposed disallowances and concerns raised by Staff, AWEC, and CUB on the following issues:

<u>O&M Expenditures and Forecasts</u>

- *Non-Payroll O&M Escalation Method:* In response to Staff witness Ms. Gardner, I explain that NW Natural accurately projects the majority of non-payroll O&M costs using the West Region Urban Consumer Price Index ("CPI"), as this inflation index most accurately reflects the costs experienced by the Company. However, the Company would not object to CUB witness Mr. Gehrke's proposal to use the latest published West Region Urban CPI, released in February of 2020.
- *Non-Payroll Gas Storage O&M Expenses:* In response to Staff witness Mr. Fjeldheim and AWEC witness Mr. Mullins, I explain that NW Natural properly forecast that the Company will incur $3.134 million associated with gas storage O&M expenses in the Test Year, due in part to substantial refurbishment and equipment costs that are amortized over a 5-year period.[1]
- *Non-Payroll Plant Maintenance Expenses:* In response to Staff witness Mr. Moore, I explain that the Company has supplemented its responses to Staff's data requests for transaction-level information concerning plant maintenance. I also explain that NW Natural properly forecast that the Company will incur $2.871 million in non-payroll plant maintenance expenses in the Test Year, due

[1] The compressor refurbishment is discussed in more detail in the Reply Testimony of Joe Karney (NW Natural/1400, Karney).

in part to increases in operating expenses at the new operations center building. In so doing, NW Natural has fully supported its cost recovery request for non-payroll expenses associated with plant maintenance.

- *Non-Payroll Distribution O&M Expenses:* In response to Staff witness Mr. Moore, I explain that NW Natural properly forecast that the Company will incur $14.434 million in the Test Year, and provide supplemental analysis demonstrating that the Company's increase in non-payroll distribution O&M expenses results from critical work necessary to support the Company's provision of safe and reliable service. In addition, the increase in contracted locating expenses is reasonable and consistent with public policy, which should encourage—rather than dis-incentivize—this category of expense as necessary to ensure public safety.
- *Directors and Officers ("D&O") Insurance:* In response to Staff witness Mr. Fjeldheim, I explain that the Company's allocation of D&O insurance policy premiums are appropriately included in rates, as these expenses protect the Company's financial stability and ensure that the Company can continue to reliably serve customers.
- *Regulatory Expenses:* In response to Staff witness Ms. Soldavini, I explain that the Company is generally willing to adopt Staff's more granular approach to allocating state-specific regulatory expenses in this case. However, I propose a correction to Staff's approach to include a reasonable level of Oregon rate case expenses.

- *Dues and Memberships Expenses:* In response to Staff witness Mr. Rossow, I explain that the Company's dues and memberships expenses are a necessary portion of the Company's business expenses, as many memberships are essential to allowing NW Natural's employees to perform their job functions. In addition, dues and memberships further employee education, growth, and industry engagement.
- *Meals & Entertainment, Awards, and Gifts Expenses:* In response to Staff witness Mr. Rossow, I explain that cost recovery for these expense categories is appropriate, even where such costs are associated with non-bargaining unit employees, because these costs effectively support the provision of utility service and are supported by sufficient evidence.
- *Travel Expenses:* In response to Staff witness Mr. Rossow, I explain that the Company has supplemented its reporting of business-related travel expenses, and further detail the Company's policies and processes intended to contain travel-related costs to the benefit of customers. This supplemental documentation demonstrates that the Company's travel expenses were incurred for prudent business purposes and should be fully recoverable in rates.
- *Shareholder and Investor Relations Expenses:* In response to Staff witness Ms. Soldavini, I explain that shareholder and investor relations expenses are a crucial component of how the Company accesses financing, and is thereby able to serve customers. Moreover, a portion of these costs is already allocated to non-utility or affiliate entities, and thus has already been excluded from the

Company's cost-recovery request. As a result, full cost recovery of the Company's remaining utility-allocated expenses is appropriate.

- *Board of Directors' Fees and Related Expenses:* In response to AWEC witness Mr. Mullins, I explain that Board of Directors' fees are an essential cost of doing business, and time spent on non-utility or affiliate concerns has already been excluded from the Company's cost recovery request. Mr. Mullins' proposal to disallow one half of the Company's Board of Directors' costs inappropriately conflates a utility/non-utility allocation issue with a prudence inquiry.
- *250 Taylor Expenses and Affiliate Employees:* In response to AWEC witness Mr. Mullins, I agree that some adjustment to the Company's tenant improvement expenses and lease expense is appropriate, to reflect the fact that three affiliate employees will be located at the Company's new operations center (also known as "250 Taylor") in the Test Year. However, I explain that properly calculating this adjustment would result in a decrease to the Company's revenue requirement of $9,576.
- *Demonstration and Selling Expenses:* In response to Staff witness Mr. Beitzel, I explain that the Company's demonstration and selling expenses are an important part of ensuring safe and efficient provision of service, while also benefitting existing customers by increasing the overall customer pool available to support system costs. As a result, these costs should be fully recoverable.

Capital Expenditures and Forecasts

- *Confidential Forecasts:* In response to Staff witness Mr. Fox, I explain that, after further consideration of this issue, NW Natural is willing to designate its forecasts of Test Year capital expenditures as non-confidential.
- *Discrete Test Year Capital Investments:* In response to Staff witness Mr. Fox, I explain that assets placed in service during the Test Year "snapshot" are "used and useful" and therefore appropriately included in rates. This issue is addressed more fully in the Reply Testimony of Zachary Kravitz (NW Natural/1300, Kravitz).
- *Non-Discrete Test Year Plant Additions:* In response to Staff witness Mr. Fox, I explain that predictable, non-optional capital investments that are necessary to serve customers during the Test Year are appropriately included in rates. Moreover, even if such "run rate" capital expenses were limited to distribution-related expenses, this category of recoverable costs would include more than meters and services.
- *Capital Investments Prior to the Rate Effective Date:* In response to Staff witness Mr. Fox, I explain that the Company's BI Strategy/Power BI Deployment, Digital Portal, and Field and Web Mapping projects are appropriately included in the Company's rate request because these assets will be placed in service before November 1, 2020. Staff will have adequate opportunity to review the costs associated with these investments prior to the rate effective date, though NW Natural is also amenable to Staff's proposal to provide officer attestations confirming that these projects have been placed in service. In addition, I explain

that the Company agrees to remove the investments in the Portland LNG Liquefaction Alt. Study and the Mist Compressor Study, but the Company's remaining investments in the Lincoln City Land Purchase and Warrenton Land Purchase are appropriately included in rates as they are placed in service prior to the rate effective date and will be used and useful to serve customers.[2]

- *FERC Account 367 Mains:* In response to AWEC witness Mr. Mullins, I explain the basis for the Company's increased costs in this category of expenses, including substantial incremental capital investments, safety-related projects, and "run rate" capital spending.
- *Mist Storage Rate Base FERC Classification:* In response to AWEC witness Mr. Mullins, I explain the appropriate classification of forecasted Mist Storage rate base expenses and confirm that the Mist Storage capital investments are expected to be placed in service by November 1, 2020.

II. O&M EXPENDITURES AND FORECASTS

Q. Please summarize how the Company's Test Year O&M costs were developed.

A. As explained in Direct Testimony, the Company developed Test Year O&M costs by separating Base Year O&M amounts into three components: (a) O&M payroll costs, (b) O&M non-payroll cost, and (c) O&M other cost adjustments.[3] The Base Year O&M non-payroll costs, except for several specific items, were

[2] The Lincoln City and Warrenton Land Purchases is discussed in more detail in the Reply Testimony of Wayne Pipes (NW Natural/1500, Pipes/17-19).
[3] NW Natural/900, Davilla/3.

escalated using the most current West Region Urban CPI to yield O&M cost forecasts for the Test Year. For certain O&M expenses, where cost increases do not correlate to the West Region Urban CPI (for instance, because the costs increase pursuant to specific contractual provisions), the Company individually calculated these incremental cost increases to yield the total Test Year costs.

Q. Please indicate what category of O&M costs you will be addressing in this Reply Testimony.

A. I will be addressing non-payroll O&M issues only. Payroll costs are addressed in the Reply Testimony of Melinda Rogers (NW Natural/1700, Rogers).

A. <u>Non-Payroll O&M Escalation Method</u>

Q. When the Company used a CPI escalation method to forecast Test Year non-payroll O&M expenses, which CPI did the Company use?

A. As explained in my Direct Testimony, the Company generally escalated non-payroll costs using year-over-year increases reflected in the West Region Urban CPI, as reported in the September 2019 Oregon Economic and Revenue Forecast, published by the Oregon Office of Economic Analysis ("OEA"). The Company specifically selected the West Region Urban CPI because a regional CPI provides a better measure of aggregate price changes than a national CPI.

Q. Did the Company use the same CPI index in its most recent rate case?

A. No. In the Company's most recent rate case, we used the Portland-Salem CPI.[4]

[4] Docket UG 344, NW Natural/1700, Moncayo/12.

Q. Why did the Company transition to the West Region Urban CPI?

A. The OEA no longer issues the Portland-Salem CPI. As a result, the Company transitioned to a regional CPI that most accurately reflects the costs incurred by the Company. The West Region Urban CPI includes data from thirteen states: Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

Q. Does Staff agree that the Company should use the West Region Urban CPI to escalate O&M expenses?

A. No. Staff witness Ms. Gardner would apply the Consumer Price Index – All Urban Consumers for the U.S. ("All Urban CPI"), as published by the OEA, for year-over-year escalation of expenses.[5]

Q. Does Ms. Gardner explain why Staff uses the All Urban CPI for the escalation factor rather than the West Region Urban CPI?

A. No. Ms. Gardner simply states that it is "Staff policy" to use the All Urban CPI. However, as explained in my Direct Testimony, a regional CPI provides a better measure of aggregate price changes experienced by the Company than the national CPI proposed by Staff because the Company's non-payroll expenses are largely regional expenses generated in Oregon or southwest Washington.[6] Therefore, national price fluctuations will be less representative of the price changes experienced by the Company than the West Region Urban CPI.

[5] Staff/100, Gardner/13.
[6] NW Natural/900, Davilla/9-10.

Q. Are Oregon-specific cost changes reflected in the All Urban CPI?

A. Yes, but to a much lesser extent than in the West Region Urban CPI. Oregon's economy differs from national trends in areas that directly impact the Company's costs, such as wages, property, and fuel. For example, compared to all other U.S. states, Oregon has the fourth highest gasoline prices,[7] the eighth highest minimum wage,[8] and the seventh highest median home price.[9] All of these costs result in increased prices for non-payroll items.

The combined impact of these cost increases can also be seen through Oregon's relative cost-of-living index, shown below for 2019.[10]

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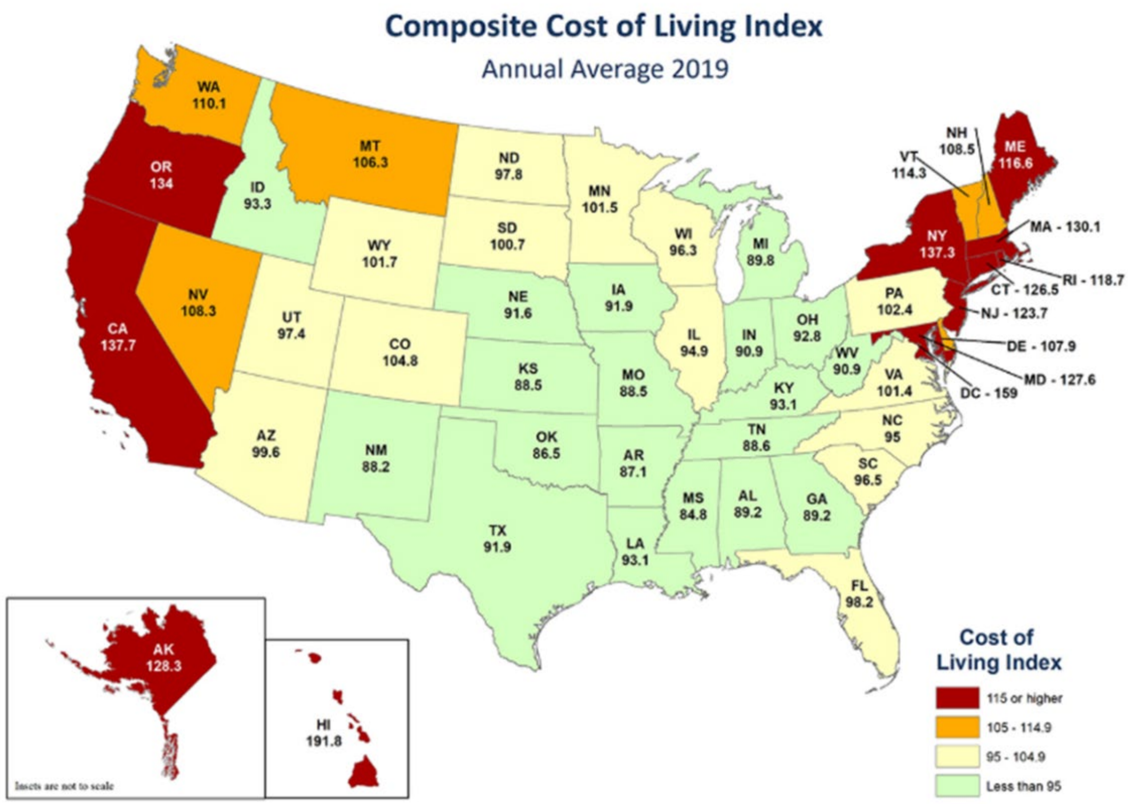
[7] AAA, "State Gas Price Averages" (2019) (accessed May 3, 2020) (comparing gas prices by state), available at https://gasprices.aaa.com/state-gas-price-averages.
[8] U.S. Dep't. of Labor, "State Minimum Wage Laws" (Jan. 1, 2020) (accessed May 13, 2020) (comparing minimum wage by state), available at: https://www.dol.gov/agencies/whd/minimum-wage/state.
[9] Experian, "Median Home Values by State" (Nov. 18, 2019) (accessed May 13, 2020) (comparing home prices by state), available at: https://www.experian.com/blogs/ask-experian/research/median-home-values-by-state/.
[10] Missouri Economic Research and Information Center, "Cost of Living Data Series" (accessed May 13, 2020), available at: https://meric.mo.gov/data/cost-living-data-series.



The cost-of-living index allows for a state-by-state comparison of the overall cost of goods and services. The states that make up the West Region Urban CPI have an average cost of living index of 116. This still falls short of the Oregon index of 134, but is much closer than the national average of 100. In sum, the All Urban CPI fails to adequately capture Oregon's greater inflationary pressure, which results in greater inflation for the Company's costs.

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Q. Do other entities that operate in Oregon use the West Region Urban CPI to escalate costs?

A. Yes. The Oregon Public Employees Retirement System ("PERS") uses the West Region Urban CPI to ensure that retirees' income keeps pace with the rising prices they experience.[11]

Q. Does Ms. Gardner propose an adjustment related to the CPI?

A. Not at this time. However, Ms. Gardner is reserving the right to propose an adjustment to non-payroll O&M, pending resolution of discovery concerns, and therefore has not calculated the impact of Staff's proposal to apply the All Urban CPI. However, other Staff witnesses apply the Staff-recommended All Urban CPI, and so some adjustments associated with Staff's preferred inflation index have already been proposed.[12]

Q. Does Staff consistently apply its preferred All Urban CPI?

A. No. Staff witness Mr. Rossow applies the West Region Urban CPI to escalate expenses[13], and Staff witness Mr. Fjeldheim applies no CPI at all.[14]

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[11] Oregon Public Employees Retirement System, "2020 Cost-of-Living Increase Coming in August" (accessed May 13, 2020), available at: https://www.oregon.gov/pers/RET/pages/2020-cola-increase.aspx

[12] Staff/100, Gardner/14. The Company's response to Staff's discovery concerns are addressed in more detail in the Reply Testimony of Amanda Faulk (*NW Natural/2000, Faulk)*.

[13] Staff/1200, Rossow/7 ("Once Staff determined the disallowance based on 2019 dollars, Staff escalated using the Company's West Region [Urban] CPI[.]").

[14] Staff/300, Fjeldheim/10 ("Staff proposes using the three-year average value (2017-2019)").

Q. Do other parties support using the West Region Urban CPI?

A. Yes. CUB witness Mr. Gehrke supports NW Natural's proposal to use the West Region Urban CPI.[15] However, Mr. Gehrke suggests using the most recent update to the West Region Urban CPI, released in February 2020.[16]

Q. Is NW Natural willing to consider CUB's proposal to use the updated West Region Urban CPI?

A. Yes. NW Natural would not object to using the most recently published West Region Urban CPI, and agrees that the impact of this adjustment would be to reduce the Company's filed O&M expense by $162,000.

Q. What escalation factor does AWEC propose applying to the Company's O&M expenses?

A. AWEC proposes foregoing any escalation factor at all, for two reasons. First, AWEC witness Mr. Mullins appears to believe that the Company applies an escalation factor *on top of* project-specific O&M cost adjustments.[17] Second, Mr. Mullins asserts that *any* escalation is inappropriate due to "the current economic crisis[.]"[18]

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[15] CUB/200, Gehrke/9.
[16] CUB/200, Gehrke/9.
[17] AWEC/100, Mullins/21 (stating that NW Natural's approach "will overstate its O&M costs because the increase associated with the project specific forecast[] will otherwise already be captured in the escalation assumption amount").
[18] AWEC/100, Mullins/21.

Q. Is Mr. Mullins correct that the Company applies an escalation factor on top of project-specific cost forecasts?

A. No, the Company does not layer escalation factors. As explained in Direct Testimony, the Company relies on a regional inflation index except where specific information demonstrates that the CPI escalation factor is not applicable. For instance, certain expenses escalate pursuant to contractual agreement or to reflect new, incremental cost items. For these expenses, the Company *did not apply* the West Region Urban CPI. Thus, at no point did the Company apply both specific project escalations and the CPI escalation factor.

Q. Does the current economic uncertainty support removing any inflation adjustment?

A. No. As Mr. Mullins points out, there is considerable uncertainty surrounding the impacts of the COVID-19 public health emergency.[19] Indeed, this uncertainty means that no clear conclusions regarding the emergency's long-term impacts can yet be drawn. While certain costs may decrease, other costs may increase due to supply bottlenecks or other causes. Yet Mr. Mullins would modify the Company's revenue requirement for non-payroll O&M by $2.68 million to reflect an assumption that, as a result of the current economic environment, historical inflation rates will flat-line.[20] The Company believes that it is inappropriate to make this—or any other—assumption concerning the impact of COVID-19 at this time.

[19] AWEC/100, Mullins/22.
[20] AWEC/100, Mullins/22.

Q. Does Mr. Mullins accurately calculate the impact of removing inflation?

A. No. Removing the impact of inflation would result in a $1.83 million downward adjustment to non-payroll expenses.

B. <u>Non-Payroll Gas Storage O&M Expenses</u>

Q. Please explain what costs are included in non-payroll gas storage O&M expenses.

A. Non-payroll gas storage O&M expenses are included in FERC accounts 813-847, and involve the costs associated with operating and maintaining the Company's wells, compressors, reservoirs, dehydrators and related equipment.

Q. How did the Company forecast its gas storage O&M expenses for the Test Year?

A. As described above regarding the forecasting of O&M expenses generally, the Company established its Base Year expenses using actual O&M expenses incurred from January through September of 2019, with additional expenses forecast for the remaining three months of 2019. This amount was then escalated using the West Region Urban CPI. The Company then added two incremental expenses to this cost category on an Oregon-allocated basis: (1) $683 thousand in FERC account 834 associated with four compressors that are being rebuilt,[21] and (2) $49 thousand in FERC account 818 for a leased compressor agreement that began in July of 2019 (and was therefore included

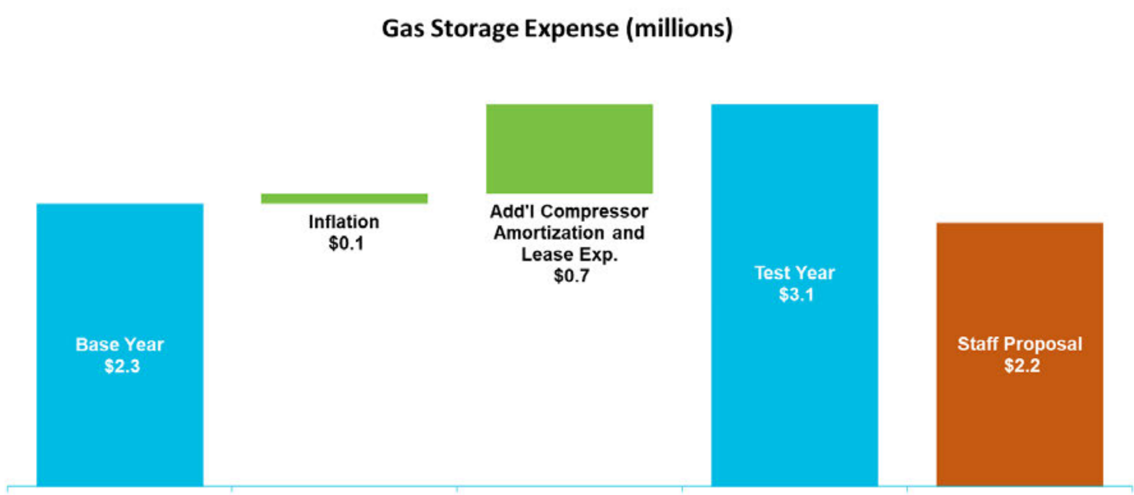
[21] The compressor refurbishment is discussed in more detail in the Reply Testimony of Joe Karney (NW Natural/1400, Karney).

for only half of the Base Year).[22] This calculation yielded the Company's Test Year gas storage operating expense forecast. Based on these calculations, the Company has projected that the non-payroll expense associated with its gas storage operations will increase from $2.320 million to $3.134 million.

Q. How does Staff witness Mr. Fjeldheim propose to calculate the appropriate level of gas storage operating expenses for the Test Year?

A. Mr. Fjeldheim proposes calculating the Company's Test Year expense by averaging NW Natural's actual gas storage operating expenses for the previous three years (2017-2019). Staff's approach results in a disallowance of $1.018 million.[23] Staff's adjustment, as compared to the Company's cost recovery request, is shown below in Table 1:

Table 1



[22] NW Natural/900, Davilla/12.
[23] Staff/300, Fjeldheim/10.

Q. Does Mr. Fjeldheim explain why using a three-year average is a more appropriate method for determining the Company's Test Year gas storage operating expenses than an inflation index adjustment?

A. No. Mr. Fjeldheim concedes that he was unable to identify an order in which the Commission has addressed this issue. Rather, Mr. Fjeldheim states that it is "Staff practice" to use a three-year average, unless long-term trends suggest otherwise.

Q. Why is it inappropriate to apply a three-year average to determine Test Year gas storage operating expenses?

A. Applying a three-year average to determine Test Year gas storage operating expenses is inappropriate for several reasons. First, a three-year average inappropriately flattens recent trend lines into a single data point. Indeed, while Staff describes its approach as considering recent "trends," averaging three years of data is not a trend. Instead, the three-year average approach discounts recent trends, which include cost increases that will continue year-after-year. For instance, beginning in November of 2017, the Company began incurring an increased monthly cost of $20 thousand, contributing to the Company's upward trend line of recent gas storage operating expenses. By averaging the past three years of expenses (2017-2019), Staff's approach inappropriately reduces this ongoing cost increase.

Second, a three-year average ignores incremental expenses that the Company will incur in the Test Year. In my Direct Testimony, the Company explained that NW Natural will incur an additional $683 thousand in compressor maintenance costs and an additional $49 thousand in compressor lease expenses (both on an Oregon-allocated basis) during the Test Year.[24] These cost increases were not part of the 2017-2019 period relied upon by Staff. Staff fails to address these additional expenses or explain why the Company should not be permitted to recover these prudently incurred costs.

Third, having identified an average of the Company's 2017-2019 costs, Staff fails to apply any escalation or inflation factor. An inflation rate would be the bare minimum adjustment necessary to create a forward-looking projection.

Q. Does Staff explain why gas storage operating expenses should be treated differently from other O&M expenses?

A. No. Staff does not explain or acknowledge the inconsistency of using a three-year average and no inflation rate for gas storage operating expenses, but applying an escalation factor to Base Year expenses for other categories of O&M expenses. Staff's proposal ignores the reality of cost increases and inflation—systematically biasing the forecast to be too low despite rising costs.

Q. Did Mr. Fjeldheim consider any other factors when arriving at his recommendation regarding NW Natural's gas storage operating expense?

A. Yes. Mr. Fjeldheim noted that, in May of 2019, NW Natural released 600,000 dekatherms of storage capacity in the Mist Storage Facility to Cascade Natural Gas Corporation ("Cascade")—seemingly implying that the Company has reduced storage capacity and therefore should have reduced storage expenses.

[24] NW Natural/900, Davilla/12.

Mr. Fjeldheim contrasts this with the Company's proposal for a 30.4 percent increase in total gas storage operating expenses from the 2019 Base Year to the 2021 Test Year.

Q. Are there any misconceptions in Staff's comments?

A. Yes. Staff appears to suggest that the Company's release of storage capacity to Cascade is relevant to this rate case. However, the portion of the storage capacity released to Cascade concerns portions of the Mist storage facility that are not charged to general ratepayers and are not included in this rate case.[25] As a result, this release of storage capacity is irrelevant, as it would not have any effect on rates.

Q. Do other parties propose adjustments to the Company's gas storage operating expenses?

A. Yes. AWEC witness Mr. Mullins objects to adjusting the Company's Test Year gas storage operating expenses to reflect the increased operating expenses associated with Mist Storage.[26] Specifically, Mr. Mullins states that NW Natural does not sufficiently elaborate on the drivers of the increased expenses associated with Mist Storage, beyond the need for a new dehydrator—which, Mr. Mullins states, should result in reduced O&M expenses due to improved efficiency and increased life span of the new equipment.[27] The impact of

[25] Cascade is an interstate storage non-utility customer. Revenues from interstate storage customers are shared back with utility customers through adjustment schedule 185.
[26] AWEC/100, Mullins/6-7.
[27] AWEC/100, Mullins/6-7.

Mr. Mullins' proposed adjustment is to reduce the Company's Test Year revenue requirement by $1,244,356.

Q. Did the Company describe the drivers of increased O&M in the Test Year for storage expenses?

A. Yes. In Direct Testimony, the Company explained that NW Natural will incur an additional $683 thousand in compressor maintenance costs and an additional $49 thousand in compressor lease expenses (both on an Oregon-allocated basis) during the Test Year.[28]

Q. Is Mr. Mullins correct that replaced equipment will reduce the Company's overall gas storage operating expenses?

A. No. The Company's increased costs associated with the Mist Storage compressor refurbishment are amortized over a five-year period—meaning that the Company's O&M expenses will remain elevated on an ongoing basis.

C. <u>Non-Payroll Plant Maintenance Expenses</u>

Q. Please explain what costs are included in non-payroll plant maintenance expenses.

A. Non-payroll plant maintenance expenses are contained in FERC account 935, and reflect the Company's costs associated with maintaining miscellaneous utility plant, such as NW Natural's properties and operations center.

[28] NW Natural/900, Davilla/12.

Q. What has the Company proposed to include in the Test Year for non-payroll plant maintenance expenses?

A. The Company has proposed to include $2.87 million for non-payroll plant maintenance expenses in the Test Year, a $0.92 million increase over the Base Year. The Company calculated its Test Year amount by beginning with the Company's Base Year expenses, applying the West Region Urban CPI escalation rate, and adding $818 thousand in incremental expenses associated with operating the Company's new operations center.[29]

Q. What analysis of these expenses did Staff perform?

A. Staff witness Mr. Moore analyzed the line item transaction details and compared the Test Year amount with the annual increase in non-payroll expenses for the past three years.[30]

Q. Based on this analysis, what is Staff's recommendation for plant maintenance expenses?

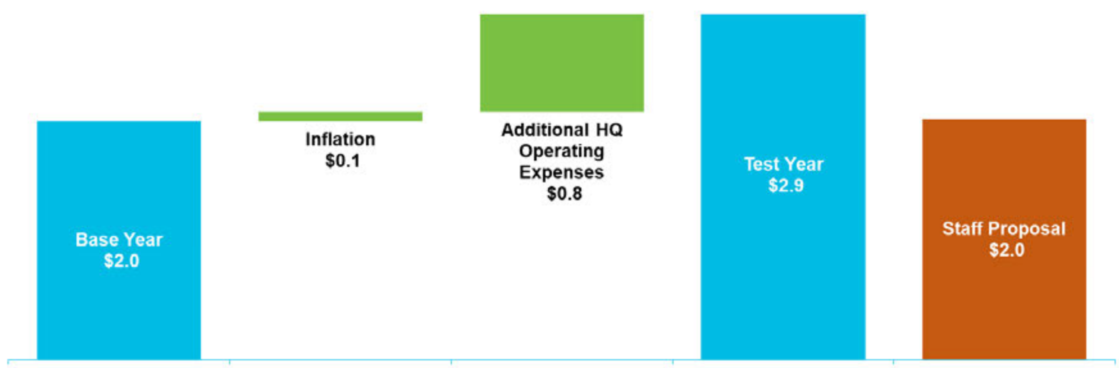
A. Staff recommends that these expenses be adjusted to remove $41.6 thousand in Base Year expenses for lack of adequate description, and then applies the All Urban CPI to escalate the remaining Base Year plant maintenance expenses. This adjustment results in a reduction of the Company's Test Year expenses by $875,000.[31]

[29] NW Natural/900, Davilla/10-11.
[30] Staff/600, Moore/7.
[31] Staff/600, Moore/8.

Staff's adjustment, as compared to the Company's cost recovery request, is shown below in Table 2:

Table 2

Plant Maintenance Expense (millions)



Q. Does NW Natural agree with Staff's proposed adjustment?

A. No, for three reasons. First, as explained above, the West Region Urban CPI is a better predictor of the Company's cost increases than the All Urban CPI applied by Staff. Second, Staff does not explain why his Test Year forecast omits the incremental cost increases associated with the Company's new operations center. These expenses, discussed in more detail in the Direct Testimony of Wayne Pipes (NW Natural/500, Pipes), are prudent and should be recoverable in rates.[32] Third, the Company has provided transaction-level detail concerning its Base Year plant maintenance expenses, and is providing further transaction-level detail in exhibit NW Natural/2101, Davilla. Thus, all Base Year

[32] Plant maintenance expense increases are also discussed in the Direct Testimony of Tobin Davilla (NW Natural/900, Davilla/10-11) and are identified in exhibit NW Natural/904, Davilla.

costs should be fully recoverable, as should the Company's incremental cost increase associated with operating the Company's new operations center.

Q. Please summarize the additional transaction-level detail that the Company is providing concerning Base Year plant maintenance expenses.

A. The additional transaction-level detail provided by the Company concerning Base Year plant maintenance expenses includes descriptions showing that these expenses include everyday items such as lightbulbs, batteries, and hard hats, as well as maintenance of radios, fire alarms, and parking lots.[33] Other examples included the cost of supplying first aid kits to all Company locations and expenses such as Department of Environmental Quality invoices and charges associated with laboratory analytical facilities. The detailed information for this category of expenses is ample to support the Company's cost recovery request.

Q. Please respond to Staff's concerns regarding the adequacy of the Company's transaction-level data.

A. Staff's concerns regarding the adequacy of the Company's transaction-level data are addressed more fully in the Reply Testimony of Amanda Faulk (NW Natural/2000, Faulk). In brief, the Company is in the process of transitioning to new software systems that will help provide more granular accounting and expense reports going forward. While certain categories of expenses will be addressed in the near-term with the implementation of the Concur software program, longer-term benefits will be realized by the new

[33] This additional transaction-level detail is attached here as exhibit NW Natural/2101, Davilla.

Horizon Program initiative, described in more detail in the Reply Testimony of Jim Downing (NW Natural/1600, Downing).

D. Non-Payroll Distribution O&M Expenses

Q. Please explain what costs are included in non-payroll distribution O&M expenses.

A. Non-payroll distribution O&M expenses are tracked in FERC accounts 870-894, and include costs associated with extending service to customers (such as customer installations and the operation and maintenance of services, meters, and mains).

Q. Please explain how the Company calculated non-payroll distribution O&M expenses for the Test Year.

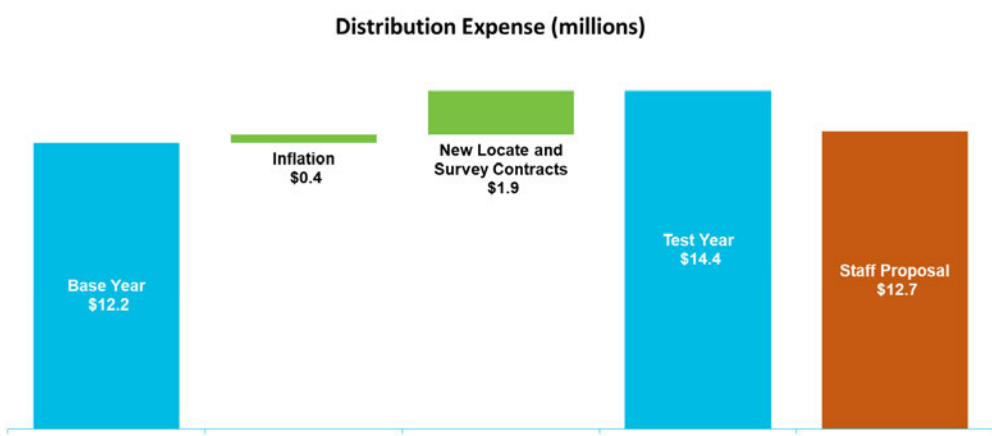
A. Except for specific instances where cost increases are fixed by contract, the Company calculated non-payroll distribution O&M expenses by starting with Base Year expenses, and then escalating to Test Year expenses using the West Region Urban CPI. The Company then added two incremental expenses associated with locating services and a new survey contract (both of which are included in FERC account 874). These cost increases are set by contract, and were therefore calculated separately. Taken together, the Company's non-payroll distribution O&M expenses increased from $12.21 million in the Base Year to $14.43 million in the Test Year.

Q. Does Staff propose an adjustment to the Company's non-payroll distribution O&M expenses?

A. Yes. Staff witness Mr. Moore proposes a $1.71 million reduction to the Company's Test Year non-payroll distribution O&M expenses.[34] Mr. Moore removes "approximately $365,000" in Base Year expenses, which he argues the Company failed to adequately support with transaction-level detail,[35] and then states that he escalates the remaining amount by the All-Urban CPI to 2021.[36] Staff also removes, without explanation, the Company's incremental cost increases. Rather, Staff simply states that the Company's Test Year non-payroll distribution O&M expenses are "out of line" with recent expense trends.[37]

Staff's adjustment, as compared to the Company's cost recovery request, is shown below in Table 3:

Table 3



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[34] Staff/600, Moore/6.
[35] Staff/600, Moore/5. Note, Mr. Moore has been unwilling to identify which transactions lack sufficient detail to warrant his proposed adjustment. *See* Exhibit NW Natural/2105, Davilla (Staff Response to NWN DR 3).
[36] Staff/600, Moore/6.
[37] Staff/600, Moore/5.

Q. Does the Company agree with Staff's proposed adjustment?

A. No, for three reasons. First, Staff again applies the All Urban CPI, which is a less accurate forecast of the cost increases experienced by the Company than the West Region Urban CPI. Second, the Company has provided the transaction-level detail concerning its Base Year distribution expenses, and is providing further transaction-level detail in exhibit NW Natural/2102, Davilla, thus the disallowance of approximately $365 thousand in Base Year expenses is inappropriate. Third, Staff fails to include—or justify omitting—the Company's incremental Test Year expense increases previously described in Direct Testimony: (1) contracted locating services and (2) contracted surveying services.[38] For all of these reasons, the Company does not agree with Staff's $1.71 million adjustment.

Q. Please summarize the additional transaction-level detail provided to support the Company's Base Year expenses.

A. The additional transaction-level detail provided by the Company concerning Base Year non-payroll distribution O&M expenses shows that this category of expenses includes routine operation of and maintenance to distribution and mains, distribution customer maintenance service, customer installation maintenance, and materials and supplies provided by the Company to carry out these O&M activities—including gravel, pipe, mounting kits, test risers, leakage repair materials, and meter repair kits.[39] These descriptions also describe

[38] NW Natural/900, Davilla/13-14.
[39] This additional transaction-level detail is attached here as exhibit NW Natural/2102, Davilla.

expenses associated with leakage inspection work, asphalt paving, and investigation and repair of damaged customer locations.

Q. Please provide more detail concerning the Company's incremental increase in costs for locating services.

A. As explained in my Direct Testimony, locating and marking services are provided by a third-party contractor, Locating, Inc.[40] The Company and Locating, Inc. have entered a new contract with revised rates and services to begin in 2020. The new contract will increase the rate-per-locate, as well as provide two new services: high pressure locates and standby services. To arrive at a total incremental Test Year expense increase, the Company applied these new contractual rates to the Company's anticipated increase in the number of locating service calls received. Together, this resulted in an Oregon-allocated incremental increase to Test Year expenses of $1.6 million.

Q. Please provide more detail concerning the Company's incremental increase in costs for surveying services.

A. As explained in Direct Testimony, surveying and inspection services are provided by a third-party contractor, Heath Consultants.[41] The Company entered a new contract with Heath Consultants on November 25, 2019, and new rates went into effect on January 1, 2020. The contractual agreement sets the rate per foot of inspection. These rates then will increase by 2 percent annually throughout the

[40] NW Natural/900, Davilla/13.
[41] NW Natural/900, Davilla/14.

three-year contract.[42] Thus, this contractual rate increase results in an Oregon-allocated incremental increase to the Company's Test Year expenses of $264 thousand.

Q. Please respond to Staff's general claim that the Company's proposed Test Year increase is out of line with recent trends for distribution O&M expenses.

A. Staff's claim appears to depend on the position that distribution O&M expenses are increasing at a faster rate than the sub-set of locating expenses. Staff states that more than half of the total expenses booked to FERC account 874 are locating expenses, and states that the 28.6 percent projected increase in account 874 is inconsistent with the 5 percent expected increase in annual locates. However, locates make up only about 30 percent of non-payroll distribution O&M expenses. Moreover, the 5 percent increase in locate costs refers to merely the anticipated growth in the *number* of locating requests. The Company's increase in locating costs, as described above, is more complex and results from expanded services and increased contracted rates.

Q. Is the increase in the Company's locating expenses a source of concern?

A. No. In fact, increased locates is a positive indication, as it means that the public, homeowners, businesses, and contractors are ensuring that locating and marking services are being performed prior to engaging in digging and excavating work. This is a critical function necessary to keep the Company's

[42] NW Natural/900, Davilla/14.

system and customers safe, and should not be dis-incentivized by Staff's proposed disallowance.

E. <u>D&O Insurance</u>

Q. What is D&O insurance and why is it included in the Company's cost recovery request?

A. D&O insurance protects the Company's directors and senior officers against the risks associated with managing the Company. These risks are an inherent part of managing and overseeing a utility or other company, and are a necessary cost to ensure that the Company remains financially secure and capable of serving NW Natural's customers. NW Natural's Test Year D&O insurance premiums were $503,225 on an Oregon-allocated basis.

Q. How does Staff propose adjusting the Company's recovery of D&O insurance premiums?

A. Staff witness Mr. Fjeldheim proposes that 50 percent of the total costs of all layers of D&O insurance be disallowed, citing past Commission practice. This approach would result in a downward adjustment of $251,613.

Q. Does the Company agree with Staff's proposed adjustment?

A. No. While the Company recognizes that the Commission has previously supported sharing the cost of D&O insurance in a previous Portland General Electric Company ("PGE") rate case, such cost sharing inappropriately assumes that customers receive only partial benefit from such expense. Notably, Staff does not contest that D&O insurance is a necessary cost of doing business and is therefore a prudently incurred expense.[43] Indeed, these costs help ensure the Company's financial stability and continued ability to serve customers. Moreover, NW Natural has already removed costs allocated to non-utility business units, meaning that the remaining amounts are those solely dedicated to the regulated utility's stability and security. Thus, these remaining utility-allocated costs are prudently incurred and should be fully recovered in rates.

F. Regulatory Expenses

Q. Please summarize Staff's concerns regarding the Company's regulatory expenses.

A. Staff witness Ms. Soldavini objects to the Company's use of a 70/30 allocation factor for regulatory expenses, and instead argues that regulatory costs should be directly assigned at a transaction level to either Washington or Oregon.[44] Based on this approach, Staff assigns all regulatory costs associated with certain Oregon-specific dockets to Oregon customers, while disallowing the entirety of the Company's Base Year rate case expenses associated with Washington proceedings—including a Washington rate case proceeding. Staff's analysis yields a net proposed reduction of $92,550 to the Company's Test Year expenses.[45]

[43] Staff/300, Fjeldheim/28-29.
[44] Staff/700, Soldavini/14-15.
[45] Staff/700, Soldavini/16.

Q. Is Staff's approach consistent with the historical allocation methodology for regulatory expenses?

A. No. For the past 20 years, the Company has applied a 70/30 state allocation between Oregon and Washington, respectively, reflecting the fact that the Company experiences a higher level of regulatory expenses in Oregon.

Q. Is the Company willing to apply Staff's more granular approach to regulatory expenses in this rate case?

A. Generally, yes. While the Company has some concern about the administrative difficulty of applying Staff's approach on an ongoing basis, NW Natural is generally willing to apply Staff's methodology in this case. Indeed, Staff's approach to allocating regulatory expenses appears to recognize that, aside from rate case expenses, there have been more regulatory costs in Oregon as compared to Washington, as reflected in the costs associated with various state-specific proceedings.

Q. Does the Company agree that Staff's specific adjustment is therefore appropriate?

A. No. Unfortunately, Staff's new approach results in an anomalous outcome in this case because it excludes substantially all rate case costs from the Company's Base Year. Specifically, the Company's Base Year cost recovery request included costs associated with a Washington rate case, which the Company believes served as a reliable proxy for rate case expense in Oregon. Thus, while the Company is generally willing to apply Staff's new granular approach, a correction is appropriate to ensure that reasonable rate case costs are included in Test Year expenses.

Q. How does the Company propose to correct for the anomalous result of Staff's new approach?

A. To correct for the lack of adequate rate case expenses, the Company believes that it would be reasonable to include a portion of the Company's anticipated rate case expense for this rate case. Historically, the Company has proposed to include one-third of the Company's Base Year rate case expenses in rates, with the understanding that rate cases generally occur every few years (though the last Oregon rate case was two years ago). Here, NW Natural anticipates that the current rate case will entail approximately $532 thousand in expenses[46]—one-third of which would be approximately $177 thousand. Thus, reincorporating a reasonable amount of rate case expenses would be consistent with Staff's more granular and state-specific cost assessment approach, and would actually entail an *increase* in the Company's regulatory expenses. Nonetheless, the Company is willing to abide by its initial regulatory cost recovery request in this case, yielding a conservative estimate of the Company's Oregon-specific rate case expenses for inclusion in rates.

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[46] NW Natural provided this amount to Staff in OPUC DR 406.

G. <u>Dues and Memberships Expenses</u>

Q. What is included in the Company's expense category for dues and memberships?

A. The expense category for dues and memberships includes dues paid to organizations where membership is necessary for the Company and its employees for perform their job functions (*e.g.*, the Oregon State Bar, Oregon Board of Accountancy, New York Stock Exchange, and Ice Data LP). In addition, these expenses include dues and memberships paid to organizations that:

- provide educational opportunities for NW Natural employees (*e.g.*, American Institute of Certified Public Accountants and the Practicing Law Institute),
- certify NW Natural employees for specialized job functions (*e.g.,* the American Board of Industrial Hygiene, and the Institute of Internal Auditors), and
- provide opportunities to build and maintain relationships with other entities operating in the natural gas industry (*e.g.*, the American Gas Association, Western Energy Institute and the Better Business Bureau).

Q. How did Staff review and analyze the Company's dues and memberships expenses?

A. Staff witness Mr. Rossow reviewed the dues and memberships expenses for the Oregon-allocated non-payroll expense for each FERC account and escalated the Base Year expense by applying the Company's escalators.[47]

[47] Staff/1200, Rossow/3.

Q. Based on this review, what adjustment does Staff propose to the Company's memberships and dues expenses?

A. Staff made the following recommendations: (1) allow all expenses associated with industry research organizations (*e.g.*, the Gas Technology Institute); (2) disallow 25 percent of expenses associated with national and regional industry organizations, on the basis that these organizations conduct some level of lobbying and promotional activities; and (3) wholly disallow expenses associated with technical, commercial, trade, community affairs, and economic development organizations.[48] Staff recommends reducing the Company's Test Year expenses by $315,542.

Q. Does the Company agree that these disallowances are appropriate?

A. No. The Company disagrees both with Staff's general framework for evaluating dues and memberships expenses, as well as with its specific application of that framework, which contains a categorization error.

Q. Please explain your general concerns with Staff's framework for evaluating dues and memberships expenses.

A. Staff's framework would inappropriately disallow costs associated with two categories of organizations: (1) national and regional organizations (at 25 percent) and (2) technical, commercial, trade, community affairs and economic development organizations (at 100 percent). Both of these

[48] Staff/1200, Rossow/3-4.

disallowances improperly assume that shareholders—rather than customers—are receiving the benefit of the Company's memberships.

With respect to national and regional organizations, the Company's memberships benefit NW Natural's customers by keeping employees informed and trained. Indeed, many of these organizations directly benefit employees' work performance, and in some cases are simply *necessary* for the Company's employees to perform their jobs and for the Company to operate. For instance, Ice Data LP is an energy trading system that allows its members to see real-time natural gas pricing information at the various hubs where the Company purchases gas. This system allows the Company to track real-time pricing and ensure that its deals align with the market. Thus, this and other memberships are not only essential to the Company's operations but directly benefit NW Natural's customers—and should therefore be fully recoverable in rates.

With respect to technical, commercial, trade, community affairs and economic development organizations, Staff ignores the significant and diverse benefits offered by these organizations, including training, education, and community relations. Certainly, there is no reason to conclude that membership in such organizations exclusively benefits the Company's shareholders. Thus, Staff's 100 percent disallowance is inappropriate. Exhibit NW Natural/2103, Davilla provides detail on the organizations that make up the Dues and Memberships expense.

Q. Were there any errors in how Staff categorized the organizations in its framework?

A. Yes. Staff appears to have miscategorized costs associated with an industry research organization (Utility Technology Development) in the category of national and regional organizations, though it is a research organization. Correcting this error would reduce his adjustment by $57.8 thousand.

Q. Please summarize your response to Staff's proposed adjustment.

A. The Company opposes Staff's proposed adjustment as arbitrarily excluding prudently incurred costs that are necessary and beneficial for the Company to serve customers.

H. <u>Meals, Entertainment, Awards, and Gifts Expenses</u>

Q. What is included in the meals, entertainment, awards, and gifts expense category of the Company's cost recovery request?

A. The biggest contributors to this category of expenses are meals, entertainment and awards. The meals and entertainment expenses include costs for meals during working lunches, while traveling for business purposes, or while appearing before the Commission. Awards expenses include activities and awards provided to employees to recognize exceptional performance and longevity with the Company. NW Natural's customers benefit from the Company's attraction of high-performing employees, and the Company's ability to retain experienced and dedicated personnel necessary to serve NW Natural's customers. The Company's total Oregon-allocated Test Year cost for this combined category of expenses is $1,240,903.

Q. How did Staff review and analyze the Company's meals, entertainment, awards, and gifts expenses?

A. Staff witness Mr. Rossow reviewed the Company's response to OPUC DR No. 173, and sought to determine whether expenses "benefit customers or are discretionary and should be shared between customers and shareholders[.]"[49] In addition, Mr. Rossow identified certain transactions that Staff believes have no benefit to customers, which Staff excluded at 100 percent. For the expenses still remaining in the Base Year, Mr. Rossow escalated the amount using the Company's West Region Urban CPI.[50]

Q. What is Staff's recommendation regarding meals, entertainment, awards, and gifts expenses?

A. Staff recommends reducing the Company's Test Year expenses for these combined categories of expenses by $641,281.[51] Staff states that, in Docket UE 197, the Commission adopted Staff's principle that expenses for meals and entertainment, office refreshments, catering, gifts, and awards are discretionary and should be shared equally by ratepayers and shareholders.[52]

Q. Does the Company agree with Staff's proposed adjustment?

A. No. As a general matter, Staff claims to be relying on the Commission's Order No. 09-202 in Docket UE 197, which approved 50/50 cost sharing for discretionary expenses in a PGE rate case.[53] Here, however, Staff proposes to

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[49] Staff/1200, Rossow/7.
[50] Staff/1200, Rossow/8.
[51] Staff/1200, Rossow/5-6.
[52] Staff/1200, Rossow/5-6 (citing Order No. 09-020 at 20-21).

share some expenses while fully disallowing others—resulting in a more than 50 percent disallowance.

Q. Does the Company believe that meals, entertainment, awards, and gifts should be shared on a 50/50 basis?

A. No. While the Company recognizes that the Commission approved cost sharing in a prior PGE rate case, the Company continues to believe that these prudently incurred costs should be fully recoverable in rates. Moreover, as noted above, Staff's approach results in more than 50/50 cost sharing.

Q. Please explain why meals expenses should be fully recoverable.

A. Meals expenses for employees are prudently incurred and should be fully recoverable because those costs are incurred for business purposes. For instance, NW Natural provides meals expenses for employees traveling on business for NW Natural. Work-related travel is customary in the business world, as is reimbursement for the reasonable cost of meals necessitated by this travel. As a result, this compensation is an essential aspect of the Company's total compensation policies.

Similarly, meals provided to employees during working meetings increase efficiency and ensure that the Company can achieve more in a shorter time period—thereby benefitting customers. While the Company could attempt to avoid scheduling meetings that run over meal times, this would reduce efficiency.

Q. Please explain why employee awards should be fully recoverable.

A. Employee awards should be fully recoverable because they are an important part of how NW Natural attracts, motivates, and retains qualified workers. Qualified workers help ensure a safe and reliable system, resolving customer concerns and providing prompt and high-quality service. Moreover, retaining such qualified workers reduces the costs associated with finding and hiring new employees. Thus, by fostering a positive business culture for the Company, awards are prudently incurred and should be fully recoverable in rates.

I. <u>Travel Expenses</u>

Q. What costs are included in the Company's travel expense category?

A. The Company's travel expense category includes costs related to business travel, travel in territory and employee conference travel. The Company included a total of $930,867 in travel expenses in the Test Year.

Q. Does Staff propose an adjustment related to the Company's travel expenses?

A. Yes. Staff witness Mr. Rossow proposes to exclude all of the Company's travel expenses on the basis that NW Natural has failed to provide adequate detail regarding the Base Year transactions.

Q. Has NW Natural provided transaction-level detail regarding travel expenses, as requested by Staff?

A. Yes. In response to DR 392, the Company provided transaction-level detail concerning its Base Year travel expenses.[54] This response provides the date and business purpose for each travel-related expense exceeding $1,000, and supporting documentation for the ten expense items exceeding $3,000. As

[54] Exhibit NW Natural/2001, Faulk.

demonstrated in that response, the Company's travel-related expenses are necessary to support the Company's essential business functions, such as obtaining meeting space for labor agreement negotiations, providing for travel to educational conferences and trainings, and registering employees for such events.[55]

Staff's general concerns regarding adequate transaction-level detail in the Company's discovery responses are addressed in more detail in the Reply Testimony of Amanda Faulk (NW Natural/2000, Faulk).

J. Shareholder and Investor Relations Expenses

Q. Please explain why and how the Company included shareholder and investor relations expenses in its cost recovery request.

A. Shareholder and investor relations services are necessary to ensure access to capital and, by extension, to provide adequate service to NW Natural's customers. However, these expenses are only partially included in the Company's cost recovery request, as shareholder and investor relations expenses are included in the Company's indirect cost allocation adjustment, which credits the utility and allocates these expenses to the affiliates. The Cost Allocation Manual describes this allocation method in greater detail.[56]

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[55] Exhibit NW Natural/2001, Faulk.
[56] *In the Matter of NW Natural Gas Co. Affiliated Interest Annual Report and Revised Cost Allocation Manual in Compliance with OAR 860-027-0046(6),* Docket RG 8, NW Natural's Affiliated Interest Report and Cost Allocation Manual (Apr. 29, 2020).

Q. Does Staff propose an adjustment to the Company's shareholder and investor relations expense?

A. Yes, Staff witness Ms. Soldavini proposes splitting shareholder and investor relations expenses with the Company on a 50/50 basis, resulting in a $125,520 reduction in Base Year expense. Ms. Soldavini would then apply the All Urban CPI, resulting in a Test Year adjustment of $129,952.[57]

Q. Does Staff justify its adjustment on the basis that shareholder and investor relations expenses fail to benefit customers?

A. No. Staff recognizes that customers benefit from shareholder and investor relations expenses, and notes specifically that "maintaining relationships with investors helps the Company raise necessary capital."[58] Nonetheless, Staff believes that it is "inappropriate" to include the full amount of these expenses in rates.

Q. Does the Company agree with Staff's approach to shareholder and investor relations expenses?

A. NW Natural agrees with Staff that customers benefit from maintaining the Company's relationship with investors, but disagrees that these necessary costs are somehow "inappropriate" to include in rates. Indeed, NW Natural relies on investments by shareholders to obtain 50 percent of its total access to capital, and on those who fund NW Natural through debt for the other 50 percent. By ensuring the financial health and integrity of the Company and allowing for

[57] Staff/700, Soldavini/14.
[58] Staff/700, Soldavini/14.

access to necessary capital, shareholder and investor relations expenses fit squarely within the category of required utility activities. Moreover, a financially strong company is able to access credit at lower rates, thereby reducing costs to customers. Given that shareholder and investor relations costs are clearly necessary to provide adequate service to NW Natural's customers, such expenses should be fully recoverable in rates and no adjustment is appropriate.

Q. Are there any other issues with Staff's proposed adjustment?

A. Yes. Staff's proposed adjustment double-counts $10,086 in shareholder and investor relations expenses that are also included in other categories of Staff adjustments—namely, travel, meals, entertainment, and gifts.[59]

K. <u>Board of Directors' Fees and Related Expenses</u>

Q. Does any party propose an adjustment to the Company's Board of Directors' fees and related expenses?

A. Yes. AWEC witness Mr. Mullins proposes an adjustment that would disallow 50 percent of the Company's Board of Directors' fees on the premise that "much of the board's time is spent benefitting shareholders," as opposed to ratepayers.[60] AWEC claims that this purported emphasis is now "particularly true" because NW Natural is operated as a holding company "and is acquiring many new entities, particularly water utilities."[61] AWEC also argues that other miscellaneous expenses in FERC account 930 should be removed because they

[59] Exhibit NW Natural/2104, Davilla (calculating overlap in expense categories).
[60] AWEC/100, Mullins/22.
[61] AWEC/100, Mullins/22.

are not tied to utility services. Together, AWEC's adjustment would result in a $1,775,153 reduction in the Company's revenue requirement.[62]

Q. Does Staff propose an adjustment to the Company's Board of Directors' fees or related expenses?

A. No.

Q. Does the Company agree with AWEC's proposed adjustment?

A. No, for several reasons. First, AWEC offers no evidence beyond speculation that the Board of Directors is more concerned with furthering the interests of shareholders than benefiting customers, or that the Board of Directors' fees are not reasonable. Indeed, AWEC's assertion is simply untrue. The Board of Directors' interest is in ensuring a strong, stable, and efficient natural gas utility that serves its customers in a safe, reliable, and affordable manner. NW Natural's Board of Directors has a proven track record of effectively balancing the Company's central interests, and their continued oversight, governance, and guidance is both beneficial and necessary by law.

Second, AWEC's adjustment appears to misunderstand NW Natural's structure. NW Natural maintains a separate Board of Directors from that of NW Natural Holdings LLC ("NW Holdings"), which includes an independent director who was appointed in accordance with OPUC ring-fencing provisions in docket UM 1804. Specifically, by referencing the Company's holding company structure, AWEC appears to contend that NW Natural's Board of Directors' time

[62] AWEC/100, Mullins/23.

is being spent on affiliate or non-utility matters. On the contrary, as a result of the holding company reorganization, all non-utility entities have been moved out from under NW Natural, and therefore, the NW Natural Board does not spend any time on matters relating the NW Holdings' water business or other subsidiaries. To be clear, in this rate case, NW Natural seeks to recover *only* NW Natural's Board of Directors fees—*not* those for NW Holdings. The fees for NW Holdings' Board of Directors are fully absorbed by shareholders and are not charged to NW Natural.

Third, AWEC's concerns regarding other miscellaneous expenses in FERC account 930 are baseless. For instance, AWEC highlights the purchase of an iPad charger and suggests that such a cost is not tied to NW Natural's provision of service. However, the Company's Board has made a concerted effort to reduce paper use and postage costs, and as such has transitioned to digital creation and delivery of Board documentation. The NW Natural Board of Directors uses iPads for delivery and review of Board meeting materials and signatures on certain documents. Chargers for these devices are necessary. In addition, some of the other expenses involve travel and related expenses, as well as ongoing director education expenses, which are similarly customary and necessary to the appropriate functioning of any Board the size and nature of NW Natural's. The costs incurred are appropriate to ensure an efficient, educated, and effective Board. Thus, no adjustment is appropriate.

L. <u>250 Taylor Expenses and Affiliate Employees</u>

Q. Please describe AWEC witness Mr. Mullins' concerns regarding the allocation of the new operations center expenses to affiliates.

A. AWEC raises three concerns regarding the allocation of the new operations center expenses to affiliates: First, AWEC argues that the there are several employees of the Company's affiliates who will be occupying space at the new operations center, 250 Taylor ("250 Taylor"), and that the Company should make an adjustment to its revenue requirement to exclude the lease and operating expenses for the space occupied by affiliate employees.[63] Second, AWEC argues that the tenant improvements should be allocated to the subleased portion of the building. Third, AWEC argues that the amount of operations center expense charged out to affiliates through executive time tracking is likely understated because the Company used historical lease costs in its allocation factor.[64] I respond to AWEC's first and second argument concerning the allocation of costs associated with affiliate employees and sublease space. AWEC's third argument concerning executive time-tracking is addressed in the Reply Testimony of Amanda Faulk (NW Natural/2000, Faulk).

Q. Do you agree with AWEC's assertion that there are affiliate employees working at 250 Taylor during the Test Year?

A. Yes. AWEC is correct that three individuals directly employed by NW Natural affiliates will be working at 250 Taylor during the Test Year—two Gas Storage

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[63] AWEC/100, Mullins/19-21.
[64] AWEC/100, Mullins/20-21.

employees and one new NW Natural Water employee.

Q. Did the Company allocate operations center expenses to these employees and describe this allocation in its initial filing?

A. No. At the time the Company prepared its initial filing in this proceeding, the Company had not planned to locate any affiliate employees at 250 Taylor. With respect to the Gas Storage employees, these individuals support Gill Ranch Storage—an affiliate that NW Holdings anticipated would be sold before the Test Year; as a result, NW Natural had anticipated that those affiliate employees would no longer work at 250 Taylor. With respect to the NW Natural Water employee, there had been no firm plan to hire a new employee, nor to locate any such new employee at 250 Taylor. Accordingly, the Company did not initially propose allocating any operations center expense to its affiliates.

Q. Now that it is clear that there will be three affiliate employees working at 250 Taylor during the Test Year, do you propose to assign a portion of the operations center expense to those affiliates?

A. Yes.

Q. What adjustment does AWEC propose?

A. AWEC proposes to reduce the Company's expenses for 250 Taylor by $164,750.[65]

[65] AWEC/100, Mullins/21.

Q. Does AWEC calculate this adjustment correctly?

A. No. While the Company agrees with AWEC's use of 228 sq. feet as the space allocated to the three affiliate employees, AWEC improperly proposes to allocate the tenant improvement costs to the utility using the same utility/sublease allocation applied to expenses—95.1 percent. However, the tenant improvement costs included in this case represent costs associated with tenant improvements made only to utility space. No tenant improvements for subleased spaces have been included. Thus, the only space in 250 Taylor dedicated to NW Natural affiliates involves the work space for these three individual affiliate employees.

Q. What is NW Natural's proposed adjustment and how did you calculate this amount?

A. I calculated the Company's proposed adjustment by removing 228 sq. feet associated with office space for the three affiliate employees. This approach reduces the Utility allocation of expenses to 95.1 percent from 95.2 percent. This results in a reduction to Oregon-allocated O&M expenses for lease expense, operating expenses and tenant improvements of $8,943, and a reduction in rate base of $4,816.

Q. What is the revenue requirement impact of this adjustment?

A. This reduced revenue requirement by $9,576.

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M. Demonstration and Selling Expenses

Q. Please explain what costs are included in demonstration and selling expenses.

A. Demonstration and selling expenses, tracked in FERC account 912, involve outreach to and education of potential customers, and on-boarding new customers into the Company's system. This category of expense also includes costs associated with the Company's Get Ready Emergency Preparedness events and campaign throughout NW Natural's service territory. Thus, these costs help ensure safety and efficiency while upholding the Company's high standard of customer service—evidenced by the Company's designation as "best in class" by J.D. Powers, an industry-accepted measurement of customer satisfaction.

Q. Does Staff propose an adjustment to this category of expenses?

A. Yes. Staff witness Mr. Beitzel proposes to disallow cost recovery for all expenses in FERC account 912, on the basis that the Company's demonstration and selling expense category "appears to include expense for promotional activities related to the Company's corporate identity."[66] Thus, Staff proposes reducing the Company's cost recovery request by $740,057.[67] However, Staff indicates that this adjustment is being proposed "until the Company demonstrates these expenses are appropriately recoverable in rates."[68]

[66] Staff/500, Beitzel/16.
[67] Staff/500, Beitzel/17.
[68] Staff/500, Beitzel/17.

Q. Does the Company agree with Staff's proposed adjustment?

A. In part. Staff correctly notes that rebates have been identified as not recoverable from ratepayers. These costs were inadvertently included in the Company's cost recovery request, and have been removed from the revenue requirement. The Test Year O&M impact of this adjustment is a revenue requirement reduction of $17,719.

However, NW Natural disagrees with Staff's proposal to fully disallow recovery for *all* demonstration and selling expenses. As explained above, these costs represent important expenses associated with the Company's essential operations. In addition to processing orders and managing interactions with tradespeople (such as appliance installers), NW Natural conducts outreach and community engagement that helps to ensure safe and efficient service while providing excellent customer service. Certainly, NW Natural's outreach and education efforts are wholly consistent with prudent utility conduct, and form an integral part of utility services.

Q. How do demonstration and selling expenses benefit existing customers?

A. In addition to furthering key safety initiatives and increasing access to energy efficient equipment, demonstration and selling expenses benefit existing customers by helping to increase the number of customers who share the costs of utility service. Unlike electric utilities, gas utilities are not the default provider of energy for newly constructed homes and businesses. Given that gas service is a choice for new customers, gas utilities must conduct outreach in order to gain new customers. As the customer pool grows, the costs of providing service are distributed across a broader customer pool, benefitting current customers. Thus, outreach is a necessary cost of doing business that benefits existing customers, and should be fully recoverable in rates.

III. CAPITAL EXPENDITURES AND FORECASTS

Q. Please describe the categories of capital expenditures for which the Company seeks recovery in this case.

A. The Company seeks to recover two categories of capital costs in rate base:

1. All capital expenditures for projects completed since the Company's last rate case, UG 344, that will be used and useful as of November 1, 2020—the rate effective date in this case. For these projects, the Company seeks to recover the total investment, less depreciation expense incurred since the asset was placed into service.
2. All capital expenditures, both discrete and non-discrete, placed in service during the Test Year. For these expenses, the Company used a 13-month average of monthly averages through the Test Year to reflect the portion of the Test Year during which the given asset will be used and useful for providing utility service.

Q. What is the difference between "discrete" and "non-discrete" capital investment?

A. Discrete projects tend to be relatively large, have longer planning timelines, and require more detailed analysis prior to approval. On the other hand, non-discrete projects include the steady stream of day-to-day investment required for the routine replacement and extension of the gas delivery system, as well as the plant required for the Company's operations. This latter category is also referred to as "run rate" capital spend.

Q. Please summarize Staff's proposed adjustment to the Company's capital expenditures.

A. Staff witness Mr. Fox proposes two categories of adjustments:

1. Test Year Capital Investments: Staff proposes to remove from the rate case all discrete and non-discrete plant additions proposed for completion during the Test Year that will not be used and useful as of the rate effective date. However, Mr. Fox adds certain distribution expenses back in to the Company's revenue requirement, while continuing to exclude recovery for other non-discrete capital additions that are similarly predictable and reasonably forecast to occur during the Test Year. The impact of this adjustment is a $16.35 million reduction in Test Year rate base and a $752 thousand reduction in Test Year depreciation expense.
2. Pre-Test Year Capital Investments: Staff proposes to remove certain large capital projects that are slated for completion from July of 2020 until the rate effective date of November 1, 2020.[69] Specifically, Staff proposes to exclude the following projects from rate base: (1) the BI Strategy/Power BI Deployment (a $1,424,706 disallowance); (2) the Digital Portal project (a $10,168,592 disallowance); (3) the Field & Web Mapping Implementation Phase 1 (a $3,790,532 disallowance); (4) the Mist Compressor Study (a

[69] Staff/200, Fox/16.

$615,727 disallowance); (5) the Lincoln City Land Purchase (a $1,012,017 disallowance); (6) the Portland LNG Liquefaction Alt. Study (a $865,848 disallowance); and (7) the Warrenton Land Purchase (a $880,152 disallowance)—for a combined proposed disallowance of $18.76 million. However, Staff also suggests that the Company could include these projects in rate base subject to officer attestations.[70]

Q. Does your testimony address any other capital-related issues?

A. Yes. I also respond to AWEC witness Mr. Mullins' concerns regarding the Company's capital additions in FERC account 367 Mains and the classification of the Company's investment in Mist Storage.

A. <u>Confidential Forecasts</u>

Q. Does Staff present any over-arching concerns regarding the Company's approach to supporting its Test Year capital investment forecasts in this rate case?

A. Yes. Staff witness Mr. Fox objects to the Company's confidential designation of forecasts of plant that will be placed in service during the Test Year.[71] Staff states that it is inconsistent as a matter of public policy for the Company to recover capital investments placed into service in the forward Test Year while designating capital forecasts as confidential.

[70] Staff/200, Fox/9 ("In the past, the utility and parties have agreed that certain projects scheduled to come on-line shortly before the effective date can be included in rate base at a stipulated amount that parties agree is reasonable if the utility can file an attestation prior to the rate effective date that the project is on-line.").
[71] Staff/200, Fox/2.

Q. What is the Company's response to Staff's concerns regarding confidentiality designations?

A. Upon further review, the Company is amenable to reclassifying capital forecasts as non-confidential.

B. <u>Capital Investments Placed in Service During the Test Year</u>

Q. What is Staff's rationale for removing investment related to capital projects forecast for completion during the Test Year?

A. Staff interprets ORS 757.355 as precluding the Company from including investments in rate base where the investment will be completed even a single day after the rate effective date. ORS 757.355 provides that a utility may not recover costs for investments in property not presently providing utility service to customers. Based on Staff's interpretation, Mr. Fox removes all investment to be placed in service during the Test Year.

Q. Do you agree with Staff's approach?

A. No. The implications of ORS 757.355 and the Commission's used-and-useful standard is addressed in greater detail in the Reply Testimony of Zachary Kravitz (NW Natural/1300, Kravitz). However, it is my understanding that plant additions placed in service during the Test Year's "snapshot" are consistent with Oregon's used-and-useful standard.

Q. What is Staff's rationale for allowing recovery of certain Test Year capital investments related to "customer growth"?

A. Staff's proposal depends on the presupposition that capital investments made for assets placed in service during the Test Year cannot be included in rate base.

Against this backdrop, Staff cites Commission precedent suggesting that an exception exists for capital additions related to customer growth. As a result, Staff concludes that the Company may recover certain "distribution related expenses" made in the Test Year—specifically, capital expenditures related to meters and services.[72]

Q. What is the Company's response to Staff's rationale?

A. Staff's rationale fails at three different points. First, as discussed above, the Company rejects Staff's view that Test Year rate base additions should be restricted to plant additions required for customer growth. Capital investments for assets placed into service during the Test Year are "used and useful," and therefore are properly included in rate base.[73]

Second, even if the Company were to agree with Staff's general proposition that only a subset of predictable investment made during the Test Year is recoverable, the Company disagrees that the class of permissible Test Year investments is limited to distribution-related investments. Staff has agreed that capital additions made during the Test Year are appropriately included in rate base where they are "ongoing in nature and can be reasonable assumed to be made on a regular basis."[74] As explained in Direct Testimony, a number of other categories of capital investment are properly considered "run rate", in that they are highly predictable, year-over-year costs. A detailed chart showing the

[72] Staff/200, Fox/5.
[73] For additional discussion concerning the implications of the Commission's used-and-useful standard for Test Year capital additions, see the Reply Testimony of Zachary Kravitz (NW Natural/1300, Kravitz).
[74] Docket UE 210, Staff/100, Garcia/100 (July 24, 2009).

Company's steady investment in these types of costs is included at NW Natural/900, Davilla/27. Each of these cost categories are described in detail thereafter. There is no principled rationale for excluding these types of costs from recovery in this case.

Third, even if the Company were to agree with Staff that only distribution-related investments made during the Test Year were appropriately included in rate base, Staff has improperly excluded other investments related to customer acquisition and growth, such as mains investments, and therefore underestimates the Company's distribution-related costs. Indeed, mains are just as necessary as services and meters for the Company to serve new customers. Staff has provided no reason for excluding mains from the category of distribution-related costs. If Staff were to correctly include mains in the Test Year, the revenue requirement adjustment would be reduced by $775 thousand.

C. <u>Capital Investments Placed in Service Prior to the Rate Effective Date</u>

Q. What is Staff's rationale for denying cost recovery for projects that are forecast to be completed prior to the rate effective date?

A. Staff proposes two bases for denying cost recovery for projects that are forecast to be completed prior to the rate effective date. ***First,*** Mr. Fox states that he cannot conclude with reasonable certainty that three information technology and services ("IT&S") capital projects will actually come on-line prior to the rate effective date.[75] Staff states that the agreed-upon procedural schedule means

[75] Staff/200, Fox/16.

that it is unrealistic for Staff to review actual expenditures incurred after June 30, 2020. ***Second,*** Mr. Fox proposes to exclude four additional projects that he agrees *will* be placed in service prior to the rate effective date, but which he nonetheless concludes will not be used and useful to serve customers.[76]

Q. Does NW Natural agree with Staff that any of these projects will not be used and useful?

A. Yes. NW Natural agrees that two projects, Portland LNG Liquefaction Alt. Study and Mist Compressor study, will not be used and useful to serve customers during the Test Year. These projects were mistakenly included in the Company's cost recovery request, as the projects associated with these studies will not be placed in service until after the Test Year. Removing these projects results in a $169,214 reduction of the Company's revenue requirement.

Q. Do you agree that there is no reasonable certainty that the three IT&S capital projects will come on-line prior to the rate effective date?

A. No, these projects will be in service by that date. The Reply Testimony of Jim Downing (NW Natural/1600, Downing) provides a status update on the implementation for the three projects—the BI Strategy/Power BI Deployment, the Digital Portal project, and the Field & Web Mapping Implementation Phase 1—all of which are planned to be on-line and in-service well before the rate effective date.

[76] Staff/200, Fox/15.

Q. Does the Company nonetheless agree to provide officer attestations once these projects are in-service?

A. Yes. The Company is amenable to Staff's suggestion to provide officer attestations to confirm that the three projects identified by Staff have been placed in service before the rate effective date.

Q. Does the Company agree that the remaining two projects placed in service before the rate effective date are nonetheless not used and useful?

A. No. As Staff recognizes, the Lincoln City Land Purchase and the Warrenton Land Purchase are in service prior to the rate effective date. These are necessary and discrete costs that are appropriately needed for the Company to effectively serve customers. The two land purchase projects are discussed in more detail in the Reply Testimony of Wayne Pipes (NW Natural/1500, Pipes).

D. FERC Account 367 Mains

Q. Please describe AWEC's proposed capital adjustment to FERC account 367 Mains.

A. AWEC proposes an adjustment to FERC account 367 Mains—which includes both $35,734,490 of discrete and $5,887,513 of non-discrete capital projects—based on an analysis of the Company's actual and forecasted spending for the 12 months ending in October of 2020.[77] Specifically, AWEC proposes to rely, not on the Company's recorded or forecasted capital expenses, but on an average of the Company's *historical* capital spending in this account between 2016 and

[77] AWEC/100, Mullins/16.

2019.[78] However, AWEC makes an exception for the Sandy Feeder Project.[79] Based on this approach, AWEC recommends a reduction of $2,271,250 to the Company's revenue requirement.[80]

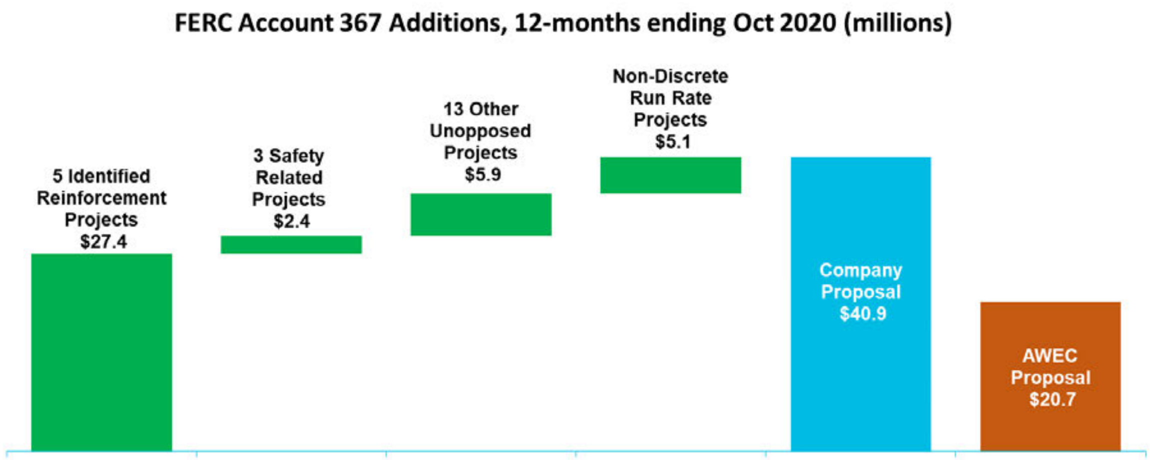
Q. What is your understanding of why AWEC relies on average capital expenses for FERC account 367 Mains?

A. The logic behind AWEC's adjustment is not entirely clear. On the one hand, AWEC asserts that the distinction between discrete and non-discrete investments "appears to be arbitrary," seemingly rejecting the Company's approach to classifying transmission integrity, public works, and other predictable system investments as non-discrete or "run rate."[81] On the other hand, AWEC's approach suggests that *all* capital investments in FERC account 367 Mains should be treated as "non-discrete," by relying on "an overall *run rate* for the account equal to $9,210,221 of capital additions per year."[82] Yet AWEC also includes the Sandy Feeder Project as a single addition to this "run-rate" spend.

To clarify, non-discrete capital investments are those highly predictable and stable investments related to factors largely beyond the Company's control—such as public works, relocates, tool replacements, and customer growth.[83] The components of FERC account 367 expenses, as compared to AWEC's proposed adjustment, is shown in Table 4 below:

78 AWEC/100, Mullins/16.
79 AWEC/100, Mullins/16-17 (citing NW Natural/400, Karney/3).
80 AWEC/100, Mullins/17.
81 AWEC/100, Mullins/17.
82 AWEC/100, Mullins/17 (emphasis added).
83 NW Natural/900, Davilla/28-31.

Table 4



Q. Does the Company agree with AWEC's proposed adjustment?

A. No. Fundamentally, AWEC's reliance on a historical average for this category of capital expenses is both inexplicable and misplaced. AWEC seems to assume that increased capital expenses should be rejected *simply because they have increased*—as opposed to challenging the prudence of the underlying projects. Indeed, AWEC does not specifically challenge the prudence of or need for the Company's various investments.

Q. Has the Company demonstrated the prudence of the increased capital expenses tracked in FERC account 367 Mains?

A. Yes. As shown above in Table 4, FERC account 367 Mains includes $40,859,928 in capital investments during the 12 months ending in October of 2020, including:

(1) $27,412,999 associated with five projects specifically discussed in the Direct Testimony of Joe Karney (NW Natural/400, Karney);[84]

(2) $2,433,978 associated with three safety-related projects, discussed in the Reply Testimony of Joe Karney (NW Natural/1400, Karney/25);

(3) $5,887,513 associated with 13 system reinforcement, main extension, and related projects, the prudence of which remains uncontested; and

(4) $5,125,438 associated with four categories of non-discrete projects—transmission integrity, public works, system reinforcement, and relocates/abandonments. Over half of this non-discrete category is made up of Public Works expenses.

Clearly, AWEC has provided no basis for excluding cost recovery for any component of FERC account 367 Mains.

Q. What is the Public Works category and why would it be considered non-discrete?

A. Public Works consists of projects required by the governmental jurisdictions in which the Company operates, and may include moving, replacing or adding infrastructure.[85] Given the nature of these projects, the Company must prepare budgets for Public Works without project-specific information about what will be required in the upcoming year. Thus, the Company's budgets are based on historical trends.

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[84] OR 212 257th to US 26 ODOT (NW Natural/400, Karney/41), Happy Valley Reinforcement (NW Natural/400, Karney/24), Hood River Reinforcement (NW Natural/400, Karney/10), South Oregon City Reinforcement (NW Natural/400, Karney/17), Sandy Feeder Reinforcement (NW Natural/400, Karney/5).
[85] NW Natural/900, Davilla/28,

Q. Are there any other problems with AWEC's adjustment to Account 367 Mains?

A. Yes. AWEC misstates the total amount of capital spend in the 12-month ending October of 2020. Specifically, AWEC states that NW Natural forecasts $46,326,852 in capital additions during this period.[86] Subsequently, AWEC has revised this figure to state that the Company's total forecasted capital spend in this period is $43,525,121.[87] However, AWEC's corrected amount appears to refer to FERC account 376.11 Mains < 4", not FERC 367 Mains.[88] The correct amount for this period, as noted above, is $40,859,928—of which $40,153,252 is allocated to Oregon.[89]

E. Mist Storage Rate Base FERC Classification

Q. Please summarize AWEC witness Mr. Mullins' concern regarding the classification of the Company's investment in Mist Storage.

A. AWEC notes that NW Natural classified its investment in Mist Storage in two different FERC accounts: 60 percent in FERC account 363.11 (Liquefaction Equipment-LINN), and 40 percent in FERC account 376.11 (Mains < 4").[90] AWEC recommends that all Mist Storage investments be classified in FERC

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[86] AWEC/100, Mullins/16.
[87] Exhibit NW Natural/2105, Davilla (AWEC Response to NWN DR 3).
[88] Exhibit NW Natural/2105, Davilla (AWEC Response to NWN DR 3). Mr. Mullins points to NW Natural/1000, WP 02, excel row 72 (Confidential).
[89] Mr. Mullins also misstates the number of projects with capital investments in the 12-month period ending in October of 2020. He states that there are 26 total projects (not including those classified as "run rate"); however, this number includes 5 projects for which investments occur in the subsequent 12-month period. Thus, the accurate total number of projects is 21.
[90] AWEC/100, Mullins/5.

account 363.11. Moreover, AWEC suggests that the Company conduct a retrospective analysis to determine the classification of historical investments in the Mist Storage facility.[91] Finally, AWEC states that the projects may not come online by the November 1, 2020, rate effective date due to delays caused by COVID-19.[92]

Q. Does the Company agree that the forecasted Mist Storage investments were misclassified?

A. Yes. After its initial filing, the Company found that it had misclassified the forecasted Mist Storage capital projects. The correct classification should have used FERC accounts 351.10 Well Structures (8 percent), 352 Wells (23 percent), 354 Compressor Station Equipment (21 percent), 355 Measuring/Regulating Equipment (45 percent), and 367 Mains (3 percent). This reclassification results in a reduction to the Company's revenue requirement of $135,006.

Q. Does the Company agree that a retrospective analysis is necessary or appropriate?

A. No. The Company has not previously applied a 60/40 allocation to actual costs that have been recorded. Moreover, the Company's classification of forecasted costs is entirely discrete from the classification of actual project costs. Thus, the error in the Company's classification of forecasted costs does not suggest that a retrospective analysis is required.

[91] AWEC/100, Mullins/5.
[92] AWEC/100, Mullins/5.

Q. Does the Company agree that the Mist Storage investments may be delayed beyond November 1, 2020?

A. No. At this time, the Company believes that the Mist Storage investments will be in service in October of 2020. However, the Company is willing to provide an officer attestation to confirm that this investment has been placed in service by the rate effective date.

Q. Does this conclude your Reply Testimony?

A. Yes.

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NW Natural

Reply Testimony of Tobin Davilla

OPERATIONS & MAINTENANCE / CAPITAL

EXHIBIT 2101

Due to the size, NW Natural/2101, Davilla is filed in its Excel format.

May 29, 2020

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Tobin Davilla

OPERATIONS & MAINTENANCE / CAPITAL

EXHIBIT 2102

Due to the size, NW Natural/2102, Davilla is filed in its Excel format.

May 29, 2020

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NW Natural

Reply Testimony of Tobin Davilla

OPERATIONS & MAINTENANCE / CAPITAL

EXHIBIT 2103

May 29, 2020

Below table from NW Natural's 2020 Annual Budget of Expenditures Report to Oregon Public Utility Commission, and descriptions of the nature of the organization.

Organizations of the Gas Utility Industry:	
American Gas Association	406,599
Northwest Gas Association	104,878
Western Energy Institute	23,231
	534,708
Technical and Professional Organizations:	
American Institute Of Certified Public Accountants	2,325
America's Sap User Group	2,425
Customer Contact Leadership Council	44,600
Ethisphere LLC	3,000
Executive Press	25,804
Lines Up, Inc	3,000
Multiple Engineering Cooperative Program	4,200
National Association Of Corporate Directors	13,538
National Association Of Stock Plan Professionals	2,420
North American Energy Standards Board	7,500
Oregon Board Of Accountancy	2,130
Oregon State Bar	7,322
Oregon State Bar Professional Liability Fund	2,970
PM0 3.0	72,400
Practising Law Institute	9,975
Sedcor	2,500
West Publishing Corp	5,500
Other Technical and Professional Organizations	48,361
	259,970
Commercial and Trade Organizations:	
Canadian Enerdata	6,730
Clackamas County Business Alliance	2,300
Columbia County Economic Team	5,000
Greater Portland Inc	25,000
Home Builders Association	3,320
Institute Supply Management	2,275
M J Bradley & Associates Llc	25,000
Northwest Mountain Minority Supplier Development Council	3,500
NW Energy Coalition	9,274
Oregon Business & Industry	15,000
Oregon Business Council	19,700
Oregon Smart Growth	4,000
Our Nations Energy Future Coalition	20,000
Portland Business Alliance	36,326
Renewable Natural Gas Coalition	45,000
The Building Owners & Managers Association Of Oregon	2,200
Other Commercial and Trade Organizations	67,467
	292,091
All Other Organizations:	
Other Organizations	9,534
	9,534

Organization	Description of Benefit
AMERICAN GAS ASSOCIATION	The American Gas Association (AGA) represents companies delivering natural gas safely, reliably, and in an environmentally responsible way to help improve the quality of life for their customers every day. AGA's mission is to provide clear value to its membership and serve as the indispensable, leading voice and facilitator on its behalf in promoting the safe, reliable, and efficient delivery of natural gas to homes and businesses across the nation.
AMERICAN INSTITUTE OF CERTIFIED PUBLIC ACCOUNTANTS	The AICPA sets ethical standards for the profession and U.S. auditing standards for private companies, nonprofit organizations, federal, state and local governments. It develops and grades the Uniform CPA Examination, and offers specialty credentials for CPAs who concentrate on personal financial planning; forensic accounting; business valuation; and information management and technology assurance. This membership helps protect Oregon consumers by ensuring only qualified accountants' practice in accordance with professional standards.
AMERICAS SAP USERS GROUP	Participation in the SAP user group provides NWN with access to best practices, education and training materials around utilization of SAP. This in turn benefits NWN operations, HR and Finance departments that rely on SAP in their daily operations.
CANADIAN ENERDATA	Enerdata publishes the Canadian Gas Price Reporter (CGPR) Monthly and Daily, Weekly Canadian Natural Gas Storage Report, Canadian Energy Trends (CET) and Natural Gas Forward Prices. These exclusive reports are a primary source of historical, current and forecast Canadian and U.S. natural gas prices and price indices and crude oil, gasoline, diesel and heating oil prices
CLACKAMAS COUNTY BUSINESS ALLIANCE	The Clackamas County Business Alliance is a non-profit association of business and community members that are committed to the economic strength of Clackamas County. CCBA directly affects policy making by leveraging the strengths of the public and private sectors to ensure the economic vitality of Clackamas County.
COLUMBIA COUNTY ECONOMIC TEAM	CCET's membership includes representatives from public and private sector organizations throughout the county, all working together to stimulate private investment and job creation. Ratepayers benefit from this job creation and prospect of restoring the vitality of Columbia County's economy.
CUSTOMER CONTACT LEADERSHIP COUNCIL	(Recently acquired by Gartner) CEB/Gartner offers advisory services and technology solutions for corporations and NW Natural is a member of its Contact Center Leadership Council. They provide surveys, research, white papers and a variety of training programs, seminars and workshops to their members as well. NW Natural has recently consulted with CEB/Gartner on the development of a new Quality Monitoring form for our CCC to improve and optimize customer experience, a new Talent Assessment program to attract, find and hire the best candidates for contact center work, and new and extensive Coaching Certification and Customer Experience Training programs.
ETHISPHERE, LLC	The Ethisphere Institute is the global leader in defining and advancing the standards of ethical business practices that fuel corporate character, marketplace trust and business success.
EXECUTIVE PRESS	Delivers creative solutions and help company branded items. Business Card, Letter head, etc. products.

GREATER PORTLAND INC.	Greater Portland Inc (GPI) provides support and services to companies seeking to relocate or expand in Greater Portland, a region that spans two states and seven counties. A true public-private partnership model, GPI is supported by 90 public-sector partners and private investors who are committed to advancing regional economic development through job growth and investment. GPI and our partners are shaping the region's economic future and marketing Greater Portland to the world.
HOME BUILDERS ASSOC	Strengthens our relationship with the home builder trades. Facilitates contact with the allies who impact our residential new construction markets in Portland-metro. We have board-level representation with this group and benefit from the exchange of information.
INSTITUTE SUPPLY MGMT	A professional association that advances the practice of Supply Management (Purchasing/Stores) to drive value and competitive advantage, and contribute to a prosperous, sustainable world. They provide training and conferences about best practices. This helps the NW Natural supply chain obtain best value with purchase of goods and services and effectively manage warehouse inventory.
LINES UP, LLC (PUBLIC UTILITY FORTNIGHTLY)	This is for annual membership to Public Utility Fortnightly. Public Utilities Fortnightly (PUF) is the forum for stakeholders in utility regulation and policy. Members debate the best course for the public interest.
MJ BRADLEY & ASSOCIATES	Provides strategic consulting services to address energy and environmental issues for the private, public, and non-profit sectors. We create value and address risks with a comprehensive approach to strategy and implementation, ensuring clients have timely access to information and the tools to use it to their advantage.
MULTIPLE ENGINEERING COOPERATIVE PROGRAM	MECOP is an internship program designed to enhance and expand industry driven internships in cooperation with Oregon universities. NW Natural has selected one to two engineering interns annually since joining the program. The interns are paired with company engineers and perform assignments such as supporting large construction projects, updating engineering specifications and standards, and reviewing new materials and tools for use at the company. Since joining the program two of the interns have subsequently been hired by the company for full time employment.
NATIONAL ASSOCIATION OF CORPORATE DIRECTORS	NACD identifies, interprets, and delivers insights on critical issues that shape board agendas. Through actionable resources, NACD enhances directors' ability to fulfill their roles to enhance the success of the enterprise.
NATIONAL ASSOCIATION OF STOCK PLAN PROFESSIONALS	The NASPP is the leading membership association devoted to meeting the needs of stock plan professionals. The NASPP has nearly 6,000 members whose responsibilities relate, directly or indirectly, to stock plan design and administration, including compensation and human resources professionals, stock plan administrators, securities and tax attorneys, accountants, compensation consultants, corporate secretaries, transfer agents, stock brokers, and software vendors. The Association provides opportunities for education, networking and information exchange through its national office, local chapters and national and local conferences
NORTH AMERICAN ENERGY STANDARDS BOARD	NAESB is an organization of natural gas and electric companies such as pipelines, local utilities, and energy marketers across North America. As a member, our particular focus is on the wholesale natural gas segment, for which NAESB has developed and continues to refine the gas scheduling standards used by pipeline companies, as well as contract templates used for wholesale gas purchase/sale transactions.
NORTHWEST GAS ASSOCIATION	The Northwest Gas Association's mission is to advance the safe, dependable and responsible use of natural gas as a cornerstone of the region's energy, environmental and economic foundation. Its efforts foster greater understanding and informed decision-making among industry participants, opinion leaders, and governing officials in the Pacific Northwest on issues related to natural gas.
NW ENERGY COALITION	The NW Energy Coalition is an alliance of about 100 environmental, civic, and human service organizations, progressive utilities, and businesses in Oregon, Washington, Idaho, Montana and British Columbia. They promote development of renewable energy and

	energy conservation, consumer protection, low-income energy assistance, and fish and wildlife restoration on the Columbia and Snake rivers.
NW MOUNTAIN MINORITY SUPPLIER DEVELOPMENT COUNCIL	An organization that provides Minority Business Enterprises (MBE) business training, executive education, events, networking and valuable resources to help them succeed. They also provide MBE Certification. They are a good source for NW Natural to find qualified minority/small business contractors, as part of our supplier diversity program, intended to support local minority and small emerging businesses.
OR BOARD OF ACCOUNTANCY	Necessary to be licensed CPA. The Board is responsible for licensing and regulating Certified Public Accountants (CPA's) and Public Accountants (PA's) in Oregon; The mission of the Oregon Board of Accountancy is to protect Oregon consumers by ensuring only qualified licensees practice public accountancy in accordance with established professional standards and promulgated rules.
OREGON BUSINESS COUNCIL	The Oregon Business Council is an association of more than 40 business community leaders focused on public issues that affect Oregon's life and future. OBC embraces the vision of the Oregon Business Plan, an economic development forum that calls for growing more well-paying jobs, increasing state per capita income to exceed the national average, and substantially reducing poverty.
OREGON BUSINESS & INDUSTRY	Oregon's largest and most influential comprehensive business association advocating for a strong economy and a healthy, prosperous and competitive Oregon. OBI serves as the state's chamber of commerce and is the state affiliate for the National Retail Federation and the National Association of Manufacturers. Members participate with other business leaders committed to growing Oregon's economy, quality jobs for our citizens, and healthy communities.
OREGON SMART GROWTH	Smart growth is an approach to development that encourages a mix of building types and uses, diverse housing and transportation options, development within existing neighborhoods, and community engagement.
OREGON STATE BAR	The Oregon State Bar (OSB) was established in 1935 by the Oregon Legislative Assembly to license and discipline lawyers, regulate the practice of law and provide a variety of services to bar members and the public. The bar is a public corporation and an instrumentality of the Oregon Judicial Department, funded by membership and program fees. It is not a state agency and does not receive any financial support or taxpayer dollars from the state's general fund. Membership is necessary to practice law in Oregon.
OUR NATION ENERGY FUTURE COALITION	ONE Future is a group of natural gas companies working together to voluntarily reduce methane emissions across the natural gas supply chain.
PMO 3.0	In the age of Digital Transformation, PMO 3.0 engages with organizational transformation efforts to evolve mindsets, leadership and innovation skills and developing action plans to maintain value to the organization.
PORTLAND BUSINESS ALLIANCE	The Portland Business Alliance, Greater Portland's Chamber of Commerce, represents the largest, most diverse business network in the region. We offer a place for our members to connect and engage on issues impacting our community through networking events, committees, programs, social media and newsletters.
PRACTICING LAW INSTITUTE	Practicing Law Institute ("PLI") is nonprofit learning organization dedicated to keeping attorneys and professionals at the forefront of knowledge and expertise, as well as preparing them to fulfill their pro bono responsibilities. This organization provides vast research capabilities and CLE opportunities for legal team.
RENEWABLE NATURAL GAS COALITION	The Coalition for Renewable Natural Gas (RNG Coalition) serves as the public policy advocate and education platform for the Renewable Natural Gas industry in North America.
SEDCOR	Works behind the scenes to help the Willamette Valley thrive by recruiting large businesses to developing areas, helping local businesses expand, and fostering the next generation of homegrown entrepreneurs

THE BUILDING OWNERS & MANAGERS ASSOCIATION	Building Owners & Managers Association (BOMA) of Oregon has been the leading trade association representing the commercial real estate industry in Oregon. The mission of the Building Owners & Managers Association is to promote commercial real estate through leadership, networking, advocacy and professional development opportunities within the commercial real estate industry.
WEST PUBLISHING CORP.	Publishing casebooks, and other legal educations materials.
WESTERN ENERGY INSTITUTE	Western Energy Institute (WEI) is a trade association serving the electric and natural gas industries throughout the Western United States and Canada. WEI facilitates valuable, direction connections between electric and natural gas industry professional. Through committees, member-driven programs, forums and symposiums, members receive a wide range of access to education, collaboration and training opportunities.

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Tobin Davilla

OPERATIONS & MAINTENANCE / CAPITAL

EXHIBIT 2104

May 29, 2020

GENERAL LEDGER ACCOUNT	BASE YEAR $'s
BOOKS AND MAGAZINES	$ 1,303
BUSINESS TRAVEL	$ 13,711
CELLULAR PHONES	$ 210
CONFERENCE TRAVEL	$ 4,603
EDUCATION	$ 715
LEGAL FEES	$ 469
NON EMPLOYEE GIFTS	$ 1,167
OFFICE CONTRACT WORK	$ 4,101
OFFICE SUPPLIES	$ 199
OTHER CONTRACT WORK	$ 5,006
PARKING	$ 468
POSTAGE	$ 5,206
PRINTING	$ 50,208
PROFESSIONAL SERVICE	$ 134,206
REFRESHMENTS	$ 4
SOFTWARE MAINT	$ 29,436
UNIFORMS	$ 31
TOTAL	$ 251,041

Total Staff Overlap	$ 19,484
2020 Escalation (1.8%)	$ 19,835
2021 Escalation (1.7%)	$ 20,172
50/50 Split	**$ 10,086**

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

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NW Natural

Reply Testimony of Tobin Davilla

OPERATIONS & MAINTENANCE / CAPITAL

EXHIBIT 2105

May 29, 2020

ALLIANCE OF WESTERN ENERGY CONSUMERS

Oregon Public Utility Commission

Docket No. UG 388

NW Natural Data Request 03:

Please refer to AWEC/100 Mullins/16 line 11-12. Please provide a workpaper with underlying data that calculates to the $46,326,852 of capital additions in FERC Account 367 Mains that Mr. Mullins says that NW Natural forecasted over the 12-months ending October 2020.

AWEC Response:

Please refer to NW Natural/1000, WP 02, Confidential. Specifically, please refer to Excel row 72. The referenced calculation contained an error, the corrected amount is $43,525,121, or 4.7 times the historical average spending. AWEC will correct this in Rebuttal Testimony.

Response Date: 05/07/2020

Witness(es) Most Knowledgeable About Response:

Brad Mullins

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of John J. Spanos

REMOVAL WORK IN PROGRESS (RWIP)

EXHIBIT 2200

May 29, 2020

EXHIBIT 2200 – REPLY TESTIMONY – RWIP

Table of Contents

I. INTRODUCTION AND PURPOSE

Q. Please state your name and business address.

A. My name is John J. Spanos and my business address is 207 Senate Avenue, Camp Hill, Pennsylvania.

Q. Are you associated with any firm?

A. Yes. I am associated with the firm of Gannett Fleming Valuation and Rate Consultants, LLC. ("Gannett Fleming").

Q. How long have you been associated with Gannett Fleming?

A. I have been associated with the firm since college graduation in June 1986.

Q. What is your position with the firm?

A. I am President.

Q. Please outline your experience in the field of depreciation during your career.

A. I have over 33 years of depreciation experience which includes giving expert testimony in over 330 cases before 41 regulatory commissions, including this Commission. The cases include depreciation studies in the electric, gas, water, wastewater and pipeline industries. In addition to the cases that I have submitted testimony, I have supervised in over 600 other depreciation or valuation assignments. Please refer to Exhibit NW Natural/2201, Spanos for additional information on my qualifications, which includes further information with respect to my work history, case experience, and my leadership in the Society of Depreciation Professionals.

Q. Please describe your educational background.

A. I have Bachelor of Science degrees in Industrial Management and Mathematics from Carnegie-Mellon University and a Master of Business Administration from York College.

Q. Do you belong to any professional societies?

A. Yes. I am a member and a past President of the Society of Depreciation Professionals. I am also a member of the American Gas Association/ Edison Electric Institute Industry Accounting Committee.

Q. Do you hold any special certification as a depreciation expert?

A. Yes. The Society of Depreciation Professionals has established national standards for depreciation professionals. The Society administers an examination to become certified in this field. I passed the certification exam in September 1997 and was recertified in August 2003, February 2008, January 2013 and February 2018.

Q. Did you offer any direct testimony in this proceeding?

A. No. However, my depreciation study as of December 31, 2015 is the basis for the depreciation rates currently utilized by Northwest Natural Gas Company ("NW Natural" or the "Company"). I have conducted depreciation studies for the Company since 2005.

Q. What is the purpose of your testimony in this proceeding?

A. NW Natural has asked me to testify about the appropriateness of including Removal Work in Progress ("RWIP") in rate base in this proceeding.

II. REMOVAL WORK IN PROGRESS PRINCIPLES AND APPROACH

Q. How is the "Removal Work In Progress" defined?

A. RWIP is a combination of cash disbursement related to the retirements of plant in service and the amount of cost of removal reserve that is credited to the RWIP account.

Q. Please summarize Staff's position related to RWIP.

A. Staff proposes to remove the entire $37.387 million RWIP balance from the Company's rate base. At its core, Staff asserts that NW Natural should be including RWIP as part of its accumulated depreciation reserve in determining its depreciation rates. However, Staff contradicts its position by considering NW Natural's inclusion of RWIP as part of the accumulated depreciation reserve included in rate base as improper. To support this argument, Staff equates the ratemaking treatment of construction work in progress (CWIP) to RWIP. Staff also states that the Company is unable to cite prior Commission orders, or testimony in rate cases, which specifically authorizes including RWIP in rate base. Finally, Staff argues that the Company's state allocation of RWIP is unrelated to customer cost allocation factors.

Q. What is NW Natural's approach to accounting for RWIP?

A. NW Natural has included RWIP in rate base. Generally, this happens by classifying RWIP by asset class either by specific account identification or an allocation based on the asset classes associated with the cash disbursements of RWIP. In NW Natural's case, RWIP has not been classified by asset class. The costs previously were small, so waiting until removal costs were classified to specific accounts was a reasonable approach. This is consistent with other utilities that do not have a mechanism in place to identify or assign costs.

NW Natural has historically not included RWIP in the depreciation rates as the amounts could not be specifically identified for particular asset classes, even though a majority of the RWIP will be associated with mains, services and meters.

Q. If RWIP is not included in depreciation rates, how have the past depreciation studies considered what is in the RWIP account?

A. In the past depreciation studies, RWIP has not been specifically quantified in the depreciation rate, however, judgment was utilized in considering how RWIP would affect the net salvage component of the depreciation rate. The RWIP amounts will have a bigger effect on the net salvage component as the amounts grow but in the near future the overall impact is still not significant on an annual basis.

Q. If RWIP was not included in the study, what is the reasoning behind that exclusion?

A. In the past RWIP was not included in the study because the amounts were insignificant and could not be specifically assigned to an account, and therefore, the full-service value of each asset class could not be calculated.

Q. Do you agree with Staff's proposal to remove RWIP from rate base?

A. No, I do not. The Commission should reject Staff's proposal to exclude RWIP from rate base. NW Natural appropriately included RWIP in rate base. The RWIP balance represents unclassified values that have not been specifically assigned to plant accounts. However, the costs directly relate to the removal of plant in service. Therefore, this is a component of the service value of an asset, which should be part of accumulated depreciation, which is a part of rate base. Because early recording of RWIP was insignificant and did not affect depreciation rates, the Company included RWIP in revenue requirement in the past and it remains appropriate to incorporate RWIP into the accumulated depreciation reserve balance in this rate case.

Q. How do you respond to Staff's assertion that RWIP should not be included in rate base because CWIP is not permitted in rate base for Oregon utilities?

A. This argument is misplaced. Staff states "construction work in process (CWIP) is not depreciated. Once the asset is completed and placed into service, it is transferred from CWIP to Fixed Assets (aka plant in service) and then depreciation commences. Oregon utilities are not allowed to include CWIP in rate base nor earn a return on it." NW Natural does not dispute Staff's characterization of the CWIP account, but the account in question is RWIP, which represents the cost associated with a wholly different event, the removal of assets that had been in service. The treatment of CWIP has no bearing on the treatment of RWIP.

Q. Do you agree with Staff's assertion that the balance in the account is escalating?

A. Yes, the balance has been escalating. Because the account is charged with actual removal costs, but credited with the accrued removal cost reserve related to the retired assets, if actual costs exceed the accrued reserve for removals, the account debit balance will grow.

Q. Do you have a recommendation for the future treatment of RWIP in depreciation rates?

A. Yes, on a go forward basis, I recommend that the Company include RWIP in its next depreciation study by establishing a practice to classify the RWIP balance by account. Over the remaining life, as accrual rates associated with removal costs are adjusted in future depreciation studies, it is expected that the accrued reserve for removals will approximate the actual costs, causing the RWIP balance to decline as the assets are depreciated and retired.

Q. If RWIP is included in depreciation rates, how would that inclusion impact billing rates?

A. The inclusion of RWIP would increase depreciation rates and expense going forward, and so billing rates would increase, all else being equal. This is due to the fact that RWIP or cost of removal is part of the full service value of an asset as described in the Federal Energy Regulatory Commission ("FERC") Uniform

System of Accounts. Since RWIP would be a reduction in accumulated depreciation, rate base will increase and the depreciation expense would have to increase in order to get full recovery by the end of the asset's life.

Q. Staff states that the Company is unable to cite prior Commission orders, and/or testimony in previous rate cases, explicitly authorizing RWIP in rate base. Do you find that to be a persuasive reason for excluding RWIP from rate base?

A. No, I do not. As mentioned earlier in my testimony, the Company has consistently included the RWIP account as a component of accumulated depreciation in the Company's rate case workpapers in the last two rate cases (UG 221 and UG 344). As described above, there is sound regulatory policy for the Company to do so, and therefore, I do not find Staff's argument persuasive.

Q. Please discuss Staff's contention that the Company's use of 95% as an allocation factor "appears to be unrelated to, nor an obvious permutation of, the customary cost allocation factors applied in the Company's jurisdictional allocation and thus ought to be investigated further."

A. The Company agrees that the factor is not related to the customary factors, but the RWIP account was not in use for its function prior to 2007, and the original state allocation methodology was implemented in 2000. The use of an allocation factor that best fits an account in question should be the goal of a method, and the Company continues to support the factor that was applied. While many allocation factors tend to be closer to the 90/10 proportions for Oregon and

Washington, respectively, one would expect that given the older nature of the Oregon system as compared to Washington, that retirement and removal cost activity would be weighted higher than a 90/10 allocation factor.

III. <u>CONCLUSION</u>

Q. Please summarize your testimony.

A. RWIP has been consistently handled by NW Natural in rate cases. In the past, RWIP has been an insignificant amount but should be a component of rate base regardless of its magnitude; however, the continual increase leads to the recommendation to include it in depreciation expense as an outcome in future depreciation studies.

Q. Does this conclude your reply testimony?

A. Yes.

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of John J. Spanos

REMOVAL WORK IN PROGRESS (RWIP)

EXHIBIT 2201

May 29, 2020

JOHN SPANOS

DEPRECIATION EXPERIENCE

Q. Please state your name.

A. My name is John J. Spanos.

Q. What is your educational background?

A. I have Bachelor of Science degrees in Industrial Management and Mathematics from Carnegie-Mellon University and a Master of Business Administration from York College.

Q. Do you belong to any professional societies?

A. Yes. I am a member and past President of the Society of Depreciation Professionals and a member of the American Gas Association/Edison Electric Institute Industry Accounting Committee.

Q. Do you hold any special certification as a depreciation expert?

A. Yes. The Society of Depreciation Professionals has established national standards for depreciation professionals. The Society administers an examination to become certified in this field. I passed the certification exam in September 1997 and was recertified in August 2003, February 2008, January 2013 and February 2018.

Q. Please outline your experience in the field of depreciation.

A. In June 1986, I was employed by Gannett Fleming Valuation and Rate Consultants, Inc. as a Depreciation Analyst. During the period from June 1986 through December, 1995, I helped prepare numerous depreciation and original cost studies for utility companies in various industries. I helped perform depreciation studies for the following telephone companies: United Telephone of Pennsylvania, United Telephone of New Jersey, and Anchorage Telephone Utility. I helped perform depreciation studies for the following companies in the railroad industry: Union Pacific Railroad, Burlington Northern Railroad, and Wisconsin Central Transportation Corporation.

I helped perform depreciation studies for the following organizations in the electric utility industry: Chugach Electric Association, The Cincinnati Gas and Electric Company (CG&E), The Union Light, Heat and Power Company (ULH&P), Northwest Territories Power Corporation, and the City of Calgary - Electric System.

I helped perform depreciation studies for the following pipeline companies: TransCanada Pipelines Limited, Trans Mountain Pipe Line Company Ltd., Interprovincial Pipe Line Inc., Nova Gas Transmission Limited and Lakehead Pipeline Company.

I helped perform depreciation studies for the following gas utility companies: Columbia Gas of Pennsylvania, Columbia Gas of Maryland, The Peoples Natural Gas Company, T. W. Phillips Gas & Oil Company, CG&E, ULH&P, Lawrenceburg Gas Company and Penn Fuel Gas, Inc.

I helped perform depreciation studies for the following water utility companies: Indiana-American Water Company, Consumers Pennsylvania Water Company and The York Water Company; and depreciation and original cost studies for Philadelphia Suburban Water Company and Pennsylvania-American Water Company.

In each of the above studies, I assembled and analyzed historical and simulated data, performed field reviews, developed preliminary estimates of service life and net salvage, calculated annual depreciation, and prepared reports for submission to state public utility commissions or federal regulatory agencies. I performed these studies under the general direction of William M. Stout, P.E.

In January 1996, I was assigned to the position of Supervisor of Depreciation Studies. In July 1999, I was promoted to the position of Manager, Depreciation and

Valuation Studies. In December 2000, I was promoted to the position as Vice-President of Gannett Fleming Valuation and Rate Consultants, Inc., in April 2012, I was promoted to the position as Senior Vice President of the Valuation and Rate Division of Gannett Fleming Inc. (now doing business as Gannett Fleming Valuation and Rate Consultants, LLC) and in January of 2019, I was promoted to my present position of President of Gannett Fleming Valuation and Rate Consultants, LLC. In my current position I am responsible for conducting all depreciation, valuation and original cost studies, including the preparation of final exhibits and responses to data requests for submission to the appropriate regulatory bodies.

Since January 1996, I have conducted depreciation studies similar to those previously listed including assignments for Pennsylvania-American Water Company; Aqua Pennsylvania; Kentucky-American Water Company; Virginia-American Water Company; Indiana-American Water Company; Iowa-American Water Company; New Jersey-American Water Company; Hampton Water Works Company; Omaha Public Power District; Enbridge Pipe Line Company; Inc.; Columbia Gas of Virginia, Inc.; Virginia Natural Gas Company National Fuel Gas Distribution Corporation - New York and Pennsylvania Divisions; The City of Bethlehem - Bureau of Water; The City of Coatesville Authority; The City of Lancaster - Bureau of Water; Peoples Energy Corporation; The York Water Company; Public Service Company of Colorado; Enbridge Pipelines; Enbridge Gas Distribution, Inc.; Reliant Energy-HLP; Massachusetts-American Water Company; St. Louis County Water Company; Missouri-American Water Company; Chugach Electric Association; Alliant Energy; Oklahoma Gas & Electric Company; Nevada Power Company; Dominion Virginia Power; NUI-Virginia Gas Companies; Pacific Gas & Electric Company; PSI Energy; NUI - Elizabethtown Gas Company; Cinergy Corporation – CG&E; Cinergy Corporation – ULH&P; Columbia Gas of Kentucky; South Carolina Electric & Gas Company; Idaho Power Company; El Paso

Electric Company; Aqua North Carolina; Aqua Ohio; Aqua Texas, Inc.; Aqua Illinois, Inc.; Ameren Missouri; Central Hudson Gas & Electric; Centennial Pipeline Company; CenterPoint Energy-Arkansas; CenterPoint Energy – Oklahoma; CenterPoint Energy – Entex; CenterPoint Energy - Louisiana; NSTAR – Boston Edison Company; Westar Energy, Inc.; United Water Pennsylvania; PPL Electric Utilities; PPL Gas Utilities; Wisconsin Power & Light Company; TransAlaska Pipeline; Avista Corporation; Northwest Natural Gas; Allegheny Energy Supply, Inc.; Public Service Company of North Carolina; South Jersey Gas Company; Duquesne Light Company; MidAmerican Energy Company; Laclede Gas; Duke Energy Company; E.ON U.S. Services Inc.; Elkton Gas Services; Anchorage Water and Wastewater Utility; Kansas City Power and Light; Duke Energy North Carolina; Duke Energy South Carolina; Monongahela Power Company; Potomac Edison Company; Duke Energy Ohio Gas; Duke Energy Kentucky; Duke Energy Indiana; Duke Energy Progress; Northern Indiana Public Service Company; Tennessee-American Water Company; Columbia Gas of Maryland; Maryland-American Water Company; Bonneville Power Administration; NSTAR Electric and Gas Company; EPCOR Distribution, Inc.; B. C. Gas Utility, Ltd; Entergy Arkansas; Entergy Texas; Entergy Mississippi; Entergy Louisiana; Entergy Gulf States Louisiana; the Borough of Hanover; Louisville Gas and Electric Company; Kentucky Utilities Company; Madison Gas and Electric; Central Maine Power; PEPCO; PacifiCorp; Minnesota Energy Resource Group; Jersey Central Power & Light Company; Cheyenne Light, Fuel and Power Company; United Water Arkansas; Central Vermont Public Service Corporation; Green Mountain Power; Portland General Electric Company; Atlantic City Electric; Nicor Gas Company; Black Hills Power; Black Hills Colorado Gas; Black Hills Kansas Gas; Black Hills Service Company; Black Hills Utility Holdings; Public Service Company of Oklahoma; City of

Dubois; Peoples Gas Light and Coke Company; North Shore Gas Company; Connecticut Light and Power; New York State Electric and Gas Corporation; Rochester Gas and Electric Corporation; Greater Missouri Operations; Tennessee Valley Authority; Omaha Public Power District; Indianapolis Power & Light Company; Vermont Gas Systems, Inc.; Metropolitan Edison; Pennsylvania Electric; West Penn Power; Pennsylvania Power; PHI Service Company - Delmarva Power and Light; Atmos Energy Corporation; Citizens Energy Group; PSE&G Company; Berkshire Gas Company; Alabama Gas Corporation; Mid-Atlantic Interstate Transmission, LLC; SUEZ Water; WEC Energy Group; Rocky Mountain Natural Gas, LLC; Illinois-American Water Company; Northern Illinois Gas Company; Public Service of New Hampshire and Newtown Artesian Water Company.

My additional duties include determining final life and salvage estimates, conducting field reviews, presenting recommended depreciation rates to management for its consideration and supporting such rates before regulatory bodies.

Q. Have you submitted testimony to any state utility commission on the subject of utility plant depreciation?

A. Yes. I have submitted testimony to the Pennsylvania Public Utility Commission; the Commonwealth of Kentucky Public Service Commission; the Public Utilities Commission of Ohio; the Nevada Public Utility Commission; the Public Utilities Board of New Jersey; the Missouri Public Service Commission; the Massachusetts Department of Telecommunications and Energy; the Alberta Energy & Utility Board; the Idaho Public Utility Commission; the Louisiana Public Service Commission; the State Corporation Commission of Kansas; the Oklahoma Corporate Commission; the Public Service Commission of South Carolina; Railroad Commission of Texas – Gas Services Division; the New York Public Service Commission; Illinois Commerce Commission; the Indiana

Utility Regulatory Commission; the California Public Utilities Commission; the Federal Energy Regulatory Commission ("FERC"); the Arkansas Public Service Commission; the Public Utility Commission of Texas; Maryland Public Service Commission; Washington Utilities and Transportation Commission; The Tennessee Regulatory Commission; the Regulatory Commission of Alaska; Minnesota Public Utility Commission; Utah Public Service Commission; District of Columbia Public Service Commission; the Mississippi Public Service Commission; Delaware Public Service Commission; Virginia State Corporation Commission; Colorado Public Utility Commission; Oregon Public Utility Commission; South Dakota Public Utilities Commission; Wisconsin Public Service Commission; Wyoming Public Service Commission; the Public Service Commission of West Virginia; Maine Public Utility Commission; Iowa Utility Board; Connecticut Public Utilities Regulatory Authority; New Mexico Public Regulation Commission; Commonwealth of Massachusetts Department of Public Utilities; Rhode Island Public Utilities Commission and the North Carolina Utilities Commission.

Q. Have you had any additional education relating to utility plant depreciation?

A. Yes. I have completed the following courses conducted by Depreciation Programs, Inc.: "Techniques of Life Analysis," "Techniques of Salvage and Depreciation Analysis," "Forecasting Life and Salvage," "Modeling and Life Analysis Using Simulation," and "Managing a Depreciation Study." I have also completed the "Introduction to Public Utility Accounting" program conducted by the American Gas Association.

Q. Does this conclude your qualification statement?

A. Yes.

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY

	Year	Jurisdiction	Docket No.	Client Utility	Subject
01.	1998	PA PUC	R-00984375	City of Bethlehem – Bureau of Water	Original Cost and Depreciation
02.	1998	PA PUC	R-00984567	City of Lancaster	Original Cost and Depreciation
03.	1999	PA PUC	R-00994605	The York Water Company	Depreciation
04.	2000	D.T.&E.	DTE 00-105	Massachusetts-American Water Company	Depreciation
05.	2001	PA PUC	R-00016114	City of Lancaster	Original Cost and Depreciation
06.	2001	PA PUC	R-00017236	The York Water Company	Depreciation
07.	2001	PA PUC	R-00016339	Pennsylvania-American Water Company	Depreciation
08.	2001	OH PUC	01-1228-GA-AIR	Cinergy Corp – Cincinnati Gas & Elect Company	Depreciation
09.	2001	KY PSC	2001-092	Cinergy Corp – Union Light, Heat & Power Co.	Depreciation
10.	2002	PA PUC	R-00016750	Philadelphia Suburban Water Company	Depreciation
11.	2002	KY PSC	2002-00145	Columbia Gas of Kentucky	Depreciation
12.	2002	NJ BPU	GF02040245	NUI Corporation/Elizabethtown Gas Company	Depreciation
13.	2002	ID PUC	IPC-E-03-7	Idaho Power Company	Depreciation
14.	2003	PA PUC	R-0027975	The York Water Company	Depreciation
15.	2003	IN URC	R-0027975	Cinergy Corp – PSI Energy, Inc.	Depreciation
16.	2003	PA PUC	R-00038304	Pennsylvania-American Water Company	Depreciation
17.	2003	MO PSC	WR-2003-0500	Missouri-American Water Company	Depreciation
18.	2003	FERC	ER03-1274-000	NSTAR-Boston Edison Company	Depreciation
19.	2003	NJ BPU	BPU 03080683	South Jersey Gas Company	Depreciation
20.	2003	NV PUC	03-10001	Nevada Power Company	Depreciation
21.	2003	LA PSC	U-27676	CenterPoint Energy – Arkla	Depreciation
22.	2003	PA PUC	R-00038805	Pennsylvania Suburban Water Company	Depreciation
23.	2004	AB En/Util Bd	1306821	EPCOR Distribution, Inc.	Depreciation
24.	2004	PA PUC	R-00038168	National Fuel Gas Distribution Corp (PA)	Depreciation
25.	2004	PA PUC	R-00049255	PPL Electric Utilities	Depreciation
26.	2004	PA PUC	R-00049165	The York Water Company	Depreciation
27.	2004	OK Corp Cm	PUC 200400187	CenterPoint Energy – Arkla	Depreciation
28.	2004	OH PUC	04-680-El-AIR	Cinergy Corp. – Cincinnati Gas and Electric Company	Depreciation
29.	2004	RR Com of TX	GUD#	CenterPoint Energy – Entex Gas Services Div.	Depreciation
30.	2004	NY PUC	04-G-1047	National Fuel Gas Distribution Gas (NY)	Depreciation
31.	2004	AR PSC	04-121-U	CenterPoint Energy – Arkla	Depreciation
32.	2005	IL CC	05-	North Shore Gas Company	Depreciation
33.	2005	IL CC	05-	Peoples Gas Light and Coke Company	Depreciation
34.	2005	KY PSC	2005-00042	Union Light Heat & Power	Depreciation

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY, cont.

	Year	Jurisdiction	Docket No.	Client Utility	Subject
35.	2005	IL CC	05-0308	MidAmerican Energy Company	Depreciation
36.	2005	MO PSC	GF-2005	Laclede Gas Company	Depreciation
37.	2005	KS CC	05-WSEE-981-RTS	Westar Energy	Depreciation
38.	2005	RR Com of TX	GUD #	CenterPoint Energy – Entex Gas Services Div.	Depreciation
39.	2005	US District Court	Cause No. 1:99-CV-1693-LJM/VSS	Cinergy Corporation	Accounting
40.	2005	OK CC	PUD 200500151	Oklahoma Gas and Electric Company	Depreciation
41.	2005	MA Dept Tele-com & Ergy	DTE 05-85	NSTAR	Depreciation
42.	2005	NY PUC	05-E-934/05-G-0935	Central Hudson Gas & Electric Company	Depreciation
43.	2005	AK Reg Com	U-04-102	Chugach Electric Association	Depreciation
44.	2005	CA PUC	A05-12-002	Pacific Gas & Electric	Depreciation
45.	2006	PA PUC	R-00051030	Aqua Pennsylvania, Inc.	Depreciation
46.	2006	PA PUC	R-00051178	T.W. Phillips Gas and Oil Company	Depreciation
47.	2006	NC Util Cm.		Pub. Service Company of North Carolina	Depreciation
48.	2006	PA PUC	R-00051167	City of Lancaster	Depreciation
49.	2006	PA PUC	R00061346	Duquesne Light Company	Depreciation
50.	2006	PA PUC	R-00061322	The York Water Company	Depreciation
51.	2006	PA PUC	R-00051298	PPL GAS Utilities	Depreciation
52.	2006	PUC of TX	32093	CenterPoint Energy – Houston Electric	Depreciation
53.	2006	KY PSC	2006-00172	Duke Energy Kentucky	Depreciation
54.	2006	SC PSC		SCANA	Accounting
55.	2006	AK Reg Com	U-06-6	Municipal Light and Power	Depreciation
56.	2006	DE PSC	06-284	Delmarva Power and Light	Depreciation
57.	2006	IN URC	IURC43081	Indiana American Water Company	Depreciation
58.	2006	AK Reg Com	U-06-134	Chugach Electric Association	Depreciation
59.	2006	MO PSC	WR-2007-0216	Missouri American Water Company	Depreciation
60.	2006	FERC	IS05-82-002, et al	TransAlaska Pipeline	Depreciation
61.	2006	PA PUC	R-00061493	National Fuel Gas Distribution Corp. (PA)	Depreciation
62.	2007	NC Util Com.	E-7 SUB 828	Duke Energy Carolinas, LLC	Depreciation
63.	2007	OH PSC	08-709-EL-AIR	Duke Energy Ohio Gas	Depreciation
64.	2007	PA PUC	R-00072155	PPL Electric Utilities Corporation	Depreciation
65.	2007	KY PSC	2007-00143	Kentucky American Water Company	Depreciation

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY, cont.

	Year	Jurisdiction	Docket No.	Client Utility	Subject
66.	2007	PA PUC	R-00072229	Pennsylvania American Water Company	Depreciation
67.	2007	KY PSC	2007-0008	NiSource – Columbia Gas of Kentucky	Depreciation
68.	2007	NY PSC	07-G-0141	National Fuel Gas Distribution Corp (NY)	Depreciation
69.	2008	AK PSC	U-08-004	Anchorage Water & Wastewater Utility	Depreciation
70.	2008	TN Reg Auth	08-00039	Tennessee-American Water Company	Depreciation
71.	2008	DE PSC	08-96	Artesian Water Company	Depreciation
72.	2008	PA PUC	R-2008-2023067	The York Water Company	Depreciation
73.	2008	KS CC	08-WSEE1-RTS	Westar Energy	Depreciation
74.	2008	IN URC	43526	Northern Indiana Public Service Company	Depreciation
75.	2008	IN URC	43501	Duke Energy Indiana	Depreciation
76.	2008	MD PSC	9159	NiSource – Columbia Gas of Maryland	Depreciation
77.	2008	KY PSC	2008-000251	Kentucky Utilities	Depreciation
78.	2008	KY PSC	2008-000252	Louisville Gas & Electric	Depreciation
79.	2008	PA PUC	2008-20322689	Pennsylvania American Water Co. - Wastewater	Depreciation
80.	2008	NY PSC	08-E887/08-00888	Central Hudson	Depreciation
81.	2008	WV TC	VE-080416/VG-8080417	Avista Corporation	Depreciation
82.	2008	IL CC	ICC-09-166	Peoples Gas, Light and Coke Company	Depreciation
83.	2009	IL CC	ICC-09-167	North Shore Gas Company	Depreciation
84.	2009	DC PSC	1076	Potomac Electric Power Company	Depreciation
85.	2009	KY PSC	2009-00141	NiSource – Columbia Gas of Kentucky	Depreciation
86.	2009	FERC	ER08-1056-002	Entergy Services	Depreciation
87.	2009	PA PUC	R-2009-2097323	Pennsylvania American Water Company	Depreciation
88.	2009	NC Util Cm	E-7, Sub 090	Duke Energy Carolinas, LLC	Depreciation
89.	2009	KY PSC	2009-00202	Duke Energy Kentucky	Depreciation
90.	2009	VA St. CC	PUE-2009-00059	Aqua Virginia, Inc.	Depreciation
91.	2009	PA PUC	2009-2132019	Aqua Pennsylvania, Inc.	Depreciation
92.	2009	MS PSC	09-	Entergy Mississippi	Depreciation
93.	2009	AK PSC	09-08-U	Entergy Arkansas	Depreciation
94.	2009	TX PUC	37744	Entergy Texas	Depreciation
95.	2009	TX PUC	37690	El Paso Electric Company	Depreciation
96.	2009	PA PUC	R-2009-2106908	The Borough of Hanover	Depreciation
97.	2009	KS CC	10-KCPE-415-RTS	Kansas City Power & Light	Depreciation
98.	2009	PA PUC	R-2009-	United Water Pennsylvania	Depreciation

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY, cont.

	Year	Jurisdiction	Docket No.	Client Utility	Subject
99.	2009	OH PUC		Aqua Ohio Water Company	Depreciation
100.	2009	WI PSC	3270-DU-103	Madison Gas & Electric Company	Depreciation
101.	2009	MO PSC	WR-2010	Missouri American Water Company	Depreciation
102.	2009	AK Reg Cm	U-09-097	Chugach Electric Association	Depreciation
103.	2010	IN URC	43969	Northern Indiana Public Service Company	Depreciation
104.	2010	WI PSC	6690-DU-104	Wisconsin Public Service Corp.	Depreciation
105.	2010	PA PUC	R-2010-2161694	PPL Electric Utilities Corp.	Depreciation
106.	2010	KY PSC	2010-00036	Kentucky American Water Company	Depreciation
107.	2010	PA PUC	R-2009-2149262	Columbia Gas of Pennsylvania	Depreciation
108.	2010	MO PSC	GR-2010-0171	Laclede Gas Company	Depreciation
109.	2010	SC PSC	2009-489-E	South Carolina Electric & Gas Company	Depreciation
110.	2010	NJ BD OF PU	ER09080664	Atlantic City Electric	Depreciation
111.	2010	VA St. CC	PUE-2010-00001	Virginia American Water Company	Depreciation
112.	2010	PA PUC	R-2010-2157140	The York Water Company	Depreciation
113.	2010	MO PSC	ER-2010-0356	Greater Missouri Operations Company	Depreciation
114.	2010	MO PSC	ER-2010-0355	Kansas City Power and Light	Depreciation
115.	2010	PA PUC	R-2010-2167797	T.W. Phillips Gas and Oil Company	Depreciation
116.	2010	PSC SC	2009-489-E	SCANA – Electric	Depreciation
117.	2010	PA PUC	R-2010-22010702	Peoples Natural Gas, LLC	Depreciation
118.	2010	AK PSC	10-067-U	Oklahoma Gas and Electric Company	Depreciation
119.	2010	IN URC		Northern Indiana Public Serv. Company - NIFL	Depreciation
120.	2010	IN URC		Northern Indiana Public Serv. Co. - Kokomo	Depreciation
121.	2010	PA PUC	R-2010-2166212	Pennsylvania American Water Co. - WW	Depreciation
122.	2010	NC Util Cn.	W-218,SUB310	Aqua North Carolina, Inc.	Depreciation
123.	2011	OH PUC	11-4161-WS-AIR	Ohio American Water Company	Depreciation
124.	2011	MS PSC	EC-123-0082-00	Entergy Mississippi	Depreciation
125.	2011	CO PUC	11AL-387E	Black Hills Colorado	Depreciation
126.	2011	PA PUC	R-2010-2215623	Columbia Gas of Pennsylvania	Depreciation
127.	2011	PA PUC	R-2010-2179103	City of Lancaster – Bureau of Water	Depreciation
128.	2011	IN URC	43114 IGCC 4S	Duke Energy Indiana	Depreciation
129.	2011	FERC	IS11-146-000	Enbridge Pipelines (Southern Lights)	Depreciation
130.	2011	IL CC	11-0217	MidAmerican Energy Corporation	Depreciation
131.	2011	OK CC	201100087	Oklahoma Gas & Electric Company	Depreciation
132.	2011	PA PUC	2011-2232243	Pennsylvania American Water Company	Depreciation

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY, cont.

	Year	Jurisdiction	Docket No.	Client Utility	Subject
133.	2011	FERC	RP11-___-000	Carolina Gas Transmission	Depreciation
134.	2012	WA UTC	UE-120436/UG-120437	Avista Corporation	Depreciation
135.	2012	AK Reg Cm	U-12-009	Chugach Electric Association	Depreciation
136.	2012	MA PUC	DPU 12-25	Columbia Gas of Massachusetts	Depreciation
137.	2012	TX PUC	40094	El Paso Electric Company	Depreciation
138.	2012	ID PUC	IPC-E-12	Idaho Power Company	Depreciation
139.	2012	PA PUC	R-2012-2290597	PPL Electric Utilities	Depreciation
140.	2012	PA PUC	R-2012-2311725	Borough of Hanover – Bureau of Water	Depreciation
141.	2012	KY PSC	2012-00222	Louisville Gas and Electric Company	Depreciation
142.	2012	KY PSC	2012-00221	Kentucky Utilities Company	Depreciation
143.	2012	PA PUC	R-2012-2285985	Peoples Natural Gas Company	Depreciation
144.	2012	DC PSC	Case 1087	Potomac Electric Power Company	Depreciation
145.	2012	OH PSC	12-1682-EL-AIR	Duke Energy Ohio (Electric)	Depreciation
146.	2012	OH PSC	12-1685-GA-AIR	Duke Energy Ohio (Gas)	Depreciation
147.	2012	PA PUC	R-2012-2310366	City of Lancaster – Sewer Fund	Depreciation
148.	2012	PA PUC	R-2012-2321748	Columbia Gas of Pennsylvania	Depreciation
149.	2012	FERC	ER-12-2681-000	ITC Holdings	Depreciation
150.	2012	MO PSC	ER-2012-0174	Kansas City Power and Light	Depreciation
151.	2012	MO PSC	ER-2012-0175	KCPL Greater Missouri Operations Company	Depreciation
152.	2012	MO PSC	GO-2012-0363	Laclede Gas Company	Depreciation
153.	2012	MN PUC	G007,001/D-12-533	Integrys – MN Energy Resource Group	Depreciation
154.	2012	TX PUC		Aqua Texas	Depreciation
155.	2012	PA PUC	2012-2336379	York Water Company	Depreciation
156.	2013	NJ BPU	ER12121071	PHI Service Company– Atlantic City Electric	Depreciation
157.	2013	KY PSC	2013-00167	Columbia Gas of Kentucky	Depreciation
158.	2013	VA St CC	2013-00020	Virginia Electric and Power Company	Depreciation
159.	2013	IA Util Bd	2013-0004	MidAmerican Energy Corporation	Depreciation
160.	2013	PA PUC	2013-2355276	Pennsylvania American Water Company	Depreciation
161.	2013	NY PSC	13-E-0030, 13-G-0031, 13-S-0032	Consolidated Edison of New York	Depreciation
162.	2013	PA PUC	2013-2355886	Peoples TWP LLC	Depreciation
163.	2013	TN Reg Auth	12-0504	Tennessee American Water	Depreciation
164.	2013	ME PUC	2013-168	Central Maine Power Company	Depreciation
165.	2013	DC PSC	Case 1103	PHI Service Company – PEPCO	Depreciation

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY, cont.

	Year	Jurisdiction	Docket No.	Client Utility	Subject
166.	2013	WY PSC	2003-ER-13	Cheyenne Light, Fuel and Power Company	Depreciation
167.	2013	FERC	ER13-2428-0000	Kentucky Utilities	Depreciation
168.	2013	FERC	ER13- -0000	MidAmerican Energy Company	Depreciation
169.	2013	FERC	ER13-2410-0000	PPL Utilities	Depreciation
170.	2013	PA PUC	R-2013-2372129	Duquesne Light Company	Depreciation
171.	2013	NJ BPU	ER12111052	Jersey Central Power and Light Company	Depreciation
172.	2013	PA PUC	R-2013-2390244	Bethlehem, City of – Bureau of Water	Depreciation
173.	2013	OK CC	UM 1679	Oklahoma, Public Service Company of	Depreciation
174.	2013	IL CC	13-0500	Nicor Gas Company	Depreciation
175.	2013	WY PSC	20000-427-EA-13	PacifiCorp	Depreciation
176.	2013	UT PSC	13-035-02	PacifiCorp	Depreciation
177.	2013	OR PUC	UM 1647	PacifiCorp	Depreciation
178.	2013	PA PUC	2013-2350509	Dubois, City of	Depreciation
179.	2014	IL CC	14-0224	North Shore Gas Company	Depreciation
180.	2014	FERC	ER14- -0000	Duquesne Light Company	Depreciation
181.	2014	SD PUC	EL14-026	Black Hills Power Company	Depreciation
182.	2014	WY PSC	20002-91-ER-14	Black Hills Power Company	Depreciation
183.	2014	PA PUC	2014-2428304	Borough of Hanover – Municipal Water Works	Depreciation
184.	2014	PA PUC	2014-2406274	Columbia Gas of Pennsylvania	Depreciation
185.	2014	IL CC	14-0225	Peoples Gas Light and Coke Company	Depreciation
186.	2014	MO PSC	ER-2014-0258	Ameren Missouri	Depreciation
187.	2014	KS CC	14-BHCG-502-RTS	Black Hills Service Company	Depreciation
188.	2014	KS CC	14-BHCG-502-RTS	Black Hills Utility Holdings	Depreciation
189.	2014	KS CC	14-BHCG-502-RTS	Black Hills Kansas Gas	Depreciation
190.	2014	PA PUC	2014-2418872	Lancaster, City of – Bureau of Water	Depreciation
191.	2014	WV PSC	14-0701-E-D	First Energy – MonPower/PotomacEdison	Depreciation
192	2014	VA St CC	PUC-2014-00045	Aqua Virginia	Depreciation
193.	2014	VA St CC	PUE-2013	Virginia American Water Company	Depreciation
194.	2014	OK CC	PUD201400229	Oklahoma Gas and Electric Company	Depreciation
195.	2014	OR PUC	UM1679	Portland General Electric	Depreciation
196.	2014	IN URC	Cause No. 44576	Indianapolis Power & Light	Depreciation
197.	2014	MA DPU	DPU. 14-150	NSTAR Gas	Depreciation
198.	2014	CT PURA	14-05-06	Connecticut Light and Power	Depreciation
199.	2014	MO PSC	ER-2014-0370	Kansas City Power & Light	Depreciation

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY, cont.

	Year	Jurisdiction	Docket No.	Client Utility	Subject
200.	2014	KY PSC	2014-00371	Kentucky Utilities Company	Depreciation
201.	2014	KY PSC	2014-00372	Louisville Gas and Electric Company	Depreciation
202.	2015	PA PUC	R-2015-2462723	United Water Pennsylvania Inc.	Depreciation
203.	2015	PA PUC	R-2015-2468056	NiSource - Columbia Gas of Pennsylvania	Depreciation
204.	2015	NY PSC	15-E-0283/15-G-0284	New York State Electric and Gas Corporation	Depreciation
205.	2015	NY PSC	15-E-0285/15-G-0286	Rochester Gas and Electric Corporation	Depreciation
206.	2015	MO PSC	WR-2015-0301/SR-2015-0302	Missouri American Water Company	Depreciation
207.	2015	OK CC	PUD 201500208	Oklahoma, Public Service Company of	Depreciation
208.	2015	WV PSC	15-0676-W-42T	West Virginia American Water Company	Depreciation
209.	2015	PA PUC	2015-2469275	PPL Electric Utilities	Depreciation
210.	2015	IN URC	Cause No. 44688	Northern Indiana Public Service Company	Depreciation
211.	2015	OH PSC	14-1929-EL-RDR	First Energy-Ohio Edison/Cleveland Electric/ Toledo Edison	Depreciation
212.	2015	NM PRC	15-00127-UT	El Paso Electric	Depreciation
213.	2015	TX PUC	PUC-44941; SOAH 473-15-5257	El Paso Electric	Depreciation
214.	2015	WI PSC	3270-DU-104	Madison Gas and Electric Company	Depreciation
215.	2015	OK CC	PUD 201500273	Oklahoma Gas and Electric	Depreciation
216.	2015	KY PSC	Doc. No. 2015-00418	Kentucky American Water Company	Depreciation
217.	2015	NC UC	Doc. No. G-5, Sub 565	Public Service Company of North Carolina	Depreciation
218.	2016	WA UTC	Docket UE-17	Puget Sound Energy	Depreciation
219.	2016	NY PSC	Case No. 16-W-0130	SUEZ Water New York, Inc.	Depreciation
220.	2016	MO PSC	ER-2016-0156	KCPL – Greater Missouri	Depreciation
221.	2016	WI PSC		Wisconsin Public Service Commission	Depreciation
222.	2016	KY PSC	Case No. 2016-00026	Kentucky Utilities Company	Depreciation
223.	2016	KY PSC	Case No. 2016-00027	Louisville Gas and Electric Company	Depreciation
224.	2016	OH PUC	Case No. 16-0907-WW-AIR	Aqua Ohio	Depreciation
225.	2016	MD PSC	Case 9417	NiSource - Columbia Gas of Maryland	Depreciation
226.	2016	KY PSC	2016-00162	Columbia Gas of Kentucky	Depreciation
227.	2016	DE PSC	16-0649	Delmarva Power and Light Company – Electric	Depreciation
228.	2016	DE PSC	16-0650	Delmarva Power and Light Company – Gas	Depreciation
229.	2016	NY PSC	Case 16-G-0257	National Fuel Gas Distribution Corp – NY Div	Depreciation
230.	2016	PA PUC	R-2016-2537349	Metropolitan Edison Company	Depreciation
231.	2016	PA PUC	R-2016-2537352	Pennsylvania Electric Company	Depreciation
232.	2016	PA PUC	R-2016-2537355	Pennsylvania Power Company	Depreciation

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY, cont.

	Year	Jurisdiction	Docket No.	Client Utility	Subject
233.	2016	PA PUC	R-2016-2537359	West Penn Power Company	Depreciation
234.	2016	PA PUC	R-2016-2529660	NiSource - Columbia Gas of PA	Depreciation
235.	2016	KY PSC	Case No. 2016-00063	Kentucky Utilities / Louisville Gas & Electric Co	Depreciation
236.	2016	MO PSC	ER-2016-0285	KCPL Missouri	Depreciation
237.	2016	AR PSC	16-052-U	Oklahoma Gas & Electric Co	Depreciation
238.	2016	PSCW	6680-DU-104	Wisconsin Power and Light	Depreciation
239.	2016	ID PUC	IPC-E-16-23	Idaho Power Company	Depreciation
240.	2016	OR PUC	UM1801	Idaho Power Company	Depreciation
241.	2016	ILL CC	16-	MidAmerican Energy Company	Depreciation
242.	2016	KY PSC	Case No. 2016-00370	Kentucky Utilities Company	Depreciation
243.	2016	KY PSC	Case No. 2016-00371	Louisville Gas and Electric Company	Depreciation
244.	2016	IN URC		Indianapolis Power & Light	Depreciation
245.	2016	AL RC	U-16-081	Chugach Electric Association	Depreciation
246.	2017	MA DPU	D.P.U. 17-05	NSTAR Electric Company and Western Massachusetts Electric Company	Depreciation
247.	2017	TX PUC	PUC-26831, SOAH 973-17-2686	El Paso Electric Company	Depreciation
248.	2017	WA UTC	UE-17033 and UG-170034	Puget Sound Energy	Depreciation
249.	2017	OH PUC	Case No. 17-0032-EL-AIR	Duke Energy Ohio	Depreciation
250.	2017	VA SCC	Case No. PUE-2016-00413	Virginia Natural Gas, Inc.	Depreciation
251.	2017	OK CC	Case No. PUD201700151	Public Service Company of Oklahoma	Depreciation
252.	2017	MD PSC	Case No. 9447	Columbia Gas of Maryland	Depreciation
253.	2017	NC UC	Docket No. E-2, Sub 1142	Duke Energy Progress	Depreciation
254.	2017	VA SCC	Case No. PUR-2017-00090	Dominion Virginia Electric and Power Company	Depreciation
255.	2017	FERC	ER17-1162	MidAmerican Energy Company	Depreciation
256.	2017	PA PUC	R-2017-2595853	Pennsylvania American Water Company	Depreciation
257.	2017	OR PUC	UM1809	Portland General Electric	Depreciation
258.	2017	FERC	ER17-217-000	Jersey Central Power & Light	Depreciation
259.	2017	FERC	ER17-211-000	Mid-Atlantic Interstate Transmission, LLC	Depreciation
260.	2017	MN PUC	Docket No. G007/D-17-442	Minnesota Energy Resources Corporation	Depreciation
261.	2017	IL CC	Docket No. 17-0124	Northern Illinois Gas Company	Depreciation
262.	2017	OR PUC	UM1808	Northwest Natural Gas Company	Depreciation
263.	2017	NY PSC	Case No. 17-W-0528	SUEZ Water Owego-Nichols	Depreciation
264.	2017	MO PSC	GR-2017-0215	Laclede Gas Company	Depreciation
265.	2017	MO PSC	GR-2017-0216	Missouri Gas Energy	Depreciation

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY, cont.

	Year	Jurisdiction	Docket No.	Client Utility	Subject
266.	2017	ILL CC	Docket No. 17-0337	Illinois-American Water Company	Depreciation
267.	2017	FERC	Docket No. ER18-22-000	PPL Electric Utilities Corporation	Depreciation
268.	2017	IN URC	Cause No. 44988	Northern Indiana Public Service Company	Depreciation
269.	2017	NJ BPU	BPU Docket No. WR17090985	New Jersey American Water Company, Inc.	Depreciation
270.	2017	RI PUC	Docket No. 4800	SUEZ Water Rhode Island	Depreciation
271.	2017	OK CC	Cause No. PUD 201700496	Oklahoma Gas and Electric Company	Depreciation
272.	2017	NJ BPU	ER18010029 & GR18010030	Public Service Electric and Gas Company	Depreciation
273.	2017	NC Util Com.	Docket No. E-7, SUB 1146	Duke Energy Carolinas, LLC	Depreciation
274.	2017	KY PSC	Case No. 2017-00321	Duke Energy Kentucky, Inc.	Depreciation
275.	2017	MA DPU	D.P.U. 18-40	Berkshire Gas Company	Depreciation
276.	2018	IN IURC	Cause No. 44992	Indiana-American Water Company, Inc.	Depreciation
277.	2018	IN IURC	Cause No. 45029	Indianapolis Power and Light	Depreciation
278.	2018	NC Util Com.	Docket No. W-218, Sub 497	Aqua North Carolina, Inc.	Depreciation
279.	2018	PA PUC	Docket No. R-2018-2647577	NiSource - Columbia Gas of Pennsylvania, Inc.	Depreciation
280.	2018	OR PUC	Docket UM 1933	Avista Corporation	Depreciation
281.	2018	WA UTC	Docket No. UE-108167	Avista Corporation	Depreciation
282.	2018	ID PUC	AVU-E-18-03, AVU-G-18-02	Avista Corporation	Depreciation
283.	2018	IN URC	Cause No. 45039	Citizens Energy Group	Depreciation
284.	2018	FERC	Docket No. ER18-	Duke Energy Progress	Depreciation
285.	2018	PA PUC	Docket No. R-2018-3000124	Duquesne Light Company	Depreciation
286.	2018	MD PSC	Case No. 948	NiSource - Columbia Gas of Maryland	Depreciation
287.	2018	MA DPU	D.P.U. 18-45	NiSource - Columbia Gas of Massachusetts	Depreciation
288.	2018	OH PUC	Case No. 18-0299-GA-ALT	Vectren Energy Delivery of Ohio	Depreciation
289.	2018	PA PUC	Docket No. R-2018-3000834	SUEZ Water Pennsylvania Inc.	Depreciation
290.	2018	MD PSC	Case No. 9847	Maryland-American Water Company	Depreciation
291.	2018	PA PUC	Docket No. R-2018-3000019	The York Water Company	Depreciation
292.	2018	FERC	ER-18-2231-000	Duke Energy Carolinas, LLC	Depreciation
293.	2018	KY PSC	Case No. 2018-00261	Duke Energy Kentucky, Inc.	Depreciation
294.	2018	NJ BPU	BPU Docket No. WR18050593	SUEZ Water New Jersey	Depreciation
295.	2018	WA UTC	Docket No. UE-180778	PacifiCorp	Depreciation
296.	2018	UT PSC	Docket No. 18-035-36	PacifiCorp	Depreciation
297.	2018	OR PUC	Docket No. UM-1968	PacifiCorp	Depreciation
298.	2018	ID PUC	Case No. PAC-E-18-08	PacifiCorp	Depreciation
299.	2018	WY PSC	20000-539-EA-18	PacifiCorp	Depreciation
300.	2018	PA PUC	Docket No. R-2018-3003068	Aqua Pennsylvania, Inc.	Depreciation

LIST OF CASES IN WHICH JOHN J. SPANOS SUBMITTED TESTIMONY, cont.

	Year	Jurisdiction	Docket No.	Client Utility	Subject
301.	2018	IL CC	Docket No. 18-1467	Aqua Illinois, Inc.	Depreciation
302.	2018	KY PSC	Case No. 2018-00294	Louisville Gas & Electric Company	Depreciation
303.	2018	KY PSC	Case No. 2018-00295	Kentucky Utilities Company	Depreciation
304.	2018	IN URC	Cause No. 45159	Northern Indiana Public Service Company	Depreciation
305.	2018	VA SCC	Case No. PUR-2019-00175	Virginia American Water Company	Depreciation
306.	2019	PA PUC	Docket No. R-2018-3006818	Peoples Natural Gas Company, LLC	Depreciation
307.	2019	OK CC	Cause No. PUD201800140	Oklahoma Gas and Electric Company	Depreciation
308.	2019	MD PSC	Case No. 9490	FirstEnergy – Potomac Edison	Depreciation
309.	2019	SC PSC	Docket No. 2018-318-E	Duke Energy Progress	Depreciation
310.	2019	SC PSC	Docket No. 2018-319-E	Duke Energy Carolinas	Depreciation
311.	2019	DE PSC	DE 19-057	Public Service of New Hampshire	Depreciation
312.	2019	NY PSC	Case No. 19-W-0168 & 19-W-0269	SUEZ Water New York	Depreciation
313.	2019	PA PUC	Docket No. R-2019-3006904	Newtown Artesian Water Company	Depreciation
314.	2019	MO PSC	ER-2019-0335	Ameren Missouri	Depreciation
315.	2019	MO PSC	EC-2019-0200	KCP&L Greater Missouri Operations Company	Depreciation
316.	2019	MN DOC	G011/D-19-377	Minnesota Energy Resource Corp.	Depreciation
317.	2019	NY PSC	Case 19-E-0378 & 19-G-0379	New York State Electric and Gas Corporation	Depreciation
318.	2019	NY PSC	Case 19-E-0380 & 19-G-0381	Rochester Gas and Electric Corporation	Depreciation
319.	2019	WA UTC	Docket UE-19 / UG-19	Puget Sound Energy	Depreciation
320.	2019	PA PUC	Docket No. R-2019-	City of Lancaster	Depreciation
321.	2019	IURC	Cause No. 45253	Duke Energy Indiana	Depreciation
322.	2019	KY PSC	Case No. 2019-00271	Duke Energy Kentucky, Inc.	Depreciation
323.	2019	OH PUC	Case No. 18-1720-GA-AIR	Northeast Ohio Natural Gas Corp	Depreciation
324.	2019	NC Util. Com.	Docket No. E-2, Sub 1219	Duke Energy Carolinas	Depreciation
325.	2019	FERC	Docket No. ER20-277-000	Jersey Central Power & Light Company	Depreciation
326.	2019	MA DPU	D.P.U. 19-120	NSTAR Gas Company	Depreciation
327.	2019	SC PSC	Docket No. 2019-290-WS	Blue Granite Water Company	Depreciation
328.	2019	NC Util. Com.	Docket No. E-2, Sub 1219	Duke Energy Progress	Depreciation
329.	2019	MD PSC	Case no. 9609	NiSource Columbia Gas of Maryland, Inc.	Depreciation
330.	2020	NJ BPU	Docket No. ER20020146	Jersey Central Power & Light Company	Depreciation
331.	2020	PA PUC	Docket No. R-2020-3018835	NiSource - Columbia Gas of Pennsylvania, Inc.	Depreciation
332.	2020	PA PUC	Docket No. R-2020-3019369	Pennsylvania-American Water Company	Depreciation
333.	2020	PA PUC	Docket No. R-2020-3019371	Pennsylvania-American Water Company	Depreciation
334.	2020	MO PSC	GO-2018-0309, GO-2018-0310	Spire Missouri, Inc.	Depreciation

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Sean Borgerson

CORPORATE ACTIVITY TAX

EXHIBIT 2300

May 29, 2020

EXHIBIT 2300 – REPLY TESTIMONY– CORPORATE ACTIVITY TAX

Table of Contents

I. INTRODUCTION AND SUMMARY

Q. Please state your name and position with Northwest Natural Gas Company ("NW Natural" or "the Company").

A. My name is Sean Borgerson. I am the Tax Director for NW Natural.

Q. Please summarize your educational background and business experience

A. I graduated from Washington State University with a Bachelor of Arts in Business Administration. I am a licensed Certified Public Accountant in the State of Oregon.

I have over 24 years of corporate tax and related financial reporting experience. Prior to joining NW Natural in 2014, I worked with Deloitte Tax LLP for 17 years. While with Deloitte, I specialized in corporate and partnership taxation, financial accounting for income taxes, and internal control environments for income tax. I also represented clients before federal and state taxing authorities, was a national tax technical training facilitator, and served as a coach and mentor to other tax professionals. At NW Natural, I am primarily responsible for the accounting, compliance, planning, and analysis of direct and indirect taxes, as well as the continued technical and professional development of the internal tax function.

Q. What is the purpose of your testimony?

A. In this testimony, I provide an overview of the recently enacted Oregon corporate activity tax ("CAT"), review the calculation of the CAT, discuss the current status of the CAT with respect to NW Natural's Oregon utility operations, address the

CAT proposals of the Staff of the Public Utility Commission of Oregon ("Staff") and the Oregon Citizens' Utility Board ("CUB"), and describe the Company's proposals to reflect the effects of the CAT in ratemaking.

II. OVERVIEW OF THE OREGON CORPORATE ACTIVITY TAX ("CAT")

Q. What is the CAT?

A. The CAT is a new tax on businesses with commercial activity[1] in Oregon. It applies to all business entity types (e.g., corporation, partnership, sole proprietor) and includes businesses located inside and outside of Oregon. Businesses with taxable commercial activity[2] in excess of $1 million must pay the CAT. The tax is $250 plus 0.57 percent of taxable commercial activity greater than $1 million after subtractions. The CAT is in addition to other business taxes and does not replace any other tax. In 2019 the Oregon Legislative Counsel estimated approximately 40,000 businesses will be subject to the CAT.

According to the Oregon Department of Revenue ("DOR"), the CAT is not an income tax or a transactional tax, such as a retail sales tax. The CAT is imposed on businesses for the privilege of doing business in Oregon. "It is measured on a business's commercial activity—the total amount a business realizes from transactions and activity in Oregon."[3]

[1] "Commercial Activity" - The total amount realized by a person, arising from transactions and activity in the regular course of the person's trade or business, without deduction for expenses incurred by the trade or business (Oregon 2019 House Bill 2164, §50(1)).
[2] "Taxable commercial activity" - Commercial activity sourced to this state, less a subtraction for 35 percent of the greater of cost inputs or labor costs apportioned to this state (Oregon 2019 House Bill 2164, §50(16)).
[3] https://www.oregon.gov/newsroom/pages/NewsDetail.aspx?newsid=3509

At the risk of oversimplifying the CAT, taxable commercial activity subject to the 0.57 percent tax rate is generally gross receipts from Oregon sources, less a subtraction for 35 percent of the greater of labor costs or the cost of goods sold related to Oregon gross receipts. The CAT bears much similarity to a rate sensitive tax in the regulated setting, which is consistent with the DOR's recent reference to it as a "modified gross receipts tax."[4]

Q. What is the legislative history of the CAT?

A. The CAT legislation was originally passed as part of Oregon House Bill (HB) 3427 in May 2019. In June of 2019 modifications to the original CAT legislation were passed in HB 2164. The bills must be read together to reflect the complete CAT law. Despite the bills passing the legislature and receiving the Governor's signature, the law did not become effective until the 91st day after the date of adjournment of the Oregon legislative session (September 29, 2019). The CAT applies to calendar years beginning January 1, 2020.

Q. How has DOR implemented the CAT?

A. The DOR rulemaking team traveled around the State of Oregon hosting a series of town hall meetings during September and October of 2019 to seek input from taxpayers and tax preparers about elements of the CAT law that may need to be addressed by administrative rules for clarity. In March of 2020 the DOR hosted additional meetings around the State, either in person or via conference call, to share information with interested parties about the temporary CAT rules the DOR

[4] See exhibit NW Natural/2301, Borgerson/4.

had drafted. A copy of the March informational presentation was made available by the DOR and is attached as exhibit NW Natural/2301, Borgerson.

These temporary rules were published by the DOR in early 2020 and recently became proposed rules. The comment period for the public regarding these proposed rules ended on May 26, 2020.[5] It is anticipated that these proposed rules, subject to consideration of input received from interested parties, will become final rules in June of 2020. Additional temporary rules may be issued and subject to a similar process.

III. CALCULATING THE CORPORATE ACTIVITY TAX

Q. Please discuss how taxable commercial activity is determined for the CAT.

A. The first step is to determine the dollar amount of commercial activity. This generally begins with a determination of all gross receipts, which is then adjusted downward for some standard exclusions and, in some cases, additional industry exclusions.

The standard exclusions include items we do not usually consider gross receipts earned in the normal course of a trade or business activity. These include receipts from some hedging transactions, interest income, proceeds from the disposition of business assets, loan principal repayments, equity issuance proceeds, insurance proceeds, dividends, rebates, and other similar items.

The industry exclusions vary but many of them are designed around the same theme, which is to exclude gross receipts from customers that are

[5] https://www.oregon.gov/dor/about/Rules/CAT/permanent/Notice_of_Rulemaking_Hearing_-_CAT.pdf

collected to pay other taxes (i.e., avoiding tax on a tax). The CAT law includes a specific industry exclusion that covers a number of regulated industries in Oregon. These regulated entities may exclude:

> Moneys collected or recovered… …for fees payable under ORS 756.310, right-of-way fees, franchise fees, privilege taxes, federal taxes and local taxes[6]

This regulated industry exclusion from commercial activity is not further defined in the law, nor clarified by DOR proposed rulemaking.

The second step is to determine the amount of the subtraction from commercial activity for 35 percent of the greater of labor inputs or cost inputs. Labor inputs include total compensation of all employees, including the cost of many health insurance and retirement benefits, not to include compensation paid to any single employee in excess of $500,000. Cost inputs is the cost of goods sold as calculated in arriving at federal taxable income under the Internal Revenue Code.

Commercial activity determined in the first step from Oregon sources, less the greater subtraction determined in the second step relative to Oregon, less $1 million, equals taxable commercial activity subject to the 0.57 percent tax rate.

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[6] Oregon 2019 House Bill 2164, Section 50,1(b)(KK).

Q. Can you present a visual of the taxable commercial activity calculation discussed in the previous question?

A. Yes. The figure below incorporates the terminology from the response to the previous question to provide a visual representation of the determination of taxable commercial activity.

		Determine Totals	Determine Includable for Oregon
Commercial Activity			
All Receipts from Trade or Business (everything)		$XXX	
Less:			
Standard Exclusions	($ XX)		
Industry Exclusions	(XX)	(XX)	
Commercial Activity		XXX	*<< Sourced*
Subtraction from Commercial Activity			
Greater of:			
Cost Inputs	($ XX)		
Labor Costs	(XX)		
Multiplied by 35 Percent	35%		
Allowable Subtraction		(XX)	*<< Apportioned*
Taxable Commercial Activity		$XXX	
Less $1 million		(X)	
Multiply by Tax Rate		0.57%	
Plus $250		$ 250	
Corporate Activity Tax		$X	

Q. Do the proposed rules published by the DOR address all of the uncertainties regarding calculating the CAT?

A. No. However, they do address most of the significant areas that NW Natural needed to gain some level of certainty. Those significant areas include the determination of what revenue (or gross receipts) of NW Natural's regulated utility operations should be sourced to Oregon and how cost of goods sold will be interpreted. The proposed rules include Proposed Rule 150-317-1030, *Sourcing Commercial Activity to Oregon from Sales of Tangible Personal Property*, Proposed Rule 150-317-1040, *Sourcing Commercial Activity to Oregon of Other than Sales of Tangible Personal Property,* and Proposed Rule 150-317-1200, *Cost Input or Labor Cost Subtraction*. Copies of these proposed rules are attached as my exhibits NW Natural/2302, 2303, and 2304, respectively.

Q. In what areas do meaningful uncertainties still exist in calculating the CAT?

A. There are two meaningful areas where uncertainties still exist in calculating the CAT for NW Natural's Oregon regulated utility operations. These areas are 1) interpreting the regulated industry exclusion from commercial activity for 'moneys collected or recovered' for certain fees and taxes, and 2) whether the CAT is a deductible expenditure in calculating the Oregon corporate income tax.

Q. Can you discuss the uncertainty of the 'moneys collected or recovered' exclusion?

A. Yes. A specific exclusion from commercial activity for regulated utilities is provided for in Section 50, subsection (KK) of HB 2164. The full exclusion language reads as follows:

> Moneys collected or recovered, by entities listed in ORS 756.310, cable operators as defined in 47 U.S.C. 522(5), telecommunications carriers as defined in 47 U.S.C. 153(51) and

providers of information services as defined in 47 U.S.C. 153(24), for fees payable under ORS 756.310, right-of-way fees, franchise fees, privilege taxes, federal taxes and local taxes.

This regulated industry exclusion from commercial activity is not further defined in the law, nor clarified by DOR proposed rulemaking. The uncertainty with respect to this exclusion is determining the amount of 'moneys collected or recovered' by NW Natural for these fees and taxes in the regulated setting.

The expenditures for these fees and taxes are estimated by the utility in a general rate case filing. The estimated amounts are then subject to change as a result of review and discovery procedures by Staff and other independent parties representing different customer groups. The final rates ordered by the Commission are intended to be sufficient to allow for recovery of the final estimated amount of these fees and taxes expected to occur in a future test year. As a result, the amount of 'moneys collected or recovered' for these fees and taxes may be different than the actual fees and taxes experienced. Any difference would not usually be significant but there is still an interpretive difference between the "moneys collected or recovered" for these fees and taxes versus the actual amount of these fees and taxes incurred.

Q. Can you contrast the 'moneys collected or recovered' exclusion for regulated utilities to the similar exclusion for other industries?

A. Yes. The statutory language in HB 2164, with respect to the exclusion from CAT gross receipts for revenue collected to pay other taxes, is written with a different focus for other industries. For lodging, bicycle sales, and heavy equipment providers, the exclusion from gross receipts is equal to the underlying "tax imposed" by the State on the taxpayer.[7] For tobacco, alcohol, and marijuana the exclusion from gross receipts is equal to the "federal and state excise taxes paid."[8]

Q. Can the uncertainty regarding the 'moneys collected or recovered' exclusion be addressed in this general rate case proceeding?

A. Yes. I believe a rate proceeding is perhaps the only place that a determination can be made regarding the amount of 'moneys collected or recovered' for these fees and taxes by NW Natural in the regulated setting.

The final order in this general rate case will likely include an exhibit or appendix documenting the final revenue requirement calculation. The order could acknowledge the amount/portion of the total revenue requirement approved in this proceeding that represents the revenue authorized to be 'collected or recovered' for fees payable under ORS 756.310, right-of-way fees, franchise fees, privilege taxes, federal taxes and local taxes. This acknowledgement could then be used to quantify the CAT 'moneys collected or recovered' revenue exclusion for tax filing compliance purposes. This would promote consistency between the CAT in ratemaking and actual CAT compliance.

[7] HB 2164, Section 50, subsections QQ, RR, and SS.
[8] HB 2164, Section 50, subsections R, S, and T.

Q. Is there another alternative to address this uncertainty?

A. Yes. The final order in this general rate case could acknowledge that the calculation of "moneys collected or recovered…for fees payable under ORS 756.310, right-of-way fees, franchise fees, privilege taxes, federal taxes and local taxes" is equivalent to the same amounts reported by the NW Natural when preparing the annual results of operations/Earnings Test report. Utilizing the results of operations format allows for consideration of normalized tax expense in the context of other revenue and expenses.

Q. Can you discuss the uncertainty regarding whether the CAT is a deductible expenditure in calculating the Oregon corporate income tax?

A. Yes. The CAT is deductible for federal corporate income tax purposes pursuant to Internal Revenue Code section 162, which allows a deduction for all the ordinary and necessary expenses paid or incurred in carrying on a trade or business. The calculation of Oregon corporate income tax begins with federal taxable income and then requires adjustments pursuant to state law to arrive at Oregon taxable income. Under Oregon statute, *income* and *profits* taxes imposed by Oregon or any other state and deducted in the determination of federal tax income shall be added back.[9]

[9] Oregon Revised Statutes – ORS 317.314, To derive Oregon taxable income, there shall be added to federal taxable income taxes upon or measured by net income or profits imposed by any foreign country (including withholding taxes upon the payment of dividends arising from sources within such foreign country), this state or any state or territory deducted in computing federal taxable income

It is still uncertain whether Oregon will determine that the CAT is an income tax or a profits tax and will therefore not be deductible for Oregon corporate income tax purposes. The Oregon DOR states in their frequently asked questions that, “The CAT is not… …an income tax.”[10] There is still some risk the CAT could be considered a profits tax since it allows for a potentially meaningful deduction for 35 percent of labor or cost of goods sold.

State income taxes and profits taxes can generally only by imposed on taxpayers who have a sufficient physical presence within the state. Oregon intends to cast a wide net with the CAT to include many taxpayers who have no physical presence in the state. As a result, it is in Oregon’s economic interest to refrain from casting the CAT as a profits tax or income tax because it could limit the pool of potential taxpayers.

Although a bit cryptic, the Revenue Impact report prepared by the Oregon Legislative Revenue Office in April 2019 states that their CAT revenue calculations included, “the interactive effects between the new tax and existing income taxes.” This may be the best evidence we have that the CAT will be deductible in the determination of Oregon corporate taxable income.

IV. CORPORATE ACTIVITY TAX IN RATEMAKING

Q. Did NW Natural file a deferral application for the CAT when it became effective on January 1, 2020?

A. Yes. NW Natural filed an application in December of 2019 to defer the CAT

[10] https://www.oregon.gov/dor/programs/businesses/Pages/CAT/CATFAQ.aspx

expense beginning January 1, 2020. At the time of the filing NW Natural estimated that the CAT expense for the first year would be approximately $2.5 million.

Q. Have any parties to this general rate case made proposals for including the CAT in rates?

A. Yes. Both CUB and Staff have included discussions and proposals related to the CAT in their testimony.

Q. Please summarize CUB's proposal and comments.

A. CUB indicated that they do not object to the Company filing the deferral for the CAT, but its preference is to include the CAT expense in base margin rates on a prospective basis and avoid ongoing deferred accounting. As an initial placeholder, CUB indicated the original $2.5 million estimate from the deferral application could be included in margin rates and this amount could be updated later this year when final rules for the CAT have been established.[11]

Q. Please summarize Staff's proposal and comments.

A. Staff indicated its strong preference for inclusion of the CAT in base rates if it is reasonably estimable as opposed to an ongoing deferral mechanism. Similar to CUB, Staff recommended including the original $2.5 million estimate from the deferral application in the revenue requirement in this case and consideration of one-time true up in the November 1, 2021 purchased gas adjustment ("PGA").[12]

[11] CUB/200, Gehrke/12:6-14.
[12] Staff/200, Fox/27:10-15, Fox/28:1-3.

Q. Does NW Natural agree with the proposals by CUB and Staff?

A. Yes, NW Natural agrees to include CAT in base rates on a prospective basis. However, NW Natural would prefer to include an amount in rates for the CAT that is based on the final revenue requirement determined in this case rather than the original $2.5 million CAT figure NW Natural estimated for calendar year 2020. If the parties to this case believe it is warranted, NW Natural would be supportive of agreeing to a review of the CAT calculation at a later date when the Oregon DOR's rulemaking is more complete in order to evaluate whether the CAT amount included in rates in this case should be adjusted.

Q. Has NW Natural prepared a calculation of the CAT based on the revenue requirement in this case?

A. Yes. NW Natural has prepared a calculation of the CAT and associated revenue requirement based on this general rate case. The calculation includes an exclusion from taxable commercial activity for the estimated 'moneys collected or recovered' for certain fees and taxes and assumes that the CAT is deductible in determining Oregon corporate taxable income. The updated CAT figure is $3.15 million and the details of the calculation are included in exhibit NW Natural/2305, Borgerson.

V. OTHER CORPORATE ACTIVITY TAX MATTERS

Q. Are there other ongoing considerations regarding the CAT?

A. Yes. It is NW Natural's intention to include a CAT adjustment component in the annual PGA filing to reflect changes in gross revenue and cost of goods sold as a result of the PGA. As an example, if the annual PGA filing would increase both cost of goods sold and revenue by $10 thousand dollars, the CAT adjustment component would reflect an increase in CAT of $57 (0.57 percent of the revenue increase) offset by a CAT reduction of $19.95 (0.57 percent of the increase in cost of goods sold multiplied by 35 percent).[13]

Q. Does NW Natural have a proposal for the CAT subject to the deferral application in 2020?

A. Yes. NW Natural proposes to include CAT deferred from January through June of 2020 in the compliance filing of this rate case for amortization over one year, and then include additional CAT deferred from July of 2020 through the effective date of this rate case in the November 2021 PGA for amortization over one year.

Q. Does this conclude your Reply Testimony?

A. Yes.

[13] Note that for simplification this example ignores the gross up for revenue sensitive taxes such as the OPUC fee, franchise fees, and the CAT that would occur.

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Sean Borgerson

CORPORATE ACTIVITY TAX

EXHIBIT 2301

May 29, 2020

Oregon Corporate Activity Tax (CAT)

OREGON
DEPARTMENT
OF REVENUE

Presentation outline

- Overview.
- Commercial activity.
- CAT taxpayers and exclusions.
- Cost subtraction.
- Calculating the CAT.
- Extension to file.
- Questions.

OREGON DEPARTMENT OF REVENUE

Overview

OREGON DEPARTMENT OF REVENUE

What is CAT?

- Modified gross receipts tax.
- Tax on business entities' **commercial activity in Oregon**.
- Unitary/consolidated returns are required.
  - Common ownership of more than 50 percent.
  - Centralized management.
  - Economies of scale.
  - Functional integration.
- First $1 million of commercial activity is exempt.

OREGON DEPARTMENT OF REVENUE

Eighteen temporary rules adopted

Temporary rules are located on our website: www.oregon.gov/DOR

- Definition of Commercial Activity
- Nexus Guidelines
- Determining Unitary Groups
- Sourcing of Commercial Activity (2 OARs)
- Agent Exclusion
- Property Transferred into Oregon
- Estimated Payments (3 OARs)
- Grocery Exclusion (2 OARs)
- Sales to Wholesalers
- Vehicle Dealer Trades
- Extension of Time to File
- Cost Subtraction
- Employee Compensation
- Definition of Single-Family Residential

Questions/future information

- Additional information is available on our website.
- Taxpayers can register and make payments through Revenue Online.
- CAT help phone lines and email open.

What is Commercial Activity?

Oregon commercial activity

- Amounts realized in the regular course of the trade or business that meet the transactional test in OAR 150-314-0335.
  - Includes money, property received, debt forgiven, and services rendered.
- Commercial activity does not include amounts that only meet the **functional test** under OAR 150-314-0335.
- Commercial activity is realized based on the accounting method for federal income tax purposes.

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Thresholds

Threshold	Amount
Excluded	Less than $750,000 of Oregon commercial activity
Registration	$750,000 of Oregon commercial activity
Filing	$1 million of Oregon commercial activity
Tax Payment	Over $1 million of Oregon taxable commercial activity after expense subtractions

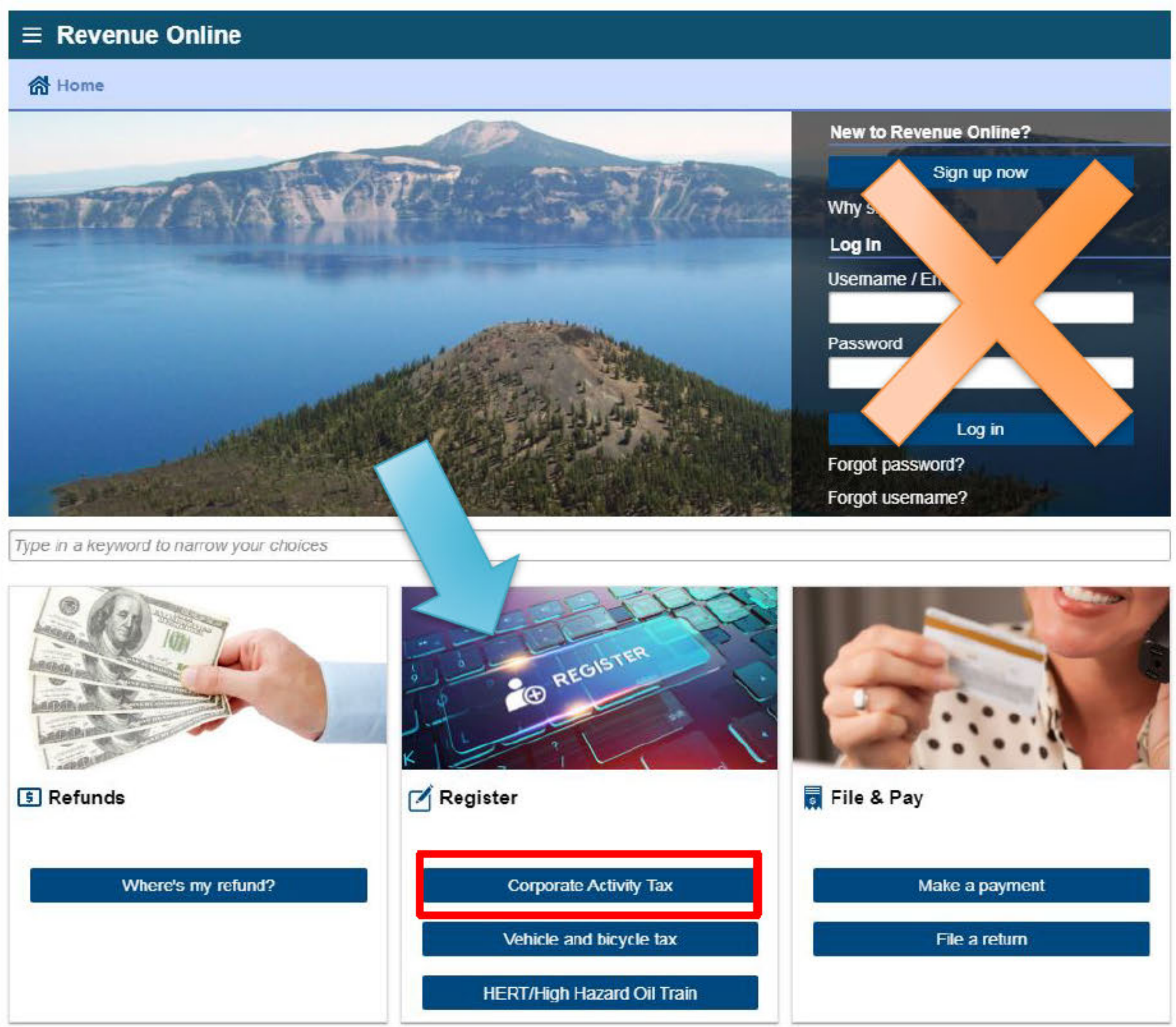
OREGON DEPARTMENT OF REVENUE

Register through Revenue Online

Under "Register" click on

Corporate Activity Tax

Do not sign-in to Revenue Online or create a Revenue Online account before registering.



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CAT Taxpayers and Excluded Entities

CAT Taxpayers

- "Person" includes, but is not limited to:
  - Individuals
  - Estates
  - Partnerships
  - LLCs
  - Clubs
  - C-corporations
  - S-corporations
  - Trusts
  - Any other entity

Excluded persons

- IRC 501 organizations.
- Farmers cooperatives, if under section 521.
- Governmental entities.
- State tuition programs under section 529.
- Hospitals and long-term care facilities that are Medicare providers.
- Businesses with less than $750,000 in Oregon commercial activity.

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Substantial nexus

- Substantial nexus exists if a connection between the person and Oregon is sufficient to establish nexus under the U.S. Constitution.
- Substantial nexus exists where a person regularly takes advantage of Oregon's economy.

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Sourcing of Commercial Activity

Sales of Tangible Personal Property

- Temporary Rule OAR 150-317-1030.
- Includes the ultimate recipient of property.
- Sourced to Oregon if the property is delivered to a purchaser within Oregon.
  - Regardless of F.O.B. point.
  - Whether transported by seller, purchaser, or common carrier.

Exception: Throwback rules do not apply to CAT.

OREGON DEPARTMENT OF REVENUE

Sourcing of Commercial Activity (cont.)

Sales other than tangible personal property

- Temporary rule OAR 150-317-1040.
- Rules are similar to market-based sourcing.
- If leasing or renting property, it is sourced to Oregon if the property is in Oregon.
- If services are delivered to a location in Oregon.

Unitary Groups

1. United by more than 50 percent common ownership.
2. Unitary business must have <u>one</u> of the following:
   A. Centralized management or a common executive force;
   B. Centralized administrative services or functions resulting in economies of scale; or
   C. Flow of goods, capital resources or services demonstrating functional integration.

OREGON DEPARTMENT OF REVENUE

Exclusions from Commercial Activity

Over 40 items are excluded from commercial activity:

- Medicare and Medicaid payments received by in-home care and residential care facilities.
- Sales of motor vehicle fuel.
- Receipts from transactions between members of the same unitary group.
- Distributive income received from a pass-through entity.
- And others.

OREGON DEPARTMENT OF REVENUE

Exclusions: Agents

A person is an agent if the person acts on behalf of and subject to the control of another person (a principal).

- A determination of whether a person is acting as an agent is based on a consideration of the facts and circumstances surrounding the relationship between the agent and the principal.

OREGON DEPARTMENT OF REVENUE

Exclusions: Vehicle dealer trades

Motor vehicle dealer trades are excluded, provided that:

- The transfer is made for the purpose of resale by the transferee dealer; and
- The transfer is based on the transferee motor vehicle dealer's need to meet a specific customer's preference.
- Dealers must retain a resale certificate—any document may serve as a resale certificate, provided it has the information required in OAR 150-317-1410.

OREGON DEPARTMENT OF REVENUE

Exclusions: Sales to wholesalers subsequently sold out of state

- Receipts from sales to wholesalers in Oregon can be excluded, provided that:
  - The wholesaler certifies the items that will be sold out of state.
  - The wholesaler provides the taxpayer with out-of-state resale certification at the time of the sale.

A wholesaler who cannot determine the amount of purchased items to be sold out of state at the time of sale can approximate the amount (see OAR 150-317-1400 and DOR FAQ Sheet).

OREGON DEPARTMENT OF REVENUE

Exclusions: Retail and wholesale groceries

Receipts from the **retail** or **wholesale** sale of **groceries** are excluded.

- Groceries means food and beverages for home consumption that would be eligible for purchase under the Supplemental Nutrition Assistance Program (SNAP).
- Groceries does not mean: Alcoholic beverages, tobacco, cannabinoid edibles, hot food for immediate consumption, or food that is hot at the point of sale.
- Must be a wholesale or retail sale (see OAR 150-317-1140 and -1150 and DOR FAQ Sheet).

Retail Sales of Groceries

Requirement 1: The sale is of a grocery item that would be eligible for purchase with SNAP benefits

Requirement 2: The seller typically intends/expects that the sale of the food is to the final consumer for home consumption

- Average gross receipts from sale of groceries vs. receipts from the sale of hot food or prepared food
- On-site dining facilities and percentage of floor space dedicated to dining vs. grocery shelving
- Business advertising and marketing

OREGON DEPARTMENT OF REVENUE

Wholesale Sale of Groceries

Requirement 1: Wholesale sale

Requirement 2: Sale is of a food item that would be eligible for purchase with SNAP benefits, in a form that can be resold to the end consumer for home consumption

Requirement 3: The sale must be made to a business entity for the purpose of reselling the food item, without processing, to the final consumer for home consumption

Requirement 4: Wholesale seller must obtain written certification from the purchaser (see OAR 150-317-1140)

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Cost Subtraction

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Cost inputs

- Cost inputs are defined as cost of goods sold as calculated in arriving at federal taxable income under the Internal Revenue Code.
- Refer to IRS Publication 538 for more information on cost of goods sold.

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Labor costs

For purpose of the subtraction, “employees” are not:

- Partners in a partnership who receive guaranteed payments or distributive income.
- Members of a limited liability company (LLC) who receive guaranteed payments or distributive income.
- Statutory employees described in the Internal Revenue Code section 3121(d)(3).
- Independent contractors, as defined in ORS 670.600.

Limited to $500,000 paid to a single employee

Labor costs (cont.)

For purpose of the subtraction, “compensation” includes:

- Wages.
- Bonuses.
- Health insurance benefits.
- Retirement benefits.
- Other fringe benefits.

Compensation does not include:

- Employer payroll taxes.

Calculating tax liability (overview)

You will need the following information:

- Amount of commercial activity sourced to Oregon.
- Amount of everywhere commercial activity plus exclusions.
- Amount of labor costs.
- Amount of cost inputs.
- For general contractors, the amount of qualifying payments to subcontractors for labor (single family residential construction only).

OREGON DEPARTMENT OF REVENUE

Calculating tax liability

Step 1: Determine your commercial activity ratio

$$\left(\text{Oregon Commercial Activity} \right) \div \left(\text{Everywhere Commercial Activity + Exclusions} \right) = \left(\text{Commercial Activity Ratio (CAR)} \right)$$

Note: If all of your commercial activity is in Oregon and you don't have any exclusions from commercial activity, then your ratio is 1.

Calculating tax liability (cont.)

Step 2: Determine your cost subtraction

- CAR *x* Total Labor Costs *x* 35% = Labor Costs Apportioned to Oregon.
- CAR *x* Total Cost Inputs *x* 35% = Cost Inputs Apportioned to Oregon.

The greater of either your labor costs or cost inputs apportioned to Oregon is your cost subtraction.

Note: Your cost subtraction may not exceed 95 percent of your Oregon commercial activity.

Calculating tax liability (cont.)

Step 3: Determine your taxable Oregon commercial activity.

- Oregon commercial activity - cost subtraction = taxable Oregon commercial activity.

Step 4: Determine your Oregon Corporate Activity Tax liability.

- (Taxable Oregon commercial activity - $1 million threshold) x 0.57% tax rate + $250 = Oregon Corporate Activity Tax liability.

Note: If your taxable Oregon commercial activity is $1 million or less your CAT tax liability is zero.

OREGON DEPARTMENT OF REVENUE

Calculating tax liability (Alternative)

- As an alternative to this method of determining your cost subtraction, you may use separate accounting to identify which specific labor costs or cost inputs are solely attributable to Oregon Commercial activity.

- Your cost subtraction may not include any labor costs or cost inputs that are not attributable to Oregon commercial activity, or any items specifically excluded from commercial activity.

OREGON DEPARTMENT OF REVENUE

Example: Grocery and TV Mart

Assume Grocery & TV Mart has:

- Oregon Commercial Activity of **$10 million.**
- Everywhere Commercial Activity + Exclusions of **$70 million.**
  - $50 million in commercial activity.
  - $20 million in exclusions from commercial activity.
- Labor costs of **$28 million.**
- Cost inputs of **$26 million.**

OREGON DEPARTMENT OF REVENUE

Example: Grocery and TV Mart (cont.)

Step 1: Calculate Commercial Activity Ratio (CAR).

(\$10M Oregon Commercial Activity) ÷ (\$70M Everywhere Commercial Activity + Exclusions) = (14.2857% CAR)

Step 2: Determine Cost Subtraction.

(14.2857% CAR) × (\$28M Labor Costs) × (35% Subtraction) = (\$1,399,999 Apportioned Labor Costs)

Example: Grocery & TV Mart (cont.)

Step 3: Determine taxable Oregon Commercial Activity.

($10M Oregon Commercial Activity) — ($1,399,999 Cost Subtraction) = ($8,600,001 Taxable Oregon Commercial Activity)

Step 4: Determine CAT Liability

($8,600,001 Taxable Oregon Commercial Activity) — ($1M Threshold) ✖ (0.57% CAT Tax Rate) + ($250) = ($43,570 CAT Liability)

See DOR FAQ Sheet for additional information and examples

OREGON DEPARTMENT OF REVENUE

Estimated payments

- Only taxpayers expecting more than $5,000 of CAT liability for the year are required to make estimated payments.
- If required, estimated payments are due April 30, July 31, October 31, and January 31 for preceding calendar quarter.
- A taxpayer expecting $5,000 or less of CAT liability does not need to make estimated payments, but must file an annual return and pay CAT liability no later than April 15.
- Temporary rule OAR 150-317-1300

Estimated Taxes Example

Total Oregon Commercial Activity	$ 1,900,000
Less 35% of cost inputs or labor subtraction	(50,000)
Commercial activity before $1 million threshold Subtraction	1,850,000
Less $1 million threshold	(1,000,000)
Commercial activity	850,000
Multiplied by CAT .57%	.0057
CAT	4,845
Add	250
Total CAT	5,095

OREGON DEPARTMENT OF REVENUE

Extension of time to file

- An extension to file request must be made prior to April 15.
- This is not an extension to pay.
- The extension is six-months or until October 15.
- Extension for "good cause."
  - Define in OAR 150-317-1330.
  - This is as required by ORS Chapter 317A.

OREGON DEPARTMENT OF REVENUE

Questions

If you have additional questions after today, please contact:

Cat Help Team

Cat.help.dor@oregon.gov

(503) 945-8005

OREGON DEPARTMENT OF REVENUE

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Sean Borgerson

CORPORATE ACTIVITY TAX

EXHIBIT 2302

May 29, 2020

OREGON DEPARTMENT OF REVENUE

ADMINISTRATIVE RULE REVIEW	Rule No. 150-317-1030	
Adopt Rule	Page: Page 1 of 2	Last Revised Date: February 24, 2020
Permanent Rule	NOTICE OF INTENDED ACTION	
	Bulletin Dated: May 2020	Hearing Scheduled: May 26, 2020

PURPOSE: Provide guidance for sourcing of sales of tangible personal property for taxpayers who have business activity inside and outside of Oregon for purposes of the corporate activity tax.

150-317-1030

Sourcing Commercial Activity to Oregon from Sales of Tangible Personal Property

(1) *Definitions*.

(a) “Purchaser within Oregon” includes the ultimate recipient of property if the taxpayer, at the designation of the purchaser, delivers property to the ultimate recipient within Oregon.

(b) “Tangible personal property” means personal property that can be seen, weighed, measured, felt, or touched, or that is in any other manner perceptible to the senses. “Tangible personal property” includes electricity, water, gas, steam, and prewritten computer software.

(2) Gross receipts from the sales of tangible personal property are sourced to Oregon if the property is delivered to a purchaser within Oregon regardless of the f.o.b. point or other conditions of sale, whether transported by seller, purchaser, or common carrier.

Example 1: A seller with a place of business in State A is a distributor of merchandise to retail outlets in multiple states. A purchaser with retail outlets in several states, including Oregon, makes arrangements to hire a common carrier to pick up merchandise, f.o.b. plant, at the seller’s place of business and have it delivered to the purchaser’s outlet in Oregon. The seller must treat this as a sale of property delivered to a purchaser in Oregon.

Example 2: A seller with a place of business in Oregon is a distributor of merchandise to retail outlets in multiple states. A purchaser with retail outlets in several states, including State A, sends its own truck to pick up the merchandise at the seller’s place of business and have it transported to the purchaser’s outlet in State A. The seller must treat this as a sale of property delivered to a purchaser in State A.

(3) Property is deemed to be delivered to a purchaser within Oregon if the recipient is located in Oregon, even though the property is ordered from outside of Oregon.

Example 3: A taxpayer in Oregon sold merchandise to a purchaser in State A. Taxpayer directed the manufacturer or supplier of the merchandise in State B to deliver the merchandise to the purchaser’s customer in Oregon pursuant to purchaser’s instructions. The sale by the taxpayer is in Oregon.

OREGON DEPARTMENT OF REVENUE

ADMINISTRATIVE RULE REVIEW

	Rule No. 150-317-1030	
Adopt Rule	Page: Page 2 of 2	Last Revised Date: February 24, 2020
Permanent Rule	NOTICE OF INTENDED ACTION — Bulletin Dated: May 2020	Hearing Scheduled: May 26, 2020

PURPOSE: Provide guidance for sourcing of sales of tangible personal property for taxpayers who have business activity inside and outside of Oregon for purposes of the corporate activity tax.

Example 4: The taxpayer, with inventory in State A, sold $100,000 of its products to a purchaser having branch stores in several states including Oregon. The order for the purchase was placed by the purchaser's central purchasing department located in State B. Of the total purchase order, $25,000 was shipped directly to purchaser's branch store in Oregon. The branch store in Oregon is the "purchaser within Oregon" with respect to $25,000 of the taxpayer's sales.

(4) Property is delivered to a purchaser within Oregon if the delivery terminates in Oregon, even though the property is subsequently transferred by the purchaser to another state.

Example 5: The taxpayer makes a sale to a purchaser who maintains a central warehouse in Oregon at which all merchandise purchases are received. The purchaser reships the goods to its branch stores in other states for sale. All of taxpayer's products shipped to the purchaser's warehouse in Oregon are property delivered to a "purchaser within Oregon."

(5) When property being delivered by a seller from the state of origin to a purchaser in another state is diverted while enroute to a purchaser in Oregon, the sale is in Oregon.

Example 6: The taxpayer, a business in State A, begins shipment of their product to the purchaser's place of business in State B. While enroute the product is diverted to the purchaser's place of business in Oregon to package the merchandise with the purchaser's logo. The sale by the taxpayer is in Oregon.

Stat. Auth.: ORS 305.100; ORS 317A.143

Stats. Implemented: ORS 317A.128

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Sean Borgerson

CORPORATE ACTIVITY TAX

EXHIBIT 2303

May 29, 2020

OREGON DEPARTMENT OF REVENUE

ADMINISTRATIVE RULE REVIEW

Adopt Rule Permanent Rule	Rule No. 150-317-1040	
	Page Page 1 of 38	Last Revised Date March 9, 2020
	NOTICE OF INTENDED ACTION	
	Bulletin Dated May 2020	Hearing Scheduled May 26, 2020

PURPOSE: Provides guidance for sourcing of commercial activity from other than sales of tangible personal property for taxpayers who have business activity across state lines under ORS 317A.128

150-317-1040

Sourcing Commercial Activity to Oregon of Other than Sales of Tangible Personal Property

(1) *General Rule*. Receipts, other than receipts from sale of tangible personal property, are sourced to Oregon under ORS 317A.128, section (1)(a), (b), (d), and (e), as described in this rule. This rule does not address sourcing of receipts of financial institutions or insurers as defined in ORS 317A.100. In general, the provisions in this rule establish uniform rules for determining whether receipts other than receipts from the sale of tangible personal property are sourced to this state and reasonably approximating the state or states of assignment where the state or states cannot be determined.

(a) *Outline of Topics*.

(A) General Rules

(i) Outline of Topics

(ii) Definitions

(iii) General Principles of Application; Contemporaneous Records

(iv) Rules of Reasonable Approximation

(B) Sale, Rental, Lease, or License of Real Property

(C) Rental, Lease, or License of Tangible Personal Property

(D) Sale of Service

(i) General Rule

(ii) In-Person Services

(iii) Services Delivered to the Customer or on Behalf of the Customer, or Delivered Electronically Through the Customer

(iv) Professional Services

(E) License or Lease of Intangible Property

(i) General rule

(ii) License of a Marketing Intangible

(iii) License of a Production Intangible

(iv) License of a Mixed Intangible

(v) License of Intangible Property where Substance of the Transaction Resembles a Sale of Goods or Services

(F) Sale of Intangible Property: Assignment of Receipts

(G) Special Rules

(i) Software Transactions

(ii) Sales or Licenses of Digital Goods and Services

(b) *Definitions.*

(A) "Billing address" means the location indicated in the books and records of the taxpayer as the primary mailing address relating to a customer's account as of the time of the transaction as kept in good faith in the normal course of business and not for tax avoidance purposes.

(B) "Business customer" means a customer that is a business operating in any form, including a sole proprietorship. Sales to a non-profit organization, to a trust, to the U.S. Government, to a foreign, state, or local government, or to an agency or instrumentality of that government are treated as sales to a business customer and must be assigned consistent with the rules for those sales.

(C) "Individual customer" means a customer that is not a business customer.

(D) "Intangible property" generally means property that is not physical or whose representation by physical means is merely incidental and includes, without limitation, copyrights; patents; trademarks; trade names; brand names; franchises; licenses; trade secrets; trade dress; information; know-how; methods; programs; procedures; systems; formulae; processes; technical data; designs; licenses; literary, musical, or artistic compositions; information; ideas; contract rights including broadcast rights; agreements not to compete; goodwill and going concern value; securities; and, except as otherwise provided in this rule, computer software.

(E) "Place of order" means the physical location from which a customer places an order for a sale other than a sale of tangible personal property from a taxpayer, resulting in a contract with the taxpayer.

(F) "Population" means the most recent population data maintained by the U.S. Census Bureau for the

OREGON DEPARTMENT OF REVENUE

ADMINISTRATIVE RULE REVIEW	Rule No. 150-317-1040	
Adopt Rule Permanent Rule	Page: Page 3 of 38	Last Revised Date: March 9, 2020
	NOTICE OF INTENDED ACTION	
	Bulletin Dated: May 2020	Hearing Scheduled: May 26, 2020

PURPOSE: Provides guidance for sourcing of commercial activity from other than sales of tangible personal property for taxpayers who have business activity across state lines under ORS 317A.128

year in question as of the close of the taxable period.

(G) "Related party" means:

(i) A stockholder who is an individual, or a member of the stockholder's family set forth in section 318 of the Internal Revenue Code if the stockholder and the members of the stockholder's family own, directly, indirectly, beneficially, or constructively, in the aggregate, at least 50 percent of the value of the taxpayer's outstanding stock;

(ii) A stockholder, or a stockholder's partnership, limited liability company, estate, trust, or corporation, if the stockholder and the stockholder's partnerships, limited liability companies, estates, trusts, and corporations own directly, indirectly, beneficially or constructively, in the aggregate, at least 50 percent of the value of the taxpayer's outstanding stock;

(iii) A corporation, or a party related to the corporation in a manner that would require an attribution of stock from the corporation to the party or from the party to the corporation under the attribution rules of the Internal Revenue Code if the taxpayer owns, directly, indirectly, beneficially, or constructively, at least 50 percent of the value of the corporation's outstanding stock. The attribution rules of the Internal Revenue Code apply for purposes of determining whether the ownership requirements of this definition have been met.

(iv) The provisions of this rule regarding sales between related parties do not apply to sales that are excluded from commercial activity under ORS 317A.100 (1)(b)(FF) as transactions among members of a unitary group.

(H) "State where a contract of sale is principally managed by the customer" means the primary location at which an employee or other representative of a customer serves as the primary contact person for the taxpayer with respect to the day-to-day execution and performance of a contract entered into by the taxpayer with the customer.

(c) *General Principles of Application; Contemporaneous Records*. In order to satisfy the requirements of this rule, a taxpayer's assignment of receipts other than receipts from sales of tangible personal property must be consistent with the following principles:

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Adopt Rule Permanent Rule	Page: Page 4 of 38	Last Revised Date: March 9, 2020
	NOTICE OF INTENDED ACTION	
	Bulletin Dated: May 2020	Hearing Scheduled: May 26, 2020

PURPOSE: Provides guidance for sourcing of commercial activity from other than sales of tangible personal property for taxpayers who have business activity across state lines under ORS 317A.128

(A) This rule provides various assignment rules that apply sequentially in a hierarchy. For each sale to which a hierarchical rule applies, a taxpayer must make a reasonable effort to apply the primary rule applicable to the sale before seeking to apply the next rule in the hierarchy (and must continue to do so with each succeeding rule in the hierarchy, where applicable). For example, in some cases, the applicable rule first requires a taxpayer to determine the state or states of assignment, and if the taxpayer cannot do so, the rule requires the taxpayer to reasonably approximate the state or states. In these cases, the taxpayer must attempt to determine the state or states of assignment (that is, apply the primary rule in the hierarchy) in good faith and with reasonable effort before it may reasonably approximate the state or states.

(B) A taxpayer's method of assigning its receipts, including the use of a method of approximation, where applicable, must reflect an attempt to obtain the most accurate assignment of receipts consistent with the regulatory standards set forth in this rule, rather than for tax avoidance purposes. A method of assignment that is reasonable for one taxpayer may not necessarily be reasonable for another taxpayer, depending upon the applicable facts.

(d) *Rules of Reasonable Approximation.*

(A) *In General*. In general, this rule establishes uniform rules for determining whether and to what extent receipts other than receipts from the sale of tangible personal property are sourced to Oregon. This rule also sets forth rules of reasonable approximation, which apply if the state or states of assignment cannot be determined. In some instances, the reasonable approximation must be made in accordance with specific rules of approximation prescribed in this rule. In other cases, the applicable rule permits a taxpayer to reasonably approximate the state or states of assignment using a method that reflects an effort to approximate the results that would be obtained under the applicable rules or standards set forth in this rule.

(B) *Reasonable Approximation Based Upon Known Sales*. In an instance where, applying the applicable rules set forth in section (4) of this rule (Sale of a Service), a taxpayer can ascertain the state or states of assignment of a substantial portion of its receipts from sales of substantially similar services ("assigned receipts"), but not all of those sales, and the taxpayer reasonably believes, based on all available information, that the geographic distribution of some or all of the remainder of those sales generally tracks that of the assigned receipts, it must source receipts from those sales which it believes tracks the geographic distribution of the assigned receipts in the same proportion as its assigned receipts. This rule also applies in the context of licenses and sales of intangible property where the substance of the transaction resembles a sale of goods or services.

(C) *Related-Party Transactions – Information Imputed from Customer to Taxpayer*. Where a taxpayer has receipts subject to this rule from sales with a related-party customer, information that the customer has that is relevant to the sourcing of receipts from these transactions is imputed to the taxpayer.

(2) *Sale, Rental, Lease, or License of Real Property.* In the case of a sale, rental, lease, or license of real property, the receipts are sourced to Oregon if and to the extent that the property is in Oregon.

(3) *Rental, Lease, or License of Tangible Personal Property*. In the case of a rental, lease, or license of tangible personal property, the receipts are sourced to Oregon if and to the extent that the property is in Oregon. If property is mobile property that is located both within and without Oregon during the period of the lease or other contract, the receipts assigned to Oregon are the receipts from the contract period multiplied by a fraction where the numerator is the number of days used in Oregon and the denominator is the total number of days of the rental, lease, or license.

(4) *Sale of a Service.*

(a) *General Rule.* The receipts from a sale of a service are in Oregon if and to the extent that the service is delivered to a location in Oregon. In general, the term "delivered to a location" refers to the location of the taxpayer's market for the service, which may not be the location of the taxpayer's employees or property. The rules to determine the location of the delivery of a service in the context of several specific types of service transactions are set forth at sections (4)(b)-(d) of this rule.

(b) *In-Person Services*.

(A) *In General.* Except as otherwise provided in section (4)(b) of this rule, in-person services are services that are physically provided in person by the taxpayer, where the customer or the customer's real or tangible property upon which the services are performed is in the same location as the service provider at the time the services are performed. This rule includes situations where the services are provided on behalf of the taxpayer by a third-party contractor. Examples of in-person services include, without limitation, warranty and repair services; cleaning services; plumbing services; carpentry; construction contractor services; pest control; landscape services; medical and dental services, including medical testing, x-rays, and mental health care and treatment; child care; hair cutting and salon services; live entertainment and athletic performances; and in-person training or lessons. In-person services include services within the description above that are performed at (1) a location that is owned or operated by the service provider or (2) a location of the customer, including the location of the customer's real or tangible personal property. Various professional services, including legal, accounting, financial and consulting services, and other similar services as described in section (4)(d) of this rule, although they may involve some amount of in-person contact, are not treated as in-person services within the meaning of section (4)(b) of this rule.

(B) *Assignment of Receipts.*

(i) *Rule of Determination*. Except as otherwise provided in section (4)(b)(B) of this rule, if the service provided by the taxpayer is an in-person service, the service is delivered to the location where the service is received. Therefore, the receipts from a sale are in Oregon if and to the extent the customer receives the in-person service in Oregon. In assigning its receipts from sales of in-person services, a taxpayer must first attempt to determine the location where a service is received, as follows:

(I) If the service is performed with respect to the body of an individual customer in Oregon (e.g. hair cutting or x-ray services) or in the physical presence of the customer in Oregon (e.g. live entertainment or athletic performances), the service is received in Oregon.

(II) If the service is performed with respect to the customer's real estate in Oregon or if the service is performed with respect to the customer's tangible personal property at the customer's residence or in the customer's possession in Oregon, the service is received in Oregon.

(III) If the service is performed with respect to the customer's tangible personal property and the tangible

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personal property is to be delivered to the customer, whether the service is performed within or outside Oregon, the service is received in Oregon if the property is delivered to the customer in Oregon.

(C) *Rule of Reasonable Approximation*. In an instance in which the state or states where a service is actually received cannot be determined, the taxpayer must reasonably approximate such state or states.

(D) *Examples.* Note that for purposes of the examples it is irrelevant whether the services are performed by an employee of the taxpayer or by an independent contractor acting on the taxpayer's behalf.

Example 1: Salon Corp has retail locations in Oregon and in other states where it provides hair cutting services to individual and business customers, the latter of whom are paid for through the means of a company account. The receipts from sales of services provided at Salon Corp's in-state locations are in Oregon. The receipts from sales of services provided at Salon Corp's locations outside Oregon, even when provided to residents of Oregon, are not receipts from in-state sales.

Example 2: Landscape Corp provides landscaping and gardening services in Oregon and in neighboring states. Landscape Corp provides landscaping services at the in-state vacation home of an individual who is a resident of another state and who is located outside Oregon at the time the services are performed. The receipts from sale of services provided at the in-state location are in Oregon.

Example 3: Same facts as Example 2, except that Landscape Corp provides the landscaping services to Retail Corp, a corporation with retail locations in several states, and the services are with respect to those locations of Retail Corp that are in Oregon and in other states. The receipts from the sale of services provided to Retail Corp are in Oregon to the extent the services are provided in Oregon.

Example 4: Camera Corp provides camera repair services at an in-state retail location to walk-in individual and business customers. In some cases, Camera Corp actually repairs a camera that is brought to its in-state location at a facility that is in another state. In these cases, the repaired camera is then returned to the customer at Camera Corp's in-state location. The receipts from sale of these services are in Oregon.

Example 5: Same facts as Example 4, except that a customer located in Oregon mails the camera directly to the out-of-state facility owned by Camera Corp to be fixed, and receives the repaired camera back in

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PURPOSE: Provides guidance for sourcing of commercial activity from other than sales of tangible personal property for taxpayers who have business activity across state lines under ORS 317A.128

Oregon by mail. The receipts from sale of the service are in Oregon.

Example 6: Teaching Corp provides seminars in Oregon to individual and business customers. The seminars and the materials used in connection with the seminars are prepared outside the state, the teachers who teach the seminars include teachers that are resident outside the state, and the students who attend the seminars include students that are resident outside the state. Because the seminars are taught in Oregon, the receipts from sales of the services are in Oregon.

(c) *Services Delivered to the Customer or on Behalf of the Customer, or Delivered Electronically Through the Customer.*

(A) *In General.* If the service provided by the taxpayer is not an in-person service within the meaning of section (4)(b) of this rule or a professional service within the meaning of section (4)(d) of this rule, and the service is delivered to or on behalf of the customer, or delivered electronically through the customer, the receipts from a sale are in Oregon if and to the extent that the service is delivered in Oregon. For purposes of section (4)(c) of this rule, a service that is delivered "to" a customer is a service in which the customer and not a third party is the recipient of the service. A service that is delivered "on behalf of" a customer is one in which a customer contracts for a service but one or more third parties, rather than the customer, is the recipient of the service, such as fulfillment services, or the direct or indirect delivery of advertising to the customer's intended audience. (See section (4)(c)(B)(i) of this rule and Example 7 under section (4)(c)(B)(i)(III) of this rule.) A service can be delivered to or on behalf of a customer by physical means or through electronic transmission. A service that is delivered electronically "through" a customer is a service that is delivered electronically to a customer for purposes of resale and subsequent electronic delivery in substantially identical form to an end user or other third-party recipient.

(B) *Assignment of Receipts.* The assignment of receipts to a state or states in the instance of a sale of a service that is delivered to the customer or on behalf of the customer, or delivered electronically through the customer, depends upon the method of delivery of the service and the nature of the customer. Separate rules of assignment apply to services delivered by physical means and services delivered by electronic transmission. (For purposes of section (4)(c) of this rule, a service delivered by an electronic transmission is not a delivery by a physical means.) If a rule of assignment set forth in section (4)(c) of this rule depends on whether the customer is an individual or a business customer, and the taxpayer acting in good faith cannot reasonably determine whether the customer is an individual or business customer, the taxpayer must treat the customer as a business customer.

(i) *Delivery to or on Behalf of a Customer by Physical Means Whether to an Individual or Business Customer.* Services delivered to a customer or on behalf of a customer through a physical means include, for example, product delivery services where property is delivered to the customer or to a third party on behalf of the customer; the delivery of brochures, fliers, or other direct mail services; the delivery of advertising or advertising-related services to the customer's intended audience in the form of a physical medium; and the sale of custom software (e.g., where software is developed for a specific customer in a case where the transaction is properly treated as a service transaction for purposes of the corporate activity tax) where the taxpayer installs the custom software at the customer's site. The rules in section (4)(c)(B)(i) of this rule apply whether the taxpayer's customer is an individual customer or a business customer.

(I) *Rule of Determination*. In assigning the receipts from a sale of a service delivered to a customer or on behalf of a customer through a physical means, a taxpayer must first attempt to determine the state or states where the service is delivered. If the taxpayer is able to determine the state or states where the service is delivered, it must assign the receipts to that state or states.

(II) *Rule of Reasonable Approximation*. If the taxpayer cannot determine the state or states where the service is actually delivered, it must reasonably approximate the state or states.

(III) *Examples*:

Example 7: Direct Mail, a company based outside Oregon, provides direct mail services to its customer, Business LLP. Business LLP contracts with Direct Mail to deliver printed fliers to a list of customers that is provided to it by Business LLP. Some of Business LLP's customers are in Oregon and some are in other states. Direct Mail will use the postal service to deliver the printed fliers to Business LLP's customers. The receipts from the sale of Direct Mail services to Business LLP are assigned to Oregon to the extent that the services are delivered on behalf of Business LLP to Oregon customers (i.e., to the extent that the fliers are delivered on behalf of Business LLP to Business LLP's intended audience in Oregon).

Example 8: Ad LLP is a partnership based outside Oregon that provides advertising and advertising-related services in Oregon and in neighboring states. Ad LLP enters into a contract at a location outside Oregon with an individual customer who is not an Oregon resident to design advertisements for billboards to be displayed in Oregon and to design fliers to be mailed to Oregon residents. All of the design work is performed outside Oregon. The receipts from the sale of the design services are in Oregon because the service is physically delivered on behalf of the customer to the customer's intended audience in Oregon.

Example 9: Same facts as Example 8, except that the contract is with a business customer that is based outside Oregon. The receipts from the sale of the design services are in Oregon because the services are physically delivered on behalf of the customer to the customer's intended audience in Oregon.

Example 10: Fulfillment Co., a company based outside Oregon, provides product delivery fulfillment services in Oregon and in neighboring states to Sales Co., a company located outside Oregon that sells tangible personal property through a mail order catalog and over the Internet to customers. In some cases when a customer purchases tangible personal property from Sales Co. to be delivered in Oregon, Fulfillment Co. will, pursuant to its contract with Sales Co., deliver that property from its fulfillment warehouse located outside Oregon. The receipts from the sale of the fulfillment services of Fulfillment Co. to Sales Co. are assigned to Oregon to the extent that Fulfillment Co.'s deliveries on behalf of Sales Co. are to recipients in Oregon.

Example 11: Software Enterprise, a software development company, enters into a contract with a business customer, Buyer Company, which is physically located in Oregon, to develop custom software to be used in Buyer Company's business. Software Enterprise develops the custom software outside Oregon, and then physically installs the software on Buyer Company's computer hardware located in Oregon. The development and sale of the custom software is properly characterized as a service transaction, and the receipts from the sale are assigned to Oregon because the software is physically delivered to the customer in Oregon.

Example 12: Same facts as Example 11, except that Buyer Company has offices in Oregon and several other states, but is commercially domiciled outside Oregon and orders the software from a location outside Oregon. The receipts from the development and sale of the custom software service are assigned to Oregon because the software is physically delivered to the customer in Oregon.

(ii) *Delivery to a Customer by Electronic Transmission*. Services delivered by electronic transmission include, without limitation, services that are transmitted through the means of wire, lines, cable, fiber optics, electronic signals, satellite transmission, audio or radio waves, or other similar means, whether or not the service provider owns, leases, or otherwise controls the transmission equipment. In the case of the delivery of a service by electronic transmission to a customer, the following rules apply.

(I) *Services Delivered By Electronic Transmission to an Individual Customer.*

(I-a) *Rule of Determination.* In the case of the delivery of a service to an individual customer by electronic transmission, the service is delivered in Oregon if and to the extent that the taxpayer's customer receives the service in Oregon. If the taxpayer can determine the state or states where the service is received, it must assign the receipts from that sale to that state or states.

(I-b) *Rules of Reasonable Approximation*. If the taxpayer cannot determine the state or states where the customer actually receives the service, but has sufficient information regarding the place of receipt from which it can reasonably approximate the state or states where the service is received, it must reasonably approximate the state or states. If a taxpayer does not have sufficient information from which it can determine or reasonably approximate the state or states in which the service is received, it must reasonably approximate the state or states using the customer's billing address.

(II) *Services Delivered By Electronic Transmission to a Business Customer.*

(II-a) *Rule of Determination*. In the case of the delivery of a service to a business customer by electronic transmission, the service is delivered in Oregon if and to the extent that the taxpayer's customer receives the service in Oregon. If the taxpayer can determine the state or states where the service is received, it

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must assign the receipts from that sale to the state or states. For purposes of section (4)(c)(B)(ii)(II) of this rule, it is intended that the state or states where the service is received reflect the location at which the service is directly used by the employees or designees of the customer.

(II-b) *Rule of Reasonable Approximation*. If the taxpayer cannot determine the state or states where the customer actually receives the service, but has sufficient information regarding the place of receipt from which it can reasonably approximate the state or states where the service is received, it must reasonably approximate the state or states.

(II-c) *Secondary Rule of Reasonable Approximation*. In the case of the delivery of a service to a business customer by electronic transmission where a taxpayer does not have sufficient information from which it can determine or reasonably approximate the state or states in which the service is received, the taxpayer must reasonably approximate the state or states as set forth in this rule. In these cases, unless the taxpayer can apply the safe harbor set forth in section (4)(c)(B)(ii)(II)(II-d) of this rule, the taxpayer must reasonably approximate the state or states in which the service is received as follows: first, by assigning the receipts from the sale to the state where the contract of sale is principally managed by the customer; second, if the state where the customer principally manages the contract is not reasonably determinable, by assigning the receipts from the sale to the customer's place of order; and third, if the customer's place of order is not reasonably determinable, by assigning the receipts from the sale using the customer's billing address; provided, however, if the taxpayer derives more than five percent of its receipts from sales of services from any single customer, the taxpayer is required to identify the state in which the contract of sale is principally managed by that customer.

(II-d) *Safe Harbor*. In the case of the delivery of a service to a business customer by electronic transmission, a taxpayer may not be able to determine, or reasonably approximate under section (4)(c)(B)(ii)(II)(II-b) of this rule, the state or states in which the service is received. In these cases, the taxpayer may, in lieu of the rule stated at section (4)(c)(B)(ii)(II)(II-c) of this rule, apply the safe harbor stated in this subsection. Under this safe harbor, a taxpayer may assign its receipts from sales to a particular customer based upon the customer's billing address in a taxable year in which the taxpayer (1) engages in substantially similar service transactions with more than 250 customers, whether business or individual, and (2) does not derive more than five percent of its receipts from sales of all services from that customer. This safe harbor applies only for purposes of services delivered by electronic transmission to a business customer, and not otherwise.

(II-e) *Related-Party Transactions*. In the case of a sale of a service by electronic transmission to a business customer that is a related party, the taxpayer may not use the secondary rule of reasonable approximation in section (4)(c)(B)(ii)(II)(II-c) of this rule but may use the rule of reasonable approximation in section (4)(c)(B)(ii)(II)(II-b) of this rule, and the safe harbor in section (4)(c)(B)(ii)(II)(II-d) of this rule, provided that the department may aggregate sales to related parties in determining whether the sales exceed five percent of receipts from sales of all services under that safe harbor provision if necessary or appropriate to prevent distortion.

(III) *Examples*. In these examples, unless otherwise stated, assume that the taxpayer is not related to the customer to which the service is delivered. Also, assume if relevant, unless otherwise stated, that the safe harbor set forth at section (4)(c)(B)(ii)(II)(II-d) of this rule does not apply.

Example 13: Support Corp, a corporation that is based outside Oregon, provides software support and diagnostic services to individual and business customers that have previously purchased certain software from third-party vendors. These individual and business customers are located in Oregon and other states. Support Corp supplies its services on a case by case basis when directly contacted by its customer. Support Corp generally provides these services through the Internet but sometimes provides these services by phone. In all cases, Support Corp verifies the customer's account information before providing any service. Using the information that Support Corp verifies before performing a service, Support Corp can determine where its services are received, and therefore must assign its receipts to these locations. The receipts from sales made to Support Corp's individual and business customers are in Oregon to the extent that Support Corp's services are received in Oregon. See sections (4)(c)(B)(ii)(I) and (II) of this rule.

Example 14: Online Corp, a corporation based outside Oregon, provides web-based services through the means of the Internet to individual customers who are resident in Oregon and in other states. These customers access Online Corp's web services primarily in their states of residence, and sometimes while traveling, in other states. For a substantial portion of its receipts from the sale of services, Online Corp can either determine the state or states where the services are received, or, where it cannot determine the state or states, has sufficient information regarding the place of receipt to reasonably approximate the state or states. However, Online Corp cannot determine or reasonably approximate the state or states of receipt for all of the sales of its services. Assuming that Online Corp reasonably believes, based on all available information, that the geographic distribution of the receipts from sales for which it cannot determine or reasonable approximate the location of the receipt of its services generally tracks those for which it does have this information, Online Corp must assign to Oregon the receipts from sales for which it does not know the customers' location in the same proportion as those receipts for which it has this information. See section (1)(d)(B) of this rule.

Example 15: Same facts as 14, except that Online Corp reasonably believes that the geographic distribution of the receipts from sales for which it cannot determine or reasonably approximate the location of the receipt of its web-based services do not generally track the sales for which it does have this information. Online Corp must assign the receipts from sales of its services for which it lacks information as provided to its individual customers using the customers' billing addresses. See section (4)(c)(B)(ii)(I) of this rule.

Example 16: Net Corp, a corporation based outside Oregon, provides web-based services to a business customer, Business Corp, a company with offices in Oregon and two neighboring states. Particular employees of Business Corp access the services from computers in each Business Corp office. Assume that Net Corp determines that Business Corp employees in Oregon were responsible for 75 percent of Business Corp's use of Net Corp's services, and Business Corp employees in other states were responsible for 25 percent of Business Corp's use of Net Corp's services. In this case, 75 percent of the receipts from the sale are received in Oregon. See section (4)(c)(B)(ii)(II)(II-a). Assume alternatively that Net Corp lacks sufficient information regarding the location or locations where Business Corp's employees used the services to determine or reasonably approximate the location or locations. Under these circumstances, if Net Corp derives five percent or less of its receipts from sales to Business Corp, Net Corp must assign the receipts under section (4)(c)(B)(ii)(II)(II-c) of this rule to the state where Business Corp principally managed the contract, or if that state is not reasonably determinable, to the state where Business Corp placed the order for the services, or if that state is not reasonably determinable, to the state of Business Corp's billing address. If Net Corp derives more than five percent of its receipts from sales of services to Business Corp, Net Corp is required to identify the state in which its contract of sale is principally managed by Business Corp and must assign the receipts to that state.

Example 17: Net Corp, a corporation based outside Oregon, provides web-based services through the means of the Internet to more than 250 individual and business customers in Oregon and in other states. Assume that for each customer Net Corp cannot determine the state or states where its web services are actually received and lacks sufficient information regarding the place of receipt to reasonably approximate the state or states. Also assume that Net Corp does not derive more than five percent of its receipts from sales of services to a single customer. Net Corp may apply the safe harbor stated in section (4)(c)(B)(ii)(II)(II-d) of this rule and may assign its receipts using each customer's billing address.

(iii) *Services Delivered Electronically Through or on Behalf of an Individual or Business Customer*. A service delivered electronically "on behalf of" the customer is one in which a customer contracts for a service to be delivered electronically but one or more third parties, rather than the customer, is the recipient of the service, such as the direct or indirect delivery of advertising on behalf of a customer to the customer's intended audience. A service delivered electronically "through" a customer to third-party recipients is a service that is delivered electronically to a customer for purposes of resale and subsequent electronic delivery in substantially identical form to end users or other third-party recipients.

(I) *Rule of Determination*. In the case of the delivery of a service by electronic transmission, where the service is delivered electronically to end users or other third-party recipients through or on behalf of the customer, the service is delivered in Oregon if and to the extent that the end users or other third-party recipients are in Oregon. For example, in the case of the direct or indirect delivery of advertising on

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behalf of a customer to the customer's intended audience by electronic means, the service is delivered in Oregon to the extent that the audience for the advertising is in Oregon. In the case of the delivery of a service to a customer that acts as an intermediary in reselling the service in substantially identical form to third-party recipients, the service is delivered in Oregon to the extent that the end users or other third-party recipients receive the services in Oregon. The rules in this subparagraph apply whether the taxpayer's customer is an individual customer or a business customer and whether the end users or other third-party recipients to which the services are delivered through or on behalf of the customer are individuals or businesses.

(II) *Rule of Reasonable Approximation.* If the taxpayer cannot determine the state or states where the services are actually delivered to the end users or other third-party recipients either through or on behalf of the customer, it must reasonably approximate the state or states.

(III) *Select Secondary Rules of Reasonable Approximation*.

(III-a) If a taxpayer's service is the direct or indirect electronic delivery of advertising on behalf of its customer to the customer's intended audience, and if the taxpayer lacks sufficient information regarding the location of the audience from which it can determine or reasonably approximate that location, the taxpayer must reasonably approximate the audience in a state for the advertising using the following secondary rules of reasonable approximation. If a taxpayer is delivering advertising directly or indirectly to a known list of subscribers, the taxpayer must reasonably approximate the audience for advertising in a state using a percentage that reflects the ratio of the state's subscribers in the specific geographic area in which the advertising is delivered relative to the total subscribers in that area. For a taxpayer with less information about its audience, the taxpayer must reasonably approximate the audience in a state using the percentage that reflects the ratio of the state's population in the specific geographic area in which the advertising is delivered relative to the total population in that area.

(III-b) If a taxpayer's service is the delivery of a service to a customer that then acts as the taxpayer's intermediary in reselling that service to end users or other third-party recipients, and if the taxpayer lacks sufficient information regarding the location of the end users or other third-party recipients from which it

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can determine or reasonably approximate that location, the taxpayer must reasonably approximate the extent to which the service is received in a state by using the percentage that reflects the ratio of the state's population in the specific geographic area in which the taxpayer's intermediary resells the services, relative to the total population in that area.

(III-c) When using the secondary reasonable approximation methods provided above, with regard to the relevant specific geographic area, include only the areas where the service was substantially and materially delivered or resold. Unless the taxpayer demonstrates the contrary, it will be presumed that the area where the service was substantially and materially delivered or resold does not include areas outside the United States.

(IV) *Examples*:

Example 18: Cable TV Corp, a corporation that is based outside of Oregon, has two revenue streams. First, Cable TV Corp sells advertising time to business customers pursuant to which the business customers' advertisements will run as commercials during Cable TV Corp's televised programming. Some of these business customers, though not all of them, have a physical presence in Oregon. Second, Cable TV Corp sells monthly subscriptions to individual customers in Oregon and in other states. The receipts from Cable TV Corp's sale of advertising time to its business customers are assigned to Oregon to the extent that the audience for Cable TV Corp's televised programming during which the advertisements run is in Oregon. See (4)(c)(B)(iii)(I) of this rule. If Cable TV Corp is unable to determine the actual location of its audience for the programming and lacks sufficient information regarding audience location to reasonably approximate the location, Cable TV Corp must approximate its Oregon audience using the percentage that reflects the ratio of its Oregon subscribers in the geographic area in which Cable TV Corp's televised programming featuring the advertisements is delivered relative to its total number of subscribers in that area. See section (4)(c)(B)(iii)(III)(III-a) of this rule. To the extent that Cable TV Corp's sales of monthly subscriptions represent the sale of a service, the receipts from these sales are properly assigned to Oregon in any case in which the programming is received by a customer in Oregon. See section (4)(c)(B)(ii)(I) of this rule. In any case in which Cable TV Corp cannot determine the actual location where the programming is received and lacks sufficient information regarding the location of receipt to reasonably approximate the location, the receipts from these sales of Cable TV Corp's monthly subscriptions are assigned to Oregon where its customer's billing address is in Oregon. See section (4)(c)(B)(ii)(I)(I-b) of this rule. Note that whether and to the extent that the monthly subscription fee represents a fee for a service or for a license of intangible property does not affect the analysis or result as to the state or states to which the receipts are properly assigned. See section (5)(e) of this rule.

Example 19: Network Corp, a corporation that is based outside of Oregon, sells advertising time to business customers pursuant to which the customers' advertisements will run as commercials during Network Corp's televised programming as distributed by unrelated cable television and satellite television transmission companies. The receipts from Network Corp's sale of advertising time to its business customers are assigned to Oregon to the extent that the audience for Network Corp's televised programming during which the advertisements will run is in Oregon. See section (4)(c)(B)(iii)(I) of this rule. If Network Corp cannot determine the actual location of the audience for its programming during which the advertisements will run and lacks sufficient information regarding audience location to reasonably approximate the location, Network Corp must approximate the receipts from sales of advertising that constitute Oregon sales by multiplying the amount of advertising receipts by a percentage that reflects the ratio of the Oregon population in the specific geographic area in which the televised programming containing the advertising is run relative to the total population in that area. See sections (4)(c)(B)(iii)(III)(III-b) and (III-c) of this rule.

Example 20: Web Corp, a corporation that is based outside Oregon, provides Internet content to viewers in Oregon and other states. Web Corp sells advertising space to business customers pursuant to which the customers' advertisements will appear in connection with Web Corp's Internet content. Web Corp receives a fee for running the advertisements that is determined by reference to the number of times the advertisement is viewed or clicked upon by the viewers of its website. The receipts from Web Corp's sale of advertising space to its business customers are assigned to Oregon to the extent that the viewers of the Internet content are in Oregon, as measured by viewings or clicks. See section (4)(c)(B)(iii)(I) of this rule. If Web Corp is unable to determine the actual location of its viewers and lacks sufficient information regarding the location of its viewers to reasonably approximate the location, Web Corp must approximate the amount of its Oregon receipts by multiplying the amount of receipts from sales of advertising by a percentage that reflects the Oregon population in the specific geographic area in which the content containing the advertising is delivered relative to the total population in that area. See section (4)(c)(B)(iii)(III) of this rule.

Example 21: Retail Corp, a corporation that is based outside of Oregon, sells tangible property through its retail stores located in Oregon and other states and through a mail order catalog. Answer Co, a corporation that operates call centers in multiple states, contracts with Retail Corp to answer telephone calls from individuals placing orders for products found in Retail Corp's catalogs. In this case, the phone answering services of Answer Co are being delivered to Retail Corp's customers and prospective customers. Therefore, Answer Co is delivering a service electronically to Retail Corp's customers or prospective customers on behalf of Retail Corp and must assign the proceeds from this service to the state or states from which the phone calls are placed by the customers or prospective customers. If Answer Co cannot determine the actual locations from which phone calls are placed and lacks sufficient information regarding the locations to reasonably approximate the locations, Answer Co must approximate the amount of its Oregon receipts by multiplying the amount of its fee from Retail Corp by a percentage that reflects the Oregon population in the specific geographic area from which the calls are placed relative to the total population in that area. See section (4)(c)(B)(iii)(III)(III-a) of this rule.

Example 22: Web Corp, a corporation that is based outside of Oregon, sells tangible property to customers via its Internet website. Design Co designed and maintains Web Corp's website, including making changes to the site based on customer feedback received through the site. Design Co's services are delivered to Web Corp, the proceeds from which are assigned pursuant to section (4)(c)(B)(ii) of this rule. The fact that Web Corp's customers and prospective customers incidentally benefit from Design Co's services and may even interact with Design Co in the course of providing feedback, does not transform the service into one delivered "on behalf of" Web Corp to Web Corp's customers and prospective customers.

Example 23: Wholesale Corp, a corporation that is based outside Oregon, develops an Internet-based information database outside Oregon and enters into a contract with Retail Corp whereby Retail Corp will market and sell access to this database to end users. Depending on the facts, the provision of database access may be either the sale of a service or the license of intangible property or may have elements of both, but for purposes of analysis it does not matter. See section (5)(e) of this rule. Assume that on the particular facts applicable in this example Wholesale Corp is selling database access in transactions properly characterized as involving the performance of a service. When an end user purchases access to Wholesale Corp's database from Retail Corp, Retail Corp in turn compensates Wholesale Corp in connection with that transaction. In this case, Wholesale Corp's services are being delivered through Retail Corp to the end user. Wholesale Corp must assign its receipts from sales to Retail Corp to the state or states in which the end users receive access to Wholesale Corp's database. If Wholesale Corp cannot determine the state or states where the end users actually receive access to Wholesale Corp's database and lacks sufficient information regarding the location from which the end users access the database to reasonably approximate the location, Wholesale Corp must approximate the extent to which its services are received by end users in Oregon by using a percentage that reflects the ratio of the Oregon population in the specific geographic area in which Retail Corp regularly markets and sells Wholesale Corp's database relative to the total population in that area. See section (4)(c)(B)(iii)(II) of this rule. Note that it does not matter for purposes of the analysis whether Wholesale Corp's sale of database access constitutes a service or a license of intangible property, or some combination of both. See section (5)(e) of this rule.

(d) *Professional Services.*

(A) *In General*. Except as otherwise provided in section (4)(d) of this rule, professional services are services that require specialized knowledge and in some cases require a professional certification, license, or degree. These services include the performance of technical services that require the application of specialized knowledge. Professional services include, without limitation, management services, bank and financial services, financial custodial services, investment and brokerage services, fiduciary services, tax preparation, payroll and accounting services, lending services, credit card services (including credit card processing services), data processing services, legal services, consulting services, video production services, graphic and other design services, engineering services, and architectural services. Nothing in this paragraph applies to services provided by a financial institution described in ORS 317A.100(5).

(B) *Overlap with Other Categories of Services.*

(i) Certain services that fall within the definition of “professional services” set forth in section (4)(d) of this rule are nevertheless treated as “in-person services” within the meaning of section (4)(b) of this rule and are assigned under the rules of that section. Specifically, professional services that are physically provided in person by the taxpayer such as carpentry, certain medical and dental services or child care services, where the customer or the customer’s real or tangible property upon which the services are provided is in the same location as the service provider at the time the services are performed, are “in-person services” and are assigned as such, notwithstanding that they may also be considered to be “professional services.” However, professional services where the service is of an intellectual or intangible nature, such as legal, accounting, financial, and consulting services, are assigned as professional services under the rules of section (4)(d) of this rule, notwithstanding the fact that these services may involve some amount of in-person contact.

(ii) Professional services may in some cases include the transmission of one or more documents or other communications by mail or by electronic means. In some cases, all or most communications between the service provider and the service recipient may be by mail or by electronic means. However, in these cases, despite this transmission, the assignment rules that apply are those set forth in (4)(d) of this rule, and not those set forth in section (4)(c) of this rule, pertaining to services delivered to a customer or through or on behalf of a customer.

(C) *Assignment of Receipts*. In the case of a professional service, it is generally possible to characterize

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the location of delivery in multiple ways by emphasizing different elements of the service provided, no one of which will consistently represent the market for the services. Therefore, the location of delivery in the case of professional services is not susceptible to a general rule of determination and must be reasonably approximated. The assignment of receipts from a sale of a professional service depends in many cases upon whether the customer is an individual or business customer. In any instance in which the taxpayer, acting in good faith, cannot reasonably determine whether the customer is an individual or business customer, the taxpayer must treat the customer as a business customer. For purposes of assigning the receipts from a sale of a professional service, a taxpayer's customer is the person that contracts for the service, irrespective of whether another person pays for or also benefits from the taxpayer's services.

(i) *General Rule*. Receipts from sales of professional services other than those services described in section (4)(d)(C)(ii) of this rule (architectural and engineering services) and section (4)(d)(C)(iii) of this rule (transactions with related parties) are assigned in accordance with section (4)(d)(C)(i) of this rule.

(I) *Professional Services Delivered to Individual Customers*. Except as otherwise provided in section (4)(d) of this rule (see in particular section (4)(d)(C)(iii) of this rule), in any instance in which the service provided is a professional service and the taxpayer's customer is an individual customer, the state or states in which the service is delivered must be reasonably approximated as set forth in section (4)(d)(C)(i)(I) of this rule. In particular, the taxpayer must assign the receipts from a sale to the customer's state of primary residence, or, if the taxpayer cannot reasonably identify the customer's state of primary residence, to the state of the customer's billing address; provided, however, in any instance in which the taxpayer derives more than five percent of its receipts from sales of all services from an individual customer, the taxpayer must identify the customer's state of primary residence and assign the receipts from the service or services provided to that customer to that state.

(II) *Professional Services Delivered to Business Customers*. Except as otherwise provided in section (4)(d) of this rule, in any instance in which the service provided is a professional service and the taxpayer's customer is a business customer, the state or states in which the service is delivered must be

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reasonably approximated as set forth in this section. In particular, unless the taxpayer may use the safe harbor set forth at section (4)(d)(C)(i)(III) of this rule, the taxpayer must assign the receipts from the sale as follows: first, by assigning the receipts to the state where the contract of sale is principally managed by the customer; second, if the place of customer management is not reasonably determinable, to the customer's place of order; and third, if the customer place of order is not reasonably determinable, to the customer's billing address; provided, however, in any instance in which the taxpayer derives more than five percent of its receipts from sales of all services from a customer, the taxpayer is required to identify the state in which the contract of sale is principally managed by the customer.

(III) *Safe Harbor; Large Volume of Transactions*. Notwithstanding the rules set forth in sections (4)(d)(C)(i)(I) and (II) of this rule, a taxpayer may assign its receipts from sales to a particular customer based on the customer's billing address in any taxable year in which the taxpayer (1) engages in substantially similar service transactions with more than 250 customers, whether individual or business, and (2) does not derive more than five percent of its receipts from sales of all services from that customer. This safe harbor applies only for purposes of section (4)(d)(C)(i) of this rule and not otherwise.

(ii) *Architectural and Engineering Services with respect to Real or Tangible Personal Property.* Architectural and engineering services with respect to real or tangible personal property are professional services within the meaning of section (4)(d) of this rule. However, unlike in the case of the general rule that applies to professional services, (1) the receipts from a sale of an architectural service are assigned to a state or states if and to the extent that the services are with respect to real estate improvements located, or expected to be located, in the state or states; and (2) the receipts from a sale of an engineering service are assigned to a state or states if and to the extent that the services are with respect to tangible or real property located in the state or states, including real estate improvements located in, or expected to be located in, the state or states. These rules apply whether or not the customer is an individual or business customer. In any instance in which architectural or engineering services are not described in section (4)(d)(C)(ii) of this rule, the receipts from a sale of these services must be assigned under the general rule for professional services. See section (4)(d)(C)(i) of this rule.

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(iii) *Related-Party Transactions*. In any instance in which the professional service is sold to a related party, rather than applying the rule for professional services delivered to business customers in section (4)(d)(C)(i)(II) of this rule, the state or states to which the service is assigned is the place of receipt by the related party as reasonably approximated using the following hierarchy: (1) if the service primarily relates to specific operations or activities of a related party conducted in one or more locations, then to the state or states in which those operations or activities are conducted in proportion to the related-party's payroll at the locations to which the service relates in the state or states; or (2) if the service does not relate primarily to operations or activities of a related party conducted in particular locations, but instead relates to the operations of the related party generally, then to the state or states in which the related party has employees, in proportion to the related-party's payroll in those states. The taxpayer may use the safe harbor provided by section (4)(d)(C)(i)(III) of this rule provided that the department may aggregate the receipts from sales to related parties in applying the five percent rule if necessary or appropriate to avoid distortion.

(iv) *Examples*: Unless otherwise stated, assume in each of these examples, that the safe harbor set forth at section (4)(d)(C)(i)(III) of this rule does not apply.

Example 24: Broker Corp provides securities brokerage services to individual customers who are resident in Oregon and in other states. Broker Corp is not a financial institution described in ORS 317A.100(5). Assume that Broker Corp knows the state of primary residence for many of its customers, and where it does not know the state of primary residence, it knows the customer's billing address. Also assume that Broker Corp does not derive more than five percent of its receipts from sales of all services from any one individual customer. If Broker Corp knows its customer's state of primary residence, it must assign the receipts to that state. If Broker Corp does not know its customer's state of primary residence, but rather knows the customer's billing address, it must assign the receipts to that state. See section (4)(d)(C)(i)(I) of this rule.

Example 25: Same facts as Example 24, except that Broker Corp has several individual customers from whom it derives, in each instance, more than five percent of its receipts from sales of all services.

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Receipts from sales to customers from whom Broker Corp derives five percent or less of its receipts from sales of all services must be assigned as described in Example 24. For each customer from whom it derives more than five percent of its receipts from sales of all services, Broker Corp is required to determine the customer's state of primary residence and must assign the receipts from the services provided to that customer to that state. In any case in which a five percent customer's state of primary residence is Oregon, receipts from a sale made to that customer must be assigned to Oregon; in any case in which a five percent customer's state of primary residence is not Oregon, receipts from a sale made to that customer are not assigned to Oregon.

Example 26: Architecture Corp provides building design services as to buildings located, or expected to be located, in Oregon to individual customers who are resident in Oregon and other states, and to business customers that are based in Oregon and other states. The receipts from Architecture Corp's sales are assigned to Oregon because the locations of the buildings to which its design services relate are in Oregon, or are expected to be in Oregon. For purposes of assigning these receipts, it is not relevant where, in the case of an individual customer, the customer primarily resides or is billed for the services, and it is not relevant where, in the case of a business customer, the customer principally manages the contract, placed the order for the services, or is billed for the services. Further, these receipts are assigned to Oregon even if Architecture Corp's designs are either physically delivered to its customer in paper form in a state other than Oregon or are electronically delivered to its customer in a state other than Oregon. See sections (4)(d)(B)(ii) and (C)(ii) of this rule.

Example 27: Law Corp provides legal services to individual clients who are resident in Oregon and in other states. In some cases, Law Corp may prepare one or more legal documents for its client as a result of these services and/or the legal work may be related to litigation or a legal matter that is ongoing in a state other than where the client is resident. Assume that Law Corp knows the state of primary residence for many of its clients, and where it does not know the state of primary residence, it knows the client's billing address. Also assume that Law Corp does not derive more than five percent of its receipts from sales of all services from any one individual client. If Law Corp knows its client's state of primary

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residence, it must assign the receipts to that state. If Law Corp does not know its client's state of primary residence, but rather knows the client's billing address, it must assign the receipts to that state. For purposes of the analysis it is irrelevant whether the legal documents relating to the service are mailed or otherwise delivered to a location in another state, or the litigation or other legal matter that is the underlying predicate for the services is in another state. See sections (4)(d)(B)(ii) and (C)(i) of this rule.

Example 28: Law Corp provides legal services to several multistate business clients. In each case, Law Corp knows the state in which the agreement for legal services that governs the client relationship is principally managed by the client. In one case, the agreement is principally managed in Oregon; in the other cases, the agreement is principally managed in a state other than Oregon. If the agreement for legal services is principally managed by the client in Oregon, the receipts from sale of the services are assigned to Oregon; in the other cases, the receipts are not assigned to Oregon. In the case of receipts that are assigned to Oregon, the receipts are so assigned even if (1) the legal documents relating to the service are mailed or otherwise delivered to a location in another state, or (2) the litigation or other legal matter that is the underlying predicate for the services is in another state. See sections (4)(d)(B)(ii) and (C)(i) of this rule.

Example 29: Consulting Corp, a company that provides consulting services to law firms and other customers, is hired by Law Corp in connection with legal representation that Law Corp provides to Client Co. Specifically, Consulting Corp is hired to provide expert testimony at a trial being conducted by Law Corp on behalf of Client Co. Client Co pays for Consulting Corp's services directly. Assuming that Consulting Corp knows that its agreement with Law Corp is principally managed by Law Corp in Oregon, the receipts from the sale of Consulting Corp's services are assigned to Oregon. It is not relevant for purposes of the analysis that Client Co is the ultimate beneficiary of Consulting Corp's services, or that Client Co pays for Consulting Corp's services directly. See section (4)(d)(C)(i)(II) of this rule.

Example 30: Advisor Corp, a corporation that provides investment advisory services and is not a financial institution described in ORS 317A.100(5), provides investment advisory services to Investment Co. Investment Co. is a multistate business client of Advisor Corp that uses Advisor Corp's services in connection with investment accounts that it manages for individual clients, who are the ultimate beneficiaries of Advisor Corp's services. Assume that Investment Co's individual clients are persons that are resident in numerous states, which may or may not include Oregon. Assuming that Advisor Corp knows that its agreement with Investment Co is principally managed by Investment Co in Oregon, receipts from the sale of Advisor Corp's services are assigned to Oregon. It is not relevant for purposes of the analysis that the ultimate beneficiaries of Advisor Corp's services may be Investment Co's clients, who are residents of numerous states. See section (4)(d)(C)(i)(II) of this rule.

Example 31: Advisor Corp, a corporation that provides investment advisory services and is not a financial institution described in ORS 317A.100(5), provides investment advisory services to Investment Fund LP, a partnership that invests in securities and other assets. Assuming that Advisor Corp knows that its agreement with Investment Fund LP is principally managed by Investment Fund LP in Oregon, receipts from the sale of Advisor Corp's services are assigned to Oregon. See section (4)(d)(C)(i)(II) of this rule. Note that it is not relevant for purposes of the analysis that the partners in Investment Fund LP are residents of numerous states.

Example 32: Design Corp is a corporation based outside Oregon that provides graphic design and similar services in Oregon and in neighboring states. Design Corp enters into a contract at a location outside Oregon with an individual customer to design fliers for the customer. Assume that Design Corp does not know the individual customer's state of primary residence and does not derive more than five percent of its receipts from sales of services from the individual customer. All of the design work is performed outside Oregon. Receipts from the sale are in Oregon if the customer's billing address is in Oregon.

(5) *License or Lease of Intangible Property*.

(a) *General Rules.*

(A) Receipts from the license of intangible property are in Oregon if and to the extent the intangible is used in Oregon. In general, the term "use" is construed to refer to the location of the taxpayer's market for the use of the intangible property that is being licensed and is not to be construed to refer to the location of the property or payroll of the taxpayer. The rules that apply to determine the location of the use of intangible property in the context of several specific types of licensing transactions are set forth at sections (5)(b)-(e) of this rule. For purposes of the rules set forth in section (5) of this rule, a lease of intangible property is to be treated the same as a license of intangible property.

(B) In general, a license of intangible property that conveys all substantial rights in that property is treated as a sale of intangible property for purposes of this rule. See section (6) of this rule. Note, however, that for purposes of sections (5) and (6) of this rule, a sale or exchange of intangible property is treated as a license of that property where the receipts from the sale or exchange derive from payments that are contingent on the productivity, use, or disposition of the property.

(C) Intangible property licensed as part of the sale or lease of tangible property is treated under this rule as the sale or lease of tangible property.

(b) *License of a Marketing Intangible*. Where a license is granted for the right to use intangible property in connection with the sale, lease, license, or other marketing of goods, services, or other items (i.e., a marketing intangible) to a consumer, the royalties or other licensing fees paid by the licensee for that marketing intangible are assigned to Oregon to the extent that those fees are attributable to the sale or other provision of goods, services, or other items purchased or otherwise acquired by consumers or other ultimate customers in Oregon. Examples of a license of a marketing intangible include, without limitation, the license of a service mark, trademark, or trade name; certain copyrights; the license of a film, television, or multimedia production or event for commercial distribution; and a franchise agreement. In each of these instances the license of the marketing intangible is intended to promote consumer sales. In the case of the license of a marketing intangible, where a taxpayer has actual evidence of the amount or proportion of its receipts that is attributable to Oregon, it must assign that amount or proportion to Oregon. In the absence of actual evidence of the amount or proportion of the licensee's receipts that are derived from Oregon consumers, the portion of the licensing fee to be assigned to Oregon must be reasonably approximated by multiplying the total fee by a percentage that reflects the ratio of the Oregon population in the specific geographic area in which the licensee makes material use of the intangible property to regularly market its goods, services, or other items relative to the total

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population in that area. If the license of a marketing intangible is for the right to use the intangible property in connection with sales or other transfers at wholesale rather than directly to retail customers, the portion of the licensing fee to be assigned to Oregon must be reasonably approximated by multiplying the total fee by a percentage that reflects the ratio of the Oregon population in the specific geographic area in which the licensee's goods, services, or other items are ultimately and materially marketed using the intangible property relative to the total population of that area. Unless the taxpayer demonstrates that the marketing intangible is materially used in the marketing of items outside the United States, the fees from licensing that marketing intangible will be presumed to be derived from within the United States.

(c) *License of a Production Intangible*. If a license is granted for the right to use intangible property other than in connection with the sale, lease, license, or other marketing of goods, services, or other items, and the license is to be used in a production capacity (a "production intangible"), the licensing fees paid by the licensee for that right are assigned to Oregon to the extent that the use for which the fees are paid takes place in Oregon. Examples of a license of a production intangible include, without limitation, the license of a patent, a copyright, or trade secrets to be used in a manufacturing process, where the value of the intangible lies predominately in its use in that process. In the case of a license of a production intangible to a party other than a related party where the location of actual use is unknown, it is presumed that the use of the intangible property takes place in the state of the licensee's commercial domicile (where the licensee is a business) or the licensee's state of primary residence (where the licensee is an individual). If the department can reasonably establish that the actual use of intangible property pursuant to a license of a production intangible takes place in part in Oregon, it is presumed that the entire use is in this state except to the extent that the taxpayer can demonstrate that the actual location of a portion of the use takes place outside Oregon. In the case of a license of a production intangible to a related party, the taxpayer must assign the receipts to where the intangible property is actually used.

(d) *License of a Mixed Intangible*. If a license of intangible property includes both a license of a marketing intangible and a license of a production intangible (a "mixed intangible") and the fees to be paid in each instance are separately and reasonably stated in the licensing contract, the department will accept that separate statement for purposes of this rule. If a license of intangible property includes both a license of a marketing intangible and a license of a production intangible and the fees to be paid in each instance are not separately and reasonably stated in the contract, it is presumed that the licensing fees are paid entirely for the license of the marketing intangible except to the extent that the taxpayer or the department can reasonably establish otherwise.

(e) *License of Intangible Property where Substance of Transaction Resembles a Sale of Goods or Services*.

(A) *In general.* In some cases, the license of intangible property will resemble the sale of an electronically-delivered good or service rather than the license of a marketing intangible or a production intangible. In these cases, the receipts from the licensing transaction are assigned by applying the rules set forth in sections (4)(c)(B)(ii) and (iii) of this rule, as if the transaction were a service delivered to an individual or business customer or delivered electronically through an individual or business customer, as applicable. Examples of transactions to be assigned under section (5)(e) of this rule include, without limitation, the license of database access, the license of access to information, the license of digital goods (see section (7)(b) of this rule), and the license of certain software (e.g., where the transaction is not the license of pre-written software that is treated as the sale of tangible personal property, see section (7)(a) of this rule).

(B) *Sublicenses*. Pursuant to section (5)(e)(A) of this rule, the rules of section (4)(c)(B)(iii) of this rule may apply where a taxpayer licenses intangible property to a customer that in turn sublicenses the intangible property to end users as if the transaction were a service delivered electronically through a customer to end users. In particular, the rules set forth at section (4)(c)(B)(iii) of this rule that apply to services delivered electronically to a customer for purposes of resale and subsequent electronic delivery in substantially identical form to end users or other recipients may also apply with respect to licenses of intangible property for purposes of sublicense to end users. For this purpose, the intangible property sublicensed to an end user shall not fail to be substantially identical to the property that was licensed to the sublicensor merely because the sublicense transfers a reduced bundle of rights with respect to that property (e.g., because the sublicensee's rights are limited to its own use of the property and do not include the ability to grant a further sublicense), or because that property is bundled with additional services or items of property.

(C) *Examples:* In these examples, unless otherwise stated, assume that the customer is not a related party.

Example 33: Crayon Corp and Dealer Co enter into a license contract under which Dealer Co as licensee is permitted to use trademarks that are owned by Crayon Corp in connection with Dealer Co's sale of certain products to retail customers. Under the contract, Dealer Co is required to pay Crayon Corp a licensing fee that is a fixed percentage of the total volume of monthly sales made by Dealer Co of products using the Crayon Corp trademarks. Under the contract, Dealer Co is permitted to sell the products at multiple store locations, including store locations that are both within and without Oregon. Further, the licensing fees that are paid by Dealer Co are broken out on a per store basis. The licensing fees paid to Crayon Corp by Dealer Co represent fees from the license of a marketing intangible. The portion of the fees to be assigned to Oregon are determined by multiplying the fees by a percentage that reflects the ratio of Dealer Co's receipts that are derived from its Oregon stores relative to Dealer Co's total receipts. See section (5)(b) of this rule.

Example 34: Program Corp, a corporation that is based outside Oregon, licenses programming that it owns to licensees, such as cable networks, that in turn will offer the programming to their customers on television or other media outlets in Oregon and in all other U.S. states. Each of these licensing contracts constitutes the license of a marketing intangible. For each licensee, assuming that Program Corp lacks evidence of the actual number of viewers of the programming in Oregon, the component of the licensing fee paid to Program Corp by the licensee that constitutes Program Corp's Oregon receipts is determined by multiplying the amount of the licensing fee by a percentage that reflects the ratio of the Oregon audience of the licensee for the programming relative to the licensee's total U.S. audience for the programming. See section (5)(e) of this rule. Note that the analysis and result as to the state or states to which receipts are properly assigned would be the same to the extent that the substance of Program

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PURPOSE: Provides guidance for sourcing of commercial activity from other than sales of tangible personal property for taxpayers who have business activity across state lines under ORS 317A.128

Corp's licensing transactions may be determined to resemble a sale of goods or services, instead of the license of a marketing intangible. See section (5)(e) of this rule.

Example 35: Moniker Corp enters into a license contract with Wholesale Co. Pursuant to the contract, Wholesale Co is granted the right to use trademarks owned by Moniker Corp to brand sports equipment that is to be manufactured by Wholesale Co. or an unrelated entity, and to sell the manufactured equipment to unrelated companies that will ultimately market the equipment to consumers in a specific geographic region, including a foreign country. The license agreement confers a license of a marketing intangible, even though the trademarks in question will be affixed to property to be manufactured. In addition, the license of the marketing intangible is for the right to use the intangible property in connection with sales to be made at wholesale rather than directly to retail customers. The component of the licensing fee that constitutes the Oregon receipts of Moniker Corp is determined by multiplying the amount of the fee by a percentage that reflects the ratio of the Oregon population in the specific geographic region relative to the total population in that region. See section (5)(b) of this rule. If Moniker Corp is able to reasonably establish that the marketing intangible was materially used throughout a foreign country, then the population of that country will be included in the population ratio calculation. However, if Moniker Corp is unable to reasonably establish that the marketing intangible was materially used in the foreign country in areas outside a particular major city, then none of the foreign country's population beyond the population of the major city is include in the population ratio calculation.

Example 36: Formula, Inc and Appliance Co enter into a license contract under which Appliance Co is permitted to use a patent owned by Formula, Inc to manufacture appliances. The license contract specifies that Appliance Co is to pay Formula, Inc a royalty that is a fixed percentage of the gross receipts from the products that are later sold. The contract does not specify any other fees. The appliances are both manufactured and sold in Oregon and several other states. Assume the licensing fees are paid for the license of a production intangible, even though the royalty is to be paid based upon the sales of a manufactured product (i.e., the license is not one that includes a marketing intangible). Because the department can reasonably establish that the actual use of the intangible property takes place in part in

Oregon, the royalty is assigned based to the location of that use rather than to the location of the licensee's commercial domicile, in accordance with section (5)(a) of this rule. It is presumed that the entire use is in Oregon except to the extent that the taxpayer can demonstrate that the actual location of some or all of the use takes place outside Oregon. Assuming that Formula, Inc can demonstrate the percentage of manufacturing that takes place in Oregon using the patent relative to the manufacturing in other states, that percentage of the total licensing fee paid to Formula, Inc under the contract will constitute Formula, Inc's Oregon receipts. See section (5)(e) of this rule.

Example 37: Axel Corp enters into a license agreement with Biker Co. in which Biker Co. is granted the right to produce motor scooters using patented technology owned by Axel Corp, and also to sell the scooters by marketing the fact that the scooters were manufactured using the special technology. The contract is a license of both a marketing and production intangible, i.e., a mixed intangible. The scooters are manufactured outside Oregon. Assume that Axel Corp lacks actual information regarding the proportion of Biker Co.'s receipts that are derived from Oregon customers. Also assume that Biker Co. is granted the right to sell the scooters in a U.S. geographic region in which the Oregon population constitutes 25 percent of the total population during the period in question. The licensing contract requires an upfront licensing fee to be paid by Biker Co. to Axel Corp and does not specify what percentage of the fee derives from Biker Co.'s right to use Axel Corp's patented technology. Because the fees for the license of the marketing and production intangible are not separately and reasonably stated in the contract, it is presumed that the licensing fees are paid entirely for the license of a marketing intangible, unless either the taxpayer or the department reasonably establishes otherwise. Assuming that neither party establishes otherwise, 25 percent of the licensing fee constitutes Oregon receipts. See sections (5)(b) and (d) of this rule.

Example 38: Same facts as Example 37, except that the license contract specifies separate fees to be paid for the right to produce the motor scooters and for the right to sell the scooters by marketing the fact that the scooters were manufactured using the special technology. The licensing contract constitutes both the license of a marketing intangible and the license of a production intangible. Assuming that the separately

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stated fees are reasonable, the department will: (1) assign no part of the licensing fee paid for the production intangible to Oregon, and (2) assign 25 percent of the licensing fee paid for the marketing intangible to Oregon. See section (5)(d) of this rule.

Example 39: Better Burger Corp, which is based outside Oregon, enters into franchise contracts with franchisees that agree to operate Better Burger restaurants as franchisees in various states. Several of the Better Burger Corp franchises are in Oregon. In each case, the franchise contract between the individual and Better Burger provides that the franchisee is to pay Better Burger Corp an upfront fee for the receipt of the franchise and monthly franchise fees, which cover, among other things, the right to use the Better Burger name and service marks, food processes, and cooking know-how, as well as fees for management services. The upfront fees for the receipt of the Oregon franchises constitute fees paid for the licensing of a marketing intangible. These fees constitute Oregon receipts because the franchises are for the right to make Oregon sales. The monthly franchise fees paid by Oregon franchisees constitute fees paid for (1) the license of marketing intangibles (the Better Burger name and service marks), (2) the license of production intangibles (food processes and know-how), and (3) personal services (management fees). The fees paid for the license of the marketing intangibles and the production intangibles constitute Oregon receipts because in each case the use of the intangibles is to take place in Oregon. See sections (5)(b) and (c) of this rule. The fees paid for the personal services are to be assigned pursuant to section (4) of this rule.

Example 40: Online Corp, a corporation based outside Oregon, licenses an information database through the means of the Internet to individual customers that are resident in Oregon and in other states. These customers access Online Corp's information database primarily in their states of residence and sometimes while traveling in other states. The license is a license of intangible property that resembles a sale of goods or services, and receipts are assigned in accordance with section (5)(e) of this rule. If Online Corp can determine or reasonably approximate the state or states where its database is accessed, it must do so. Assuming that Online Corp cannot determine or reasonably approximate the location where its database is accessed, Online Corp must assign the receipts made to the individual customers using the

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customers' billing addresses to the extent known. Assume for purposes of this example that Online Corp knows the billing address for each of its customers. In this case, Online Corp's receipts from sales made to its individual customers are in Oregon in any case in which the customer's billing address is in Oregon. See section (4)(c)(B)(ii)(I) of this rule.

Example 41: Net Corp, a corporation based outside Oregon, licenses an information database through the means of the Internet to a business customer, Business Corp, a company with offices in Oregon and two neighboring states. The license is a license of intangible property that resembles a sale of goods or services, and receipts are assigned in accordance with section (5)(e) of this rule. Assume that Net Corp cannot determine where its database is accessed but reasonably approximates that 75 percent of Business Corp's database access took place in Oregon, and 25 percent of Business Corp's database access took place in other states. In that case, 75 percent of the receipts from database access is in Oregon. Assume alternatively that Net Corp lacks sufficient information regarding the location where its database is accessed to reasonably approximate the location. Under these circumstances, if Net Corp derives five percent or less of its receipts from database access from Business Corp, Net Corp must assign the receipts under section (4)(c)(B)(ii)(II) of this rule to the state where Business Corp principally managed the contract, or if that state is not reasonably determinable, to the state where Business Corp placed the order for the services, or if that state is not reasonably determinable, to the state of Business Corp's billing address. If Net Corp derives more than five percent of its receipts from database access from Business Corp, Net Corp is required to identify the state in which its contract of sale is principally managed by Business Corp and must assign the receipts to that state. See section (4)(c)(B)(ii)(II) of this rule.

Example 42: Net Corp, a corporation based outside Oregon, licenses an information database through the means of the Internet to more than 250 individual and business customers in Oregon and in other states. The license is a license of intangible property that resembles a sale of goods or services, and receipts from that license are assigned in accordance with section (5)(e) of this rule. Assume that Net Corp cannot determine or reasonably approximate the location where its information database is accessed. Also assume that Net Corp does not derive more than five percent of its receipts from sales of database access from any single customer. Net Corp may apply the safe harbor stated in section (4)(c)(B)(ii)(II)(II-d) of this rule and may assign its receipts to a state or states using each customer's billing address.

Example 43: Web Corp, a corporation based outside of Oregon, licenses an Internet-based information database to business customers who then sublicense the database to individual end users that are resident in Oregon and in other states. These end users access Web Corp's information database primarily in their states of residence and sometimes while traveling in other states. Web Corp's license of the database to its customers includes the right to sublicense the database to end users, while the sublicenses provide that the rights to access and use the database are limited to the end users' own use and prohibit the individual end users from further sublicensing the database. Web Corp receives a fee from each customer based upon the number of sublicenses issued to end users. The license is a license of intangible property that resembles a sale of goods or services, and receipts are assigned by applying the rules set forth in section (4)(c)(B)(iii) of this rule. If Web Corp can determine or reasonably approximate the state or states where its database is accessed by end users, it must do so. Assuming that Web Corp lacks sufficient information from which it can determine or reasonably approximate the location where its database is accessed by end users, Web Corp must approximate the extent to which its database is accessed in Oregon using a percentage that represents the ratio of the Oregon population in the specific geographic area in which Web Corp's customer sublicenses the database access relative to the total population in that area. See section (4)(c)(B)(iii)(III) of this rule.

(6) *Sale of Intangible Property: Assignment of Receipts*. The assignment of receipts to a state or states in the instance of a sale or exchange of intangible property depends upon the nature of the intangible property sold. For purposes of this section (6), a sale or exchange of intangible property includes a license of that property where the transaction is treated for tax purposes as a sale of all substantial rights in the property and the receipts from the transaction are not contingent on the productivity, use, or disposition of the property. For the rules that apply where the consideration for the transfer of rights is contingent on the productivity, use, or disposition of the property, see section (5)(a) of this rule.

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PURPOSE: Provides guidance for sourcing of commercial activity from other than sales of tangible personal property for taxpayers who have business activity across state lines under ORS 317A.128

(a) *Contract Right or Government License that Authorizes Business Activity in Specific Geographic Area.* In the case of a sale or exchange of intangible property where the property sold or exchanged is a contract right, government license, or similar intangible property that authorizes the holder to conduct a business activity in a specific geographic area, the receipts from the sale are assigned to a state if and to the extent that the intangible property is used or is authorized to be used within the state. If the intangible property is used or may be used only in this state, the taxpayer must assign the receipts from the sale to Oregon. If the intangible property is used or is authorized to be used in Oregon and one or more other states, the taxpayer must assign the receipts from the sale to Oregon to the extent that the intangible property is used in or authorized for use in Oregon, through the means of a reasonable approximation.

(b) *Sale that Resembles a License (Receipts are Contingent on Productivity, Use, or Disposition of the Intangible Property)*. In the case of a sale or exchange of intangible property where the receipts from the sale or exchange are contingent on the productivity, use, or disposition of the property, the receipts from the sale are assigned by applying the rules set forth in section (5) of this rule (pertaining to the license or lease of intangible property).

(c) *Sale that Resembles a Sale of Goods and Services*. In the case of a sale or exchange of intangible property where the substance of the transaction resembles a sale of goods or services and where the receipts from the sale or exchange do not derive from payments contingent on the productivity, use, or disposition of the property, the receipts from the sale are assigned by applying the rules set forth in section (5)(e) of this rule (relating to licenses of intangible property that resemble sales of goods and services). Examples of these transactions include those that are analogous to the license transactions cited as examples in section (5)(e) of this rule.

(d) If receipts from the sale of intangible property used in Oregon are not sourced as provided elsewhere in this section and the sale was a transaction or activity in the regular course of the taxpayer’s business, the receipts are sourced to Oregon if and to the extent the property is used in Oregon.

(7) *Special Rules.*

(a) *Software Transactions*. A license or sale of pre-written software for purposes other than commercial

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reproduction (or other exploitation of the intellectual property rights) transferred on a tangible medium is treated as the sale of tangible personal property, rather than as either the license or sale of intangible property or the performance of a service. In these cases, the receipts are in Oregon as determined under ORS 317A.128 and related rules for the sale of tangible personal property. In all other cases, the receipts from a license or sale of software are to be assigned to Oregon as determined otherwise under this rule (e.g., depending on the facts, as the development and sale of custom software, see section (4)(c) of this rule; as a license of a marketing intangible, see section (5)(b) of this rule; as a license of a production intangible, see section (5)(c) of this rule; as a license of intangible property where the substance of the transaction resembles a sale of goods or services, see section (5)(e) of this rule; or as a sale of intangible property, see section (6) of this rule).

(b) *Sales or Licenses of Digital Goods or Services*. In general. In the case of a sale or license of digital goods or services, including, among other things, the sale of various video, audio, and software products, or similar transactions, the receipts from the sale or license are assigned by applying the same rules as are set forth in sections (4)(c)(B)(ii) or (iii) of this rule, as if the transaction were a service delivered to an individual or business customer or delivered through or on behalf of an individual or business customer. For purposes of the analysis, it is not relevant what the terms of the contractual relationship are or whether the sale or license might be characterized, depending upon the particular facts, as, for example, the sale or license of intangible property or the performance of a service. See sections (5)(e) and (6)(c) of this rule.

[**Publications:** Contact the Oregon Department of Revenue for information about how to obtain a copy of the publication referred to or incorporated by reference in this rule pursuant to ORS 183.360(2) and ORS 183.355(1)(b).]

Stat. Auth.: ORS 305.100; ORS 317A.128; ORS 317A.143

Stats. Implemented: ORS 317A.128

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Sean Borgerson

CORPORATE ACTIVITY TAX

EXHIBIT 2304

May 29, 2020

OREGON DEPARTMENT OF REVENUE

ADMINISTRATIVE RULE REVIEW	Rule No. 150-317-1200	
Adopt Rule	Page: Page 1 of 5	Last Revised Date: April 15, 2020
	NOTICE OF INTENDED ACTION	
Permanent Rule	Bulletin Dated: May 2020	Hearing Scheduled: May 26, 2020

PURPOSE: Provides guidance to assist taxpayers in how to compute the cost input or labor cost subtraction for purposes of the Oregon Corporate Activity Tax (CAT).

150-317-1200

Cost Input or Labor Cost Subtraction

(1) The subtraction provided in ORS 317A.119 includes all labor cost or cost input expenses of a taxpayer, whichever is greater, regardless of the place the labor cost or cost input is incurred.

(2) General Rule: A taxpayer must apportion the labor cost or cost input subtraction, computed as provided in section (1), by means of a commercial activity ratio. The commercial activity ratio is a fraction, the numerator of which is the taxpayer's commercial activity sourced to Oregon and the denominator of which is the sum of the taxpayer's total commercial activity everywhere and exclusions from commercial activity everywhere other than amounts excluded under ORS 317A.100(1)(b)(FF). A taxpayer determines the costs apportioned to Oregon by multiplying the total labor costs everywhere or total cost inputs everywhere by the taxpayer's commercial activity ratio.

(3) Special Rule for a Taxpayer or Unitary Group that apportions between states. If a corporate activity taxpayer is identical to the entity, or made up of a group of entities that is identical to the group of entities, reporting on the apportionment schedule filed for purposes of Oregon income or excise taxation under ORS Chapters 314, 316, 317 or 318, that taxpayer or unitary group may elect to use the single sales factor apportionment percentage from the taxpayer's or unitary group's Oregon apportionment schedule filed under ORS Chapters 314, 316, 317 or 318 to calculate the subtraction amount. The electing taxpayer or unitary group must:

(a) Use the most recent return covering a 12-month period filed with the department; and

(b) Demonstrate that substantially all the receipts included in the sales factor on the Oregon income or excise tax return are attributable to receipts included in commercial activity.

(c) For purposes of this section, "substantially all" means the receipts included in commercial activity are not less than 95 percent of the receipts included in the sale factor.

(4) The subtraction is 35 percent of the taxpayer's costs apportioned to Oregon, but may not exceed 95 percent of the taxpayer's Oregon commercial activity.

(5) As an alternative to the methods described in sections (2) and (3), a taxpayer may elect the use of separate accounting to remove all cost inputs or labor cost from the subtraction that are attributable to a person's receipts from an item that is not commercial activity, if the costs attributable to receipts from an item that is not commercial activity are readily identified in the taxpayer's books and records maintained in the ordinary course of business as amounts separate from costs attributable to receipts from an item that is commercial activity.

***Example 1**:* Grocery & TV Mart has $10 million of Oregon commercial activity and $70 million of everywhere commercial activity plus exclusions ($50 million in commercial activity and $20 million in exclusions from commercial activity). Grocery & TV Mart has an everywhere labor cost of $28 million and everywhere cost input of $26 million.

Grocery & TV Mart computes the Oregon subtraction as follows:

Step 1: Determine the commercial activity ratio.

Oregon commercial activity of $10 million / $70 million everywhere commercial activity plus exclusions = 14.2857% commercial activity ratio.

Step 2: Determine the cost subtraction. In this example, labor costs are greater than cost inputs. Total labor cost of $28 million x commercial activity ratio of 14.2857% x 35% = $1,399,999 cost subtraction.

Example 2: Unitary Group A, a group of domestic corporations with common ownership of 80 percent or more and filing a federal consolidated income tax return, files an Oregon corporate excise tax return under ORS chapter 317. Unitary Group A is in the business of selling specialized cookware around the world. The Oregon apportionment ratio on Schedule OR-AP filed with Form OR-20 calculated by using Oregon Sales as the numerator and U.S. Sales Everywhere as the denominator is 1.7527 percent. Unitary Group A applied that percentage to its Oregon taxable income to determine its Oregon corporate excise tax obligation under ORS chapter 317. Unitary Group A's fiscal year ends August 31.

Unitary Group A also files an Oregon corporate activity tax return for the calendar year, and no entities are included in the unitary group for purposes of the corporate activity tax that are not also included in the computation of Oregon taxable income on Form OR-20. 95 percent of the receipts included in the

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PURPOSE: Provides guidance to assist taxpayers in how to compute the cost input or labor cost subtraction for purposes of the Oregon Corporate Activity Tax (CAT).

denominator of Schedule OR-AP for the fiscal year that ended August 31 before the annual corporate activity tax return is due are attributable to amounts included in commercial activity under ORS 317A.100(1)(a). Because Unitary Group A is made up entirely of entities that are identical to the entities reported on the corporate excise tax return under ORS chapter 317 and it has demonstrated that substantially all of its receipts in the sales factor reportable on Schedule OR-AP are from sources that are commercial activity under ORS chapter 317A.100, Unitary Group A may use the corporate apportionment percentage of 1.7527 percent reportable on Schedule OR-AP when calculating Unitary Group A's subtraction.

Example 3: Unitary Group B files its Oregon corporate excise tax returns made up of domestic entities each with common ownership of 80 percent or more. Unitary Group B is in the business of selling women's apparel around the world. Unitary Group B also includes two partnerships and another corporation that meets the more-than-50 percent ownership requirement for the corporate activity tax under ORS chapter 317A.100(19). Because the unitary group for purposes of ORS chapter 317A is not identical to the unitary group included in the corporate excise tax return under ORS chapter 317, Unitary Group B may not use the apportionment percentage from the corporate excise tax return.

Example 4: Unitary Group C is made up entirely of domestic corporations with common ownership of 80 percent or more and files a federal consolidated income tax return. Unitary Group C is in the business of selling groceries and household goods. Groceries are excluded from the definition of commercial activity. Because Unitary Group C cannot demonstrate that substantially all of its sales included in the sales factor on Schedule OR-AP are attributable to sales included in commercial activity, Unitary Group C may not use the apportionment percentage from its corporate excise tax return.

Example 5: Partnership 1 and Partnership 2 each file separate Oregon partnership income tax returns and conduct business within and without Oregon. Partnership 1 is in the business of providing engineering services. Partnership 2 is in the business of providing construction services. A unitary relationship exists between Partnership 1 and Partnership 2, and they meet the more-than-50 percent ownership requirement under ORS 317A.100(19). Because the unitary group for corporate activity tax purposes includes both

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Partnership 1 and Partnership 2 and each partnership must file a separate partnership return under ORS chapter 314, the unitary group may not use the apportionment percentage from the partnership returns filed under ORS chapter 314.

Example 6 South Street operates an automotive repair shop. Most of South Street's receipts are commercial activity. South Street's books and records separate the labor costs attributable to commercial activity from labor costs that were not attributable to commercial activity. Because labor costs attributable to commercial activity was separately accounted for South Street may elect to use separate accounting for determining their available labor cost subtraction.

Example 7: Corner Market operates a convenient store and sells motor vehicle fuel. The majority of the convenient store's receipts are commercial activity but motor vehicle fuel is excluded from commercial activity. Corner Market's books and records do not separate labor costs attributable to operating the convenient store from labor costs attributable to the sale of motor vehicle fuel. Because labor cost attributable to operating the convenient store was not separately accounted for Corner Market cannot use elect to use separate accounting for determining their available labor cost subtraction.

(6) Notwithstanding section (1), a taxpayer may petition the department for alternative apportionment, or the department may require alternative apportionment if the application of sections (2) or (3) does not fairly represent the labor cost or cost input subtraction attributable to the taxpayer's commercial activity.

(7) A petition to use an alternative method of apportionment of costs for the subtraction under ORS 317A.119(2) must be filed in writing with the department. The request must be signed by the taxpayer or the taxpayer's authorized representative and must be filed separately from the taxpayer's return. The request must include a complete explanation of the alternative method as well as an explanation why the application of sections (2) or (3) should not be used. Upon receipt of the request, the department will review the request and issue a letter either authorizing or denying the request. If denied, the taxpayer can appeal that action as provided in ORS 305.275. An alternative apportionment method may be used only after receiving written authorization from the department. The authorization may be revoked if, upon audit, the department determines that the alternative method does not fairly represent commercial activity

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in Oregon. Once an alternative method has been authorized, that method must be used until a request to change is made and approved by the department or until the authorization is revoked after audit.

(8) Examples of alternative methods of apportionment include:

(a) A modification to the ratio which will fairly and accurately reflect the taxpayer’s costs attributable to receipts from commercial activity in Oregon; or

(b) The employment of any other method to effectuate an equitable allocation and apportionment of the taxpayer’s costs attributable to receipts from commercial activity.

Stat. Auth.: ORS 305.100, ORS 317A.119, ORS 317A.143

Stats. Implemented: ORS 317.119

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Sean Borgerson

CORPORATE ACTIVITY TAX

EXHIBIT 2305

May 29, 2020

NW Natural
Oregon Jurisdictional Rate Case
Test Year Twelve Months Ended October 31, 2021
UG 388 - NW Natural/2305 - Updated Oregon Corporate Activity Tax ("CAT")
($000)

Oregon Revenue Requirement - Proposed Change to Include Oregon CAT

Line No.			(1) Without CAT	*Change*	With CAT
1	Revenue Requirement	A	685,772	3,244	689,016
2	Misc. Revenues	B	3,372		3,372
3	**Total Operating Revenues**	C	689,144	3,244	692,388
4	Gas Purchased (PGA)	D	236,721		236,721
5	Other O&M and Bad Debt	E	188,236		188,236
6	**Total Operating Expenses**		424,957		424,957
7	Federal Income Tax	F	13,801		13,801
8	State Income/Excise Tax	G	7,648		7,648
9	Property Tax	H	23,104		23,104
10	Federal Payroll Tax	I	4,000		4,000
11	Other Payroll Tax	J	2,315		2,315
12	Franchise Tax	K = 2.393% x C	16,491	78	16,569
13	OPUC Annual Fee	L = 0.35% x C	2,412	11	2,423
14	DOE Fee	M	893		893
15	**Oregon CAT**	N	-	**3,155**	**3,155**
16	Other Tax	O	204		204
17	Depreciation and Amortization	P	91,204		91,204
18	**Total Operating Deductions**		162,071		165,316
19	**Net Revenue (before interest and other)**		102,116	-	102,116
	Check Figure (Revenue solves for this)		*102,116*		*102,116*

Oregon Corporate Activity Tax - Proposed Regulatory Calculation:

Line No.					
20	Total Gross Revenue			692,388	
21	Less Excludable Revenue Collected For:				
22	Federal Income Taxes	1.24 x F		17,113	
23	Property Taxes	1.0 x H		23,104	
24	Federal Payroll Taxes	1.0 x I		4,000	
25	Local Franchise Tax	1.025 x K		16,975	
26	OPUC Utility Fee	1.004 x L		2,432	
27	Total Excludable Revenue		9.2%	63,624	(2)
28	Less 35% of Cost of Goods Sold	35% x D x Rev%		75,239	
29	Taxable Commercial Activity for CAT			553,525	
30	CAT Rate			0.57%	
31	**CAT Tax Liability**			3,155	

(1) From UG 388 - NW Natural/2403 - Increase in Revenue Requirement

(2) Proposed calculation for excludable commercial activity per Section 50, subsection (KK) of Oregon 2019 House Bill 2164: "Moneys collected or recovered, by entities listed in ORS 756.310, cable operators as defined in 47 U.S.C. 522(5), telecommunications carriers as defined in 47 U.S.C. 153(51) and providers of information services as defined in 47 U.S.C. 153(24), for fees payable under ORS 756.310, right-of-way fees, franchise fees, privilege taxes, federal taxes and local taxes"

NOTE - You must have Excel iterative calculations on to use this workbook

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Kyle T. Walker

TEST YEAR / REVENUE REQUIREMENTS

EXHIBIT 2400

REDACTED

May 29, 2020

EXHIBIT 2400 – REPLY TESTIMONY – TEST YEAR / REVENUE REQUIREMENTS

Table of Contents

I. INTRODUCTION AND SUMMARY

Q. Are you the same Kyle Walker who filed direct testimony in this proceeding on behalf of Northwest Natural Gas Company ("NW Natural" or the "Company")?

A. Yes, I presented NW Natural/1000-1014, Walker.

Q. What is the purpose of your Reply Testimony?

A. To respond to the adjustments proposed by:

1) Public Utility Commission ("Commission") Staff ("Staff") witness Mr. Brian Fjeldheim, regarding taxes other than income (franchise fees, Public Utility Commission ("PUC") fee, Oregon Department of Energy ("ODOE") fee and property taxes);

2) Staff witness Mr. Russ Beitzel, regarding materials and supplies;

3) Staff witness Ms. Sabrina Soldavini, regarding miscellaneous revenues (non-curtailment) and curtailment revenue;

4) Staff witness Mr. John Fox, regarding the excess deferred income tax ("EDIT") credit;

5) Oregon Citizens' Utility Board ("CUB") witness Mr. Bob Jenks, regarding curtailment revenues; and

6) Alliance of Western Energy Consumers ("AWEC") witness Mr. Bradley Mullins, regarding equity flotation costs.

I also show the updated revenue requirement that reflects the filed cost of capital stipulation with the Stipulating Parties and the Company's responses to the parties' Opening Testimony and data requests.[1]

II. TAXES OTHER THAN INCOME

A. Franchise Fees

Q. Please describe your methodology to estimate franchise fees within the Company's proposed revenue requirement for the Test Year.

A. The franchise fee rate that is built into the revenue requirement is based on the latest franchise fee analysis using actual franchise fees from July 1, 2018 through June 30, 2019. The actual franchise fees are divided by the actual revenue to generate the franchise fee rate. This is the same analysis and rate that was used in the 2019-2020 Purchased Gas Adjustment ("PGA") filing and was submitted to Staff as a workpaper.

Q. What is Staff's forecast methodology for franchise fees?

A. Staff performs a weighted average of the last three years of franchise fees. It first sums the total franchise fees paid in the last three years and divides that by the total revenue over the same three years to generate a franchise fee rate.

Q. Did the Company identify any errors in Staff's analysis of the franchise fee rate?

A. Yes. For the latest gas year, 2019-20, Staff did not include the unbilled franchise fee. This reduced the amount of the franchise fees recognized on the

[1] Parties to the partial stipulation are the Company, Staff, CUB and AWEC, hereafter referred to as "Stipulating Parties" in my Reply Testimony.

Company's books and generated a lower rate. For the other two years in Staff's analysis, the total amount of franchise fees, including unbilled franchise fee amounts were correct. Fixing the error would result in a Staff adjustment of $24.5 thousand, or $6.3 thousand lower than the adjustment included in its Opening Testimony.

Q. What is your recommendation regarding franchise fees?

A. The Company recommends retaining the franchise fee rate proposed, or 2.393 percent.

B. <u>PUC Fees</u>

Q. What was included in the Company's revenue requirement for the PUC fee?

A. The Company used the current rate at the time of filing, 0.3 percent of Company revenues.

Q. Has the PUC fee changed since filing the rate case?

A. Yes. In Order No. 20-054, the Commission approved an increase, resulting in a new PUC fee of 0.35 percent of Company revenues.

Q. Is Staff and the Company aligned on this matter?

A. Yes. In Staff's Opening Testimony, it proposed increasing the fee to the newly approved 0.35 percent of Company revenues.

C. <u>Oregon Department of Energy (ODOE) Fees</u>

Q. How does ODOE assess fees on utilities?

A. The basis of the expense each year is calculated by taking the budget for the department and dividing by revenues of the energy utilities in the State. This calculation can result in some variability due to movements in both the budget numerator and the utility revenue denominator.

Q. Please describe your methodology to estimate ODOE fees within the Company's proposed revenue requirement for the Test Year.

A. Due to the potential variability in the assessment, the Company uses the previous two years of actual data and weights the most recent year by 2/3 and the previous year by 1/3. This methodology reflects the expectation that the most recent assessment is more likely to be a better estimate the next year.

Q. What is Staff's proposed methodology to estimate ODOE fees?

A. Staff uses a three-year weighted average approach.

Q. Is Staff's three-year average methodology appropriate for predicting ODOE fees?

A. No. Due to the variability in both the ODOE budget and the Company's revenues, the most recent year should be more weighted than years further in the past.

Q. What is your recommendation regarding ODOE fees?

A. The ODOE fee used in the revenue requirement calculation should weigh the most recent assessment more heavily than previous years. Weighting the most recent year by 2/3 and the previous year 1/3 is a reasonable approach.

D. <u>Property Taxes</u>

Q. What is the Company's method to estimate Test Year property tax?

A. The Company uses a simple three-year average of the ratio between property taxes paid and the net plant of the previous year end amount. The ratio is then multiplied by the weighted Test Year net plant to derive a property tax amount.[2]

Q. What method does Staff use to estimate property tax?

A. Staff uses a weighted three-year average to generate a ratio between taxes paid and the net plant of the previous year end amount. The ratio is then multiplied by the weighted Test Year net plant to derive a property tax amount.

Q. What is your recommendation regarding property tax?

A. The Company's recommendation is to maintain the simple three-year average property tax ratio proposed in this case.

III. MATERIALS AND SUPPLIES

Q. Please describe your methodology to estimate the materials and supplies balance in rate base for the Test Year.

A. The forecasted balances that make up the Test Year are based on a linear trend using the least squares method to calculate the line of best fit for actual data from January 2015 through September 2019.

Q. What is Staff's methodology to estimate the balance of materials and supplies that supports its adjustment?

A. Staff analyzed materials and supplies expense and testifies to a range of $3.4 million to $3.8 million for the years 2017-2019. Staff says that month end balances for materials and supplies from 2014 to 2019 show continued growth consistent with the Company's data request response. Furthermore, Staff states:

[2] The property tax is weighted by months because the tax year is different than the Test Year. Please see NW Natural/1000, Walker/Page 19.

"At no point in the above six years of month end data is there a significant decline in any one month, showing an actual interruption to the supply of materials and supplies."[3]

Q. Do you agree with Staff's conclusion?

A. No. Just because the overall supply and materials dollar balance does not go down, that does not mean the Company eluded facing supply stock outs. For instance, when supply gets low with consistent demand, prices tend to rise. Therefore, the level of product inventory could have declined, but the value of that inventory could increase.

Q. Staff also states "Nor were any specific events referenced in the Company's response that caused a shortage of available inventory."[4] Please explain.

A. Specific events that impact the supply chain are very hard to determine. For instance, the Untied States and China have been in a trade war for several years. Many tariffs were put in place over time which all could have an impact to the supply and price of materials and supplies the Company relies on to serve customers.

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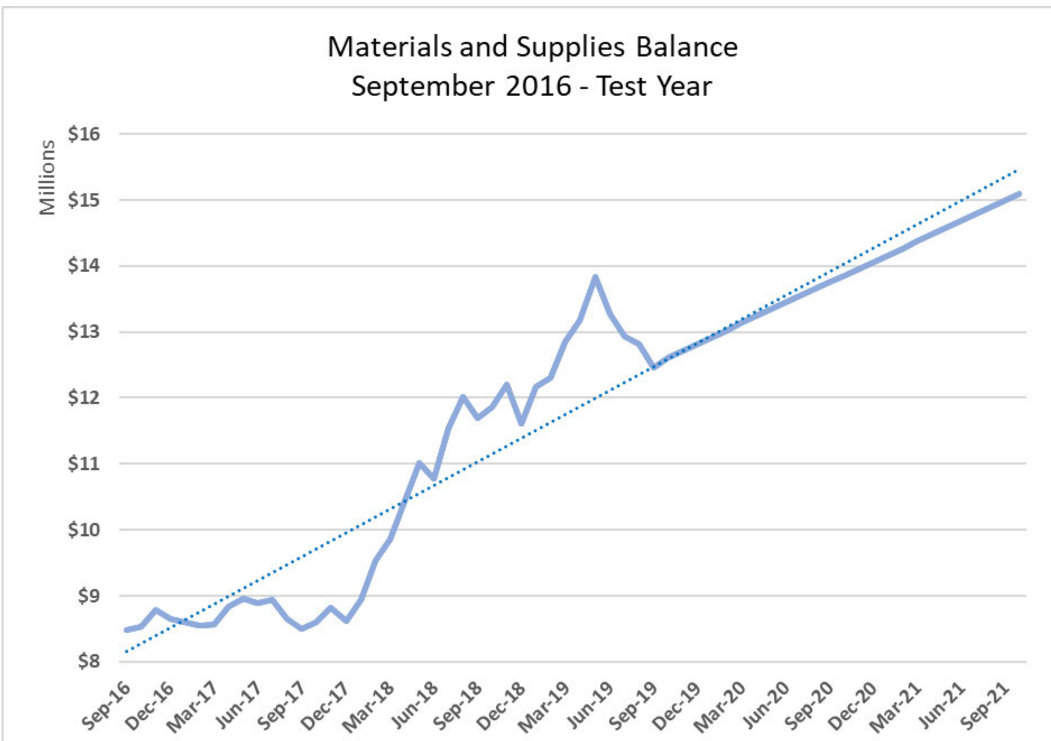
[3] Staff/500, Beitzel/4, lines 12-14.
[4] Staff/500, Beitzel/4, lines 14-16.

Q. Has the Company performed any further analysis on forecasting materials and supplies balances in the Test Year?

A. Yes. The Company looked back and did a three-year historical trend analysis, consistent with other Staff witness methodologies in this case.[5] The results, shown in Table 1 below, show that the estimate the Company included in rate base (solid blue line) for the Test Year was below the three-year historical average (dotted line).

<u>Table 1:</u>

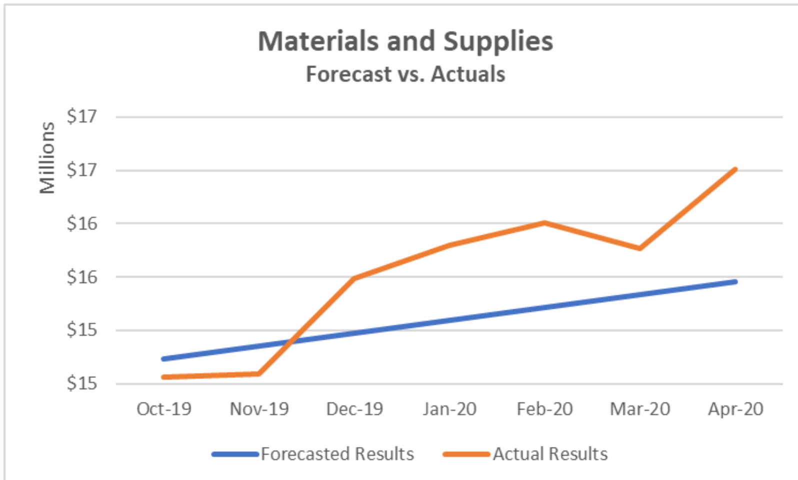


The Company also looked at actual inventory balances between October 2019 and April 2020 (Table 2). The results show that the forecast (October 2019 –

[5] See Staff/300, Fjeldheim/8, lines 7-9. *"Staff practice is to compare the previous three years' expense and longer-term trends to the requested Test Year amount, relying more heavily on recent trends unless there is a reason not to do so."*

October 2021) submitted in this case is tracking 6.79 percent lower than actual April 2020 results.

Table 2:



Q. What is your recommendation regarding materials and supplies in rate base?

A. Materials and supplies are impacted by global demand and supply. Using a historical trend line is a reasonable approach to estimating future balances. Staff arguments are anecdotal and do not provide a compelling reason the Company's approach is incorrect.

IV. MISCELLANEOUS REVENUES (NON-CURTAILMENT)

Q. What is the Company's methodology in estimating the Test Year miscellaneous revenues?

A. As described in NW Natural/1000, Walker/12-13, the Company uses the 12-months ended September 30, 2019 as a proxy for the Base Year. For the Test Year, each component of miscellaneous revenue is examined using the last three years of data, all with years ending September 30, 2019, 2018 and 2017. If the amounts for a particular category were trending upward or downward, the most recent year was taken as representative for the forecast. If there was no apparent trend to the historic amounts, a simple three-year average was used.

Q. What methodology did Staff use to estimate the Test Year miscellaneous revenue and form its proposed adjustment?

A. Staff used the 2019 actual data provided by the Company to equal the amount for the Test Year.

Q. Do you have any concerns with this method?

A. Yes. First, Staff did not remove miscellaneous revenue generated by Schedule H customers. Schedule H customers receive compressed natural gas service on a self-contained cost of service schedule. Thus, only those customers on Schedule H pay for costs or receive benefits of miscellaneous revenue. Second, Staff does not incorporate any trending or averages of the previous three years.

Q. Is the Company comfortable using calendar year 2019 miscellaneous revenue for the Base Year?

A. Yes. At the time this rate case was compiled, calendar year miscellaneous revenue was not available. If Staff wants to use calendar year 2019 data for the Test Year, then it should compare the detail against calendar year ending data over the last three years.

Q. Has the Company conducted a Test Year estimate of miscellaneous revenues using calendar year data?

A. Yes. Exhibit NW Natural/2401, Walker is an update of NW Natural/1005, Walker using calendar year 2019 data for the Base Year and calendar year 2018 and 2017 data for trending or averaging.

Q. What adjustment to NW Natural's filed revenue requirement would this data produce?

A. Updating the data using 2019 calendar year as the Base Year and calendar years 2018 and 2017 for trending and averaging results in a revenue requirement decrease of $101 thousand.

V. CURTAILMENT REVENUES

Q. What is curtailment revenue?

A. Curtailment revenue is revenue that NW Natural receives when an interruptible customer does not follow NW Natural's order to curtail service. An interruptible customer is an industrial or commercial customer whose service NW Natural may curtail or "interrupt" in order to serve firm customers. In return for an interruptible customer being subject to curtailment, it pays a lower rate. However, if an interruptible customer does not follow NW Natural's curtailment order, it is assessed a charge of $10 per therm for the unauthorized use of NW Natural's system.[6] The amount of money that NW Natural receives from this charge is curtailment revenue, which is currently retained by the Company.

[6] https://www.nwnatural.com/uploadedFiles/25Cai_2020.pdf.

Q. What is the Company's current practice regarding curtailment revenues?

A. Curtailment revenues are removed from the Test Year estimate because these revenues are rare and cannot be relied upon in a forward estimate. Any historical curtailment revenues the Company received has been retained by the Company.

Q. Does CUB believe that curtailment revenue should continue to be retained by the Company?

A. No. CUB believes that curtailment revenue should be tracked into NW Natural's PGA and credited to firm customers.[7] CUB states that when interruptible customers do not follow a curtailment order, they are using capacity that was paid for by firm customers.[8] Therefore, firm customers should receive any curtailment revenue. CUB's proposal would only apply to curtailment revenues that the Company may receive in the future and would not affect curtailment revenues that NW Natural has already collected.[9]

Q. Does Staff make a similar proposal?

A. Yes, but with one very important difference. While CUB's proposal would only apply to curtailment revenues that NW Natural receives in future years, Staff's proposal would require that the approximately $2.7 million in Oregon-allocated curtailment revenue that NW Natural received in 2019 be credited back to firm

[7] CUB/100/Jenks at 8.
[8] *Id.*
[9] *Id.*

customers through the 2020 PGA.[10] Staff states that this amount of curtailment revenue "is a result of the Enbridge pipeline explosion and its resulting consequences [and] is outside of what the Company would reasonably expect to collect on annual basis given its history of infrequent curtailment."[11] In future years, Staff proposes that NW Natural credit curtailment revenue to firm customers if it exceeds $250,000.[12]

Q. Does the Company agree with either CUB's or Staff's proposed treatment of curtailment revenues?

A. The Company largely agrees with CUB's proposed treatment of curtailment revenue. Historically, NW Natural's tariffs have not required that the Company credit firm customers with curtailment revenues. Any such revenues were considered by the Company to offset incremental costs caused by the curtailment. However, the curtailment revenues in 2019 were significantly greater than any year in recent memory, and as a result, it is understandable that CUB and Staff are re-examining the Company's curtailment tariffs. At times when curtailment revenue exceeds the incremental cost of the curtailment, NW Natural agrees that it is reasonable for firm customers to receive the benefit of these net curtailment revenues. For this reason, NW Natural agrees to credit these revenues back to customers, after offsetting the revenues by identifiable

[10] Staff/700/Soldavini at 6-7.
[11] *Id.* at 5.
[12] *Id.* at 6-7.

incremental costs that result from the curtailment violation, as explained in further detail below.

NW Natural strongly disagrees with Staff's proposal to credit back curtailment revenues that it received in 2019 to firm customers, as explained below. NW Natural also does not believe Staff's proposal to refund curtailment revenues in future years if it exceeds $250,000 is necessary or warranted because NW Natural proposes to offset firm customers' credits by identifiable costs that result from interruptible customers not following a curtailment order.

Q. Why does the Company strongly disagree with Staff's proposed treatment of curtailment revenue it received in 2019?

A. The Company objects to Staff's proposal for two reasons. First, curtailment revenue occurs from time to time, yet no party has ever proposed that NW Natural take curtailment revenue it has already received and credit them to ratepayers. Second, the Company believes that applying a credit based on past revenues would be retroactive ratemaking, which would be counter to Commission policy.

Q. Please explain how providing a credit based on past curtailment revenue would be retroactive ratemaking.

A. The Commission has found that "the rule against retroactive ratemaking prohibits: (1) consideration of past losses or past profits in setting future rates; and (2) retroactively adjusting past rates to 'true-up' the estimated expenses and revenues used in the rate case test year to a utility's actual expenses and revenues."[13] Staff's proposal to credit past curtailment revenue to firm customers clearly considers past losses or past profits in setting future rates, violating the first condition of the order. Further, Staff's proposal would also retroactively adjust past rates to reflect actual 2019 curtailment revenue, violating the second condition of the order. Finally, ORS 757.259(2)(e), which is an exception to the rule against retroactive ratemaking, does not apply in this instance. ORS 757.259(2)(e) allows a utility to defer "[i]dentifiable utility expenses or revenues. . ." that would "minimize the frequency of rate changes or the fluctuation of rate levels or to match appropriately the costs borne by and benefits received by ratepayers." These past utility expenses or revenues would be included in rates at a later date. Here, however, there was no deferral order in place under ORS 757.259. Therefore, it does not apply.

Q. Does the Company agree that it should only be required to credit back curtailment revenue in future years if it exceeds $250,000?

A. No. Although the Company agrees with Staff that curtailment revenues should not be included in determining the revenue requirement in the Test Year because curtailment revenue is unpredictable and unexpected for any particular future year, it does not agree that the $250,000 hurdle set by Staff is appropriate. Staff's $250,000 hurdle is somewhat arbitrary and may not reflect the incremental costs that the Company actually incurs during a curtailment event. Instead, the Company proposes that all curtailment revenues received in the future will be

[13] *In the Matters of the Application of Portland General Electric Company for an Investigation into Least Cost Plan Plant Retirement,* Docket UM 989, Order No. 08-487 (Sep. 30, 2008).

credited to firm sales customers, but that amount may be offset by identifiable incremental costs that result from the curtailment violation. When curtailments occur, supply is constrained. The supply constraint and unauthorize use under curtailment orders are out of the Company's control. During those times, commodity gas prices are likely to be higher, and other expenses may be higher as a function of implementing the curtailment order. For example, if curtailed customers use gas during a time of higher prices, the Company is exposed to losses through the weighted average cost of gas sharing mechanism because it further reduces supply in the natural gas system.[14] In addition, simply implementing the curtailment causes certain employees to work overtime and handle complex billing for those curtailed customers who violated the order.

Q. How would the Company implement the crediting back of curtailment revenue to firm sales customers?

A. NW Natural has included, in exhibit NW Natural/2402, a proposed new tariff schedule to implement the crediting back of curtailment revenues to firm customers. The proposed tariff provides for the credit to firm sales customers of curtailment revenues net of incremental costs associated with the curtailment order. If the Commission approves this proposed tariff, the Company would file an application to defer curtailment revenue under ORS 757.259(2). Assuming

[14] The WACOG sharing mechanism was created in UM 903 and is tied to the Company's Spring Earnings Review. The Company shares, either 80 percent/20 percent or 90 percent/10 percent, the difference in the costs recovered through customer rates and the actual weighted average cost of gas. The Company's share is either 20 percent or 10 percent based on an annual election that is filed in mid-September, consistent with Order No. 11-196.

that the Commission approves the deferral application, the Company would begin deferring curtailment revenue as of the date of that application per ORS 757.259(4).

Q. Please summarize the Company's position regarding curtailment revenues.

A. While the Company rejects the crediting of past revenues, we agree with the proposal to credit future revenues to firm ratepayers, with amounts net of demonstrated incremental costs related to the continued use of gas by customers under curtailment orders.

VI. EXCESS DEFERRED INCOME TAX TRUE-UP CREDIT

Q. What is the Company's proposal regarding the excess deferred income tax (EDIT) true-up credit?

A. The Company proposed a $1,039,209 credit related to the EDIT true-up from UG 344 in exhibit NW Natural/1013 of this docket. This true-up represents the amount of revenue requirement that was over-collected due to the Company filing a rate case prior to the five-year amortization assumption of EDIT.

Q. What is Staff's position on the EDIT true-up credit?

A. In Staff's Opening Testimony, it states the Company included an adjustment to escalate the over-collection of revenue requirement from the standard 12-month to 19-months, twice. Staff believed that this caused the true-up credit to be too low by $223 thousand.

Q. What is the Company's response to Staff's position in testimony?

A. Staff's position implies that the Company double-counted a portion of the calculation causing an error in the EDIT true-up credit. In fact, the calculation requires a two-step process. When calculating the EDIT credit, the Company re-calculated the amount that should have been included in the UG 344 rate base adjustment (step one) given a rate case filing with an effective date of November 1, 2020 (i.e., perfect hindsight). This resulted in an annual revenue requirement of $656,478. Adjusting this revenue requirement to a 19-month period (April 1st, 2019 to November 1st, 2020) (step two) results in $878,827.[15] Taking the difference between what the Company actually collected from customers over this 19-month period and what the Company should have collected, given perfect hindsight of filing UG 388, the true-up credit results in $1,039,209.

Q. Are there any other issues regarding the EDIT true-up that need addressed?

A. Yes. In my Direct Testimony NW Natural/1000, Walker/Page 26, lines 4-8, I propose amortizing the true-up credit in the 2020-2021 PGA filing. The PGA filing is made in mid-September 2020 prior to the expected final order in this rate case.

Q. Does the Company have an alternate proposal to amortize the EDIT true-up credit back to customers?

A. Yes. The Company proposes that the EDIT true-up credit gets amortized with the same effective date as the 2020-2021 PGA, but gets filed within the compliance filing of this case. Therefore, the Company would adjust the temporary rate to include the EDIT true-up in the compliance filing.

[15] 19-months are derived from the Phase II effective date of UG 344 being April 1st, 2019 to the rate effective date of UG 388, November 1st, 2020.

Q. What is your recommendation on the EDIT true-up?

A. Staff's adjustment should be disregarded and the Company should be allowed to credit $1,039,209 back to customers in the compliance filing of this case.

VII. FLOTATION COSTS (I.E. STOCK ISSUANCE COSTS)

Q. What is the Company's position regarding flotation costs?

A. Flotation costs should be recovered in rates because they are the costs the Company incurs to issue new stock, and are a true reduction in cash flow, identical to debt issuance costs. [redacted]

Q. What is AWEC's position?

A. AWEC believes that the flotation costs should not be recovered due to the cost not being included in the Company's results of operations. AWEC states, "Both GAAP and tax accounting require stock issuance costs to be treated as a reduction in the proceeds of the stock sale."[16] Furthermore, AWEC states that the cost of equity compensates the Company for flotation costs.[17]

Q. Do you agree with AWEC's position?

A. No. As described in NW Natural/300, Villadsen, flotation costs are part of running our business and should be recovered separately in rates if those costs are not captured in the cost of equity. Additionally, ratemaking does not always follow GAAP accounting. In fact, rate making normalizes costs, makes

[16] AWEC/100, Mullins/23, lines 24-25
[17] AWEC/100, Mullins/24, lines 3-7

adjustments to cash basis and estimates future costs. Utility rate making is designed to be fair and just, which can and does deviate from traditional GAAP accounting.

Q. What is your recommendation regarding flotation costs?

A. The Company recommends that the three-year average between 2019-2021 of equity flotation costs be included in revenue requirement.

VIII. REVENUE REQUIREMENT UPDATE

Q. Do the filed cost of capital stipulation with the Stipulating Parties and the Company's responses to the parties' Opening Testimony and data requests affect the proposed revenue requirement?

A. Yes. Through the Company's responses to the parties' Opening Testimony and data requests, the Company has made a $1.32 million reduction to revenue requirement. Further, if approved by the Commission, the filed cost of capital stipulation reduced the revenue requirement an additional $6.73 million, for a total revenue requirement reduction of $8.10 million, resulting in an updated proposed revenue requirement of $63.35 million.

Q. Are there any specific adjustments that have not been identified previously by the Company?

A. Yes. The Company inadvertently included $14,778 in operations and maintenance ("O&M") expense that is related to the Company's Schedule H tariff. Schedule H is a self-contained cost of service schedule for high-pressure CNG service, so all costs of this service should be paid for by the customers of Schedule H.

Q. Please identify all the specific items driving the change in revenue requirement.

A. Table 3 below lists the items that were either updated with new information, identified as an error, or a project that is no longer forecasted to be used and useful for utility service in the Test Year.

Table 3:

	Item	Testimony Reference	Data Request / Other	RR Impact
1	North Mist Plant	NW Natural/1400, Karney	OPUC DR 239	($93,704)
2	Portland LNG Liquifaction Study	NW Natural/2100, Davilla	OPUC DR 213	($97,772)
3	Resource Center CNG Systems	NW Natural/1500, Pipes	OPUC DR 231	($76,096)
4	White Salmon	NW Natural/1400, Karney	OPUC DR 233	($108,456)
5	Schedule H CNG O&M	NW Natural/2400, Walker	AWEC DR 31	($15,202)
6	250 Taylor Property Tax	NW Natural/1500, Pipes	AWEC DR 39 Attachment 3	($1,114,061)
7	PUC Fee Update	NW Natural/2400, Walker	Order No. 20-054	$358,815
8	Forecasted Administrative OH Rate	NW Natural/2000, Faulk	n/a	($13,270)
9	Mist FERC Allocations	NW Natural/2100, Davilla	n/a	($135,006)
10	3 FTE's out of 250 Taylor	NW Natural/2100, Davilla	n/a	($9,576)
11	Cost of Capital Settlement	NW Natural/2400, Walker	n/a	($6,729,180)
12	Demonstration and Selling (FERC 912)	NW Natural/2100, Davilla	n/a	($17,719)
13	Mist Compressor Study and Replacement	NW Natural/1400, Karney	n/a	($71,442)
		Total		**($8,122,669)**

Exhibit NW Natural/2403, Walker displays the expense and/or rate base adjustment and final revenue requirement impact.

Q. Does this conclude your Reply Testimony?

A. Yes.

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Kyle Walker

TEST YEAR / REVENUE REQUIREMENTS

EXHIBIT 2401

May 29, 2020

NW Natural
UG 388 - NW Natural/2301
Miscellaneous Revenues for year's ending 2017, 2018 and 2019

		YE 2017	YE 2018	YE 2019	Test Year	Test Year Method
1	FORFEITED DISCOUNTS-LATE PAYMENT CHARGE	$ 2,103,742	$ 1,926,634	$ 1,985,517	$ 2,005,298	no trend - 3 year average
2	MISC SERV REV- Scheduled CNG Main Rev	$ -	$ 30,605	$ 10,399	$ 13,668	no trend - 3 year average
3	MISC SERV REV- Unscheduled CNG Main Rev	$ -	$ 23,831	$ 421	$ 8,084	no trend - 3 year average
4	MISC SERVICE REVENUES-AUTOMATED PAYMENT	$ 38,450	$ 33,630	$ 31,333	$ 31,333	trend down - take last year
5	MISC SERVICE REVENUES-DELINQ RECONN FEE	$ 278,640	$ 262,710	$ 273,100	$ 271,483	no trend - 3 year average
6	MISC SERVICE REVENUES-FIELD COLLECTION C	$ 332,560	$ 337,570	$ 325,460	$ 331,863	no trend - 3 year average
7	MISC SERVICE REVENUES-GAS DIVERSIONS	$ 8,339	$ 24,032	$ 23,654	$ 18,675	no trend - 3 year average
8	MISC SERVICE REVENUES-RECONN CHG-CR-AFTE	$ 2,920	$ 2,630	$ 2,020	$ 2,020	trend down - take last year
9	MISC SERVICE REVENUES-RECONN CHG-CR-DURI	$ 238,520	$ 250,330	$ 215,789	$ 234,880	no trend - 3 year average
10	MISC SERVICE REVENUES-RECONN CHG-SEAS-AF	$ 80	$ 160	$ 80	$ 107	no trend - 3 year average
11	MISC SERVICE REVENUES-RECONN CHG-SEAS-DU	$ 10,350	$ 8,640	$ 8,700	$ 9,230	no trend - 3 year average
12	MISC SERVICE REVENUES-RETURNED CHECK CHA	$ 104,805	$ 106,035	$ 113,280	$ 113,280	trend up - take last year
13	MISC SERVICE REVENUES-SEAS RECONN FEE	$ 15,600	$ 13,100	$ 12,200	$ 12,200	trend down - take last year
14	MISC SERVICE REVENUES-SUMMARY BILL SVCS	$ 12,204	$ 12,447	$ 12,714	$ 12,714	trend up - take last year
15	OTHER GAS REVENUES-METER RENTALS	$ 179,029	$ 167,530	$ 169,393	$ 171,984	no trend - 3 year average
16	OTHER GAS REVENUES-MULTIPLE CALL OUT FEE	$ 36,932	$ 54,495	$ 37,803	$ 43,077	no trend - 3 year average
17	OTHER GAS REV-LNG SALES & OTHER MISC REV	$ 18,372	$ 57,833	$ 12,465	$ 29,557	no trend - 3 year average
18	OTHER GAS REVENUES-CNG METER RENTALS	$ -	$ 450	$ 860	$ -	Exclude Schedule H Activity
19	OTHER GAS REVENUES-CURTAILMENT UNAUTH TA	$ 290	$ 1,240,518	$ 1,496,110	$ -	Exclude Activity related to Enbridge Outage
20	RENT FROM GAS PROPERTY-RENT - UTILITY PR	$ 220,457	$ 175,499	$ 158,221	$ 158,221	see below
21	RENT FROM GAS PROP - Schedule H CNG Reve	$ -	$ 207,445	$ 224,238	$ -	Exclude Schedule H Activity
22	Non-AMR Install/Remove Charge	$ 516	$ 860	$ 860	$ 745	no trend - 3 year average
23	Non-AMR Read Charge	$ 2,018	$ 3,372	$ 4,779	$ 4,779	trend up - take last year
	Total Miscellaneous Revenues	**3,603,825**	**4,940,354**	**5,119,396**	**3,473,197**	

Note: Excludes Billing Amortization Offsets, WARM deferrals, Washington Misc Revenues

Line 20 Detail		**Year End 2017**	**Year End 2018**	**Year End 2019**	**Test Year**	**Method**
RENT FROM GAS PROPERTY-RENT - UTILITY PR	COOS BAY	$ (7,725)	$ (7,725)	$ (7,725)	$ (7,725)	no trend - 3 year average
RENT FROM GAS PROPERTY-RENT - UTILITY PR	PORTLAND	$ (135,801)	$ (80,107)	$ (58,500)	$ (58,500)	trend down - take last year
RENT FROM GAS PROPERTY-RENT - UTILITY PR	SALEM	$ (55,599)	$ (60,545)	$ (62,649)	$ (62,649)	trend up - take last year
RENT FROM GAS PROPERTY-RENT - UTILITY PR	EUGENE	$ -	$ -	$ -	$ -	
RENT FROM GAS PROPERTY-RENT - UTILITY PR	ASTORIA	$ (42,000)	$ (42,000)	$ (42,000)	$ (42,000)	no trend - 3 year average
RENT FROM GAS PROPERTY-RENT - UTILITY PR	COOS BAY	$ (7,725)	$ (7,725)	$ (7,725)	$ (7,725)	no trend - 3 year average
RENT FROM GAS PROPERTY-RENT - UTILITY PR	OTHER ADMIN ACCOUNTS	$ -	$ -	-		
RENT FROM GAS PROPERTY-RENT - UTILITY PR	INCOME STATMNT DETAI	$ -	$ -	-		
Subtotal System		$ (248,851)	$ (198,102)	$ (178,599)	$ (178,599)	
Oregon Allocation - 3-factor		88.59%	88.59%	88.59%	88.59%	
Total Oregon		$ (220,457)	$ (175,499)	$ (158,221)	$ (158,221)	

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Kyle Walker

TEST YEAR / REVENUE REQUIREMENTS

EXHIBIT 2402

May 29, 2020

NORTHWEST NATURAL GAS COMPANY
P.U.C. Or. 25 Original Sheet 168-1

SCHEDULE 168
TEMPORARY RATE ADJUSTMENT – NET CURTAILMENT REVENUES

(N)

PURPOSE:
To credit Firm Sales Service Customers served under the below-listed Rate Schedules for the Oregon share of curtailment revenues received by NW Natural net of incremental costs related to curtailment orders.

APPLICABLE:
To Firm Sales Service Customers on the Rate Schedules of this Tariff listed beloew:

Rate Schedule 2	Rate Schedule 31
Rate Schedule 3	Rate Schedule 32
Rate Schedule 27	

APPLICATION TO RATE SCHEDULES:

Effective November 1, 2020 $(0.00000) per therm

GENERAL TERMS:
This Schedule is governed by the terms of this Schedule, the General Rules and Regulations contained in this Tariff, any other Schedules that by their terms or by the terms of this Schedule apply to service under this Schedule, and by all rules and regulations prescribed by regulatory authorities, (N)
as amended from time to time.

Issued date xxxx
NWN OPUC Advice No. xx-xx

Effective with service on
and after date xxxxx

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Kyle Walker

TEST YEAR / REVENUE REQUIREMENTS

EXHIBIT 2403

May 29, 2020

NW Natural
Oregon Jurisdictional Rate Case
Test Year Twelve Months Ended October 31, 2021
UG 388 - NW Natural/2403 - Increase in Revenue Requirement
($000)

Line No.		Filed Rate Case Results (a)	Adjustments (b)	Test Year Adjusted (c)	Margin Change [a] (d)	Results @ 9.4% ROE (e)
	Operating Revenues					
1	Sale of Gas	$605,142	$0	$605,142	$63,345	$668,487
2	Transportation	17,285	0	17,285		17,285
3	Decoupling	0	0	0		0
4	WARM	0	0	0		0
5	Miscellaneous Revenues	3,372	0	3,372		3,372
6	Total Operating Revenues	625,799	0	625,799	63,345	689,144
	Operating Revenue Deductions					
7	Gas Purchased	236,721	0	236,721		236,721
8	Uncollectible Accrual for Gas Sales	598	0	598	62	659
9	Other Operating & Maintenance Expenses	188,714	(1,137)	187,577		187,577
10	Total Operating & Maintenance Expense	426,032	(1,137)	424,895	62	424,957
11	Federal Income Tax	1,601	257	1,859	11,942	13,801
12	State Excise	2,869	101	2,970	4,678	7,648
13	Property Taxes	23,104	0	23,104		23,104
14	Other Taxes	24,578	0	24,578	1,738	26,315
15	Depreciation & Amortization	91,270	(66)	91,204		91,204
16	Total Operating Revenue Deductions	569,454	(845)	568,609	18,419	587,028
17	Net Operating Revenues	56,345	845	57,189	44,926	102,116
	Average Rate Base					
18	Utility Plant in Service	$3,189,091	($5,505)	$3,183,586		$3,183,586
19	Accumulated Depreciation	(1,372,032)	46	(1,371,987)		(1,371,987)
20	Net Utility Plant	1,817,059	(5,459)	1,811,600	0	1,811,600
21	Aid in Advance of Construction	(4,294)	0	(4,294)		(4,294)
22	Customer Deposits	(2,691)	0	(2,691)		(2,691)
23	Gas Inventory	29,758	0	29,758		29,758
24	Leasehold Improvements	18,923	(4)	18,919		18,919
25	Materials & Supplies	14,474	0	14,474		14,474
26	EDIT Adjustments to Rate Base	8,462	0	8,462		
27	Accumulated Deferred Income Taxes	(409,996)	0	(409,996)		(409,996)
28	Total Rate Base	1,471,695	(5,463)	1,466,232	0	1,466,232
29	Rate of Return	3.83%		3.90%		6.965%
30	Return on Common Equity	3.13%		3.27%		9.40%

Test Year spans columns (a)–(e).

[a] Margin increase is calculated by multiplying Test Year Rate Base (line 28 column c) by the Rate of Return (line 29 column e) and comparing the result to Test Year Operating Revenues (line 17 column c). The difference is then grossed up for tax and shown in line 1 of column d. Associated taxes and uncollectibles are calculated based on the revenue increase and the tax rates and uncollectible average as used in this model.

NW Natural
UG 388 Exhibit NW Natural/2403
Test year Adjustments
($000)

Line No.		O&M Misc A&G 3 FTEs Adjustment	O&M Misc A&G OH Rate Adjustment	O&M Demo & Selling Adjustment	O&M Prop. Tax 250 Taylor Adjustment	O&M Schedule H CNG Adjustment	Rate Base Mist FERC Alloc Adjustment	Rate Base White Salmon Adjustment	Rate Base Resource Ctr CNG Sys Adjustment	Rate Base Portland LNG Study Adjustment	Rate Base North Mist Plant Adjustment	Rate Base Mist Compr. Study and Replc. Adjustment	Rate Base 250 Taylor Leasehold Imp Adjustment	Total Adjustments
	Operating Revenues													
1	Sale of Gas													$0
2	Transportation													0
3	Decoupling													0
4	WARM													0
5	Miscellaneous Revenues													0
6	Total Operating Revenues	0	0	0	0	0	0	0	0	0	0	0	0	0
	Operating Revenue Deductions													
7	Gas Purchased													$0
8	Uncollectible Accrual	0	0	0	0	0	0	0	0	0	0	0	0	0
9	Other Operating & Maintenance Expenses	(9)	(13)	(17)	(1,083)	(15)								(1,137)
10	Total Operating & Maintenance Expense	(9)	(13)	(17)	(1,083)	(15)	0	0	0	0	0	0	0	(1,137)
11	Federal Income Tax	2	3	3	210	3	2	7	6	7	10	5	0	257
12	State Excise	1	1	1	82	1	1	3	2	3	4	2	0	101
13	Property Taxes													0
14	Other Taxes	0	0	0	0	0	0	0	0	0	0	0	0	0
15	Depreciation & Amortization						31	(13)	(15)	(18)	(39)	(12)		(66)
16	Total Operating Revenue Deductions	(7)	(9)	(13)	(791)	(11)	33	(3)	(7)	(8)	(25)	(5)	0	(845)
17	Net Operating Revenues	$7	$9	$13	$791	$11	($33)	$3	$7	$8	$25	$5	$0	$845
	Average Rate Base													
18	Utility Plant in Service						(1,748)	($1,013)	(651)	($866)	($582)	($645)		($5,505)
19	Accumulated Depreciation						(21)	6	4	24	17	15		46
20	Net Utility Plant	0	0	0	0	0	(1,769)	(1,007)	(647)	(842)	(565)	(630)	0	(5,459)
21	Aid in Advance of Construction													0
22	Customer Deposits													0
23	Gas Inventory													0
24	Leasehold Improvements												(4)	(4)
25	Materials & Supplies													0
26	EDIT Adjustments to Rate Base													0
27	Accumulated Deferred Income Taxes													0
28	Total Rate Base	$0	$0	$0	$0	$0	($1,769)	($1,007)	($647)	($842)	($565)	($630)	($4)	($5,463)
29	Interest Coordination	$0	$0	$0	$0	$0	($40)	($23)	($15)	($19)	($13)	($14)	$0	($124)
30	Total Revenue Requirement	(9)	(13)	(18)	(1,115)	(15)	(127)	(104)	(73)	(94)	(91)	(69)	(0)	(1,727)

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Robert J. Wyman

CUSTOMER AND VOLUME FORECAST, LONG RUN INCREMENTAL COSTS, AND RATE SPREAD

EXHIBIT 2500

May 29, 2020

EXHIBIT 2500 – REPLY TESTIMONY – CUSTOMER AND VOLUME FORECAST, LONG RUN INCREMENTAL COSTS, AND RATE SPREAD

Table of Contents

I. INTRODUCTION AND SUMMARY

Q. Please state your name and position with Northwest Natural Gas Company ("NW Natural" or the "Company").

A. My name is Robert J. Wyman. My current position is Rates and Regulatory Analyst for NW Natural. I am responsible for economic analysis, short-term load forecasting for residential and commercial customers, cost of service, and rate spread and rate design.

Q. Are you the same Robert J. Wyman who filed Direct Testimony in this proceeding on behalf of NW Natural?

A. Yes, I presented Direct Testimony and supporting exhibits in NW Natural/1100-1103, Wyman.

Q. What is the purpose of your Reply Testimony?

A. I summarize and respond to the issues raised in Opening Testimony by George R. Compton and Scott Gibbens on behalf of Commission Staff ("Staff"), and Bradley G. Mullins on behalf of the Alliance of Western Energy Consumers ("AWEC") on the topics of the weather normalized use-per-customer load forecast ("UPC Forecast"), Long-Run Incremental Cost ("LRIC") study, and rate spread and rate design proposed by the Company.

Q. Did the other party to this case, the Citizens' Utility Board ("CUB"), raise any issues on these topics in Opening Testimony?

A. No.

Q. Please summarize your Reply Testimony.

A. First, I respond to Staff's testimony regarding the Company's load forecast methodology, referred to here as the UPC Forecast. Second, I review and respond to Staff's and AWEC's proposals for the LRIC study and rate spread and rate design. I also present an update to my originally filed LRIC study, including corrections previously provided to the parties in this proceeding. Finally, I update the Company's rate spread and rate design proposal based upon the updated revenue requirement provided in the Reply Testimony of Kyle Walker, NW Natural/2400, Walker, which reflects the impact of the proposed cost of capital settlement and various other adjustments that NW Natural has made in response to the parties' Opening Testimony in this case.

Q. Are you introducing any exhibits with your testimony?

A. Yes. I am sponsoring exhibits 2501, 2502, 2503, and 2504. NW Natural/2501, Wyman is a summary of the Company's updated LRIC study. NW Natural/2502, Wyman and NW Natural/2503, Wyman indicate the total revenue increases by rate schedule, as well as the bill impact and rate increase by rate schedule based on the Company's rate spread and rate design proposal. NW Natural/2504 is the Company's response to Staff DR 186.

II. UPC FORECAST

Q. Please briefly describe the purpose of the UPC Forecast.

A. The UPC Forecast uses a time series regression model to estimate the Company's weather normalized usage, or load. The forecast is used to calculate revenues at existing rates in the proposed revenue requirement for the Base and

Test Year, as presented in NW Natural/1000, Walker. It is also used to create the design day load factor, which is an important input to the LRIC study.

Q. Please summarize the UPC Forecast methodology.

A. The UPC Forecast relies on the relationship between temperature (measured in heating degree days, or "HDDs") and load by rate schedule and time of year (measured in daily increments). The Company used load data on a billing cycle basis, matched actual weather observations with the days between cycle meter read dates, and created a weighting of number of days, customers, and HDDs by billing cycle for the Residential and Commercial customer classes. Using an Autoregressive Integrated Moving Average ("ARIMA") time series model, the Company estimated three coefficients: one coefficient each for heating usage, base usage, and a summer base usage adjustment. The estimated coefficients were then used to build the weather normalized UPC Forecast on a daily basis using the 25-year HDD benchmark.

Q. Did Staff recommend any adjustments to the Company's UPC Forecast methodology?

A. Yes. Staff made the following recommendations with regard to the Company's UPC Forecast model:

1. Test the model for non-stationarity;
2. Use different metrics in the model specification selection process;
3. Include additional indicator (dummy) variables (one for the WARM billing period, and one each for the remaining months) in the model, instead of a single indicator variable that groups summer months;

4. Include additional historical data prior to September 2013; and
5. Use discrete forecasts based on eight Oregon geographic regions to estimate the UPC Forecast model coefficients.

Q. Did Staff recommend that these adjustments be applied in this rate case proceeding?

A. No, Staff recommends that these methodological adjustments be made prospectively.

Q. Does the Company have a response to Staff's recommendations?

A. Yes. I respond to each of Staff's recommendations and explain the Company's position below.

Testing the UPC Model for Non-Stationarity

Q. Please describe the issue of non-stationarity and how it could impact the UPC Model.

A. Non-stationarity in the UPC Model variables can occur when their statistical properties vary over time. A utility's customer count is an example, for instance, because it generally increases over time but not at a constant rate. New customers spurred by housing construction are more likely to start service in summer months than winter months. The Company's UPC Forecast model estimates weather normalized load per day as the weighted function of the number of days, customers, and heating degree days ("HDDs") associated with each billing cycle in the model period. As such, the model may contain non-stationary inputs.

Q. Please describe Staff's recommendation to test for non-stationarity in the UPC Model.

A. Staff recommends correcting for non-stationarity using "differencing," which can be achieved using an ARIMA time series model.

ARIMA models are denoted as ARIMA(*p*,*d*,*q*) where *p* is the number of time lags in the autoregressive term; *d* indicates the number of times the independent variables are differenced; and *q* is lags of moving averages. In its initial filing, the Company proposed an ARIMA model with a one-month lagged disturbance specified for *p*, but did not specify terms for *d* or *q*. In reviewing the Company's model, Staff found evidence for non-stationarity in Augmented Dickey-Fuller ("ADF") test results. Staff recommends that the Company ensure stationarity by differencing the load forecast data variables, suggesting that an ARIMA model with a *d* term specification is satisfactory as long as the ADF test indicates non-stationarity.

Q. Do you accept Staff's recommendation to test for non-stationarity in the UPC Forecast model?

A. Yes, the Company accepts the recommendation to test for non-stationarity in the UPC Forecast model as this is an accepted procedure for testing the strength of a time series analysis, and is already used in other applications across the Company.[1] Going forward, we will check non-stationarity by performing the ADF

[1] The load models produced for the Integrated Resource Plan ("IRP"), for instance, are tested for stationarity and differenced where stationarity was not indicated. For a description of these testing procedures, please refer to the NW Natural 2018 IRP, at 3.5-3.6.

test and use these results to inform its ARIMA model specification as necessary. Staff found "only slight differences"[2] in the model output after correcting for non-stationarity; the Company likewise does not anticipate meaningful changes to the model output resulting from this recommendation but understands its role in the model validation process.

Using different metrics in the model specification selection process

Q. Briefly describe the Company's model specification selection process.

A. In addition to the selected model, the Company tested an ARIMA model with an autoregressive lagged disturbance of two months. In testing for model efficacy, the Company relied on Durbin-Watson test statistics and mean squared errors results.[3] For RS 2 Residential, the one-month lagged model, which was chosen for filing, showed a more optimal Durbin-Watson test statistic (1.89) relative to the two-month lagged model (1.22). The two-month lagged model also produced slightly higher mean squared errors compared to the one-month lagged model.

Q. Please describe Staff's recommendation that the Company use different metrics in the model specification selection process.

A. Staff does not believe the Company's process for selecting the autoregressive and moving average *p* and *q* terms was robust enough. Staff recommends the Company employ alternative metrics, specifically the Akaike Information Criterion (AIC) and the Bayesian Information Criterion (BIC or SIC).

[2] Staff/1000 Gibbens/5: 2-7.
[3] The Durbin-Watson test statistic, which is a test for autocorrelation, takes a value from 0 to 4. A value of 2 indicates no autocorrelation. A value less than 2 indicates positive autocorrelation, and a value greater than 2 indicates negative autocorrelation.

Q. What is the Company's response to Staff's recommendation that the Company use different metrics in the model specification selection process?

A. The Company accepts Staff's recommendation to integrate such metrics in its model selection process using an optimization process such as Staff's noted "varsoc" command offered in the Stata statistical software package.

Including additional indicator variables in the model

Q. Briefly describe the Company's use of indicator variables in the UPC Forecast model.

A. The Company included one indicator variable in the model, which represents a grouping of three summer months (July through September). The summer-months' indicator variable is statistically significant for all UPC Forecast models found in the filed workpaper, UG 388 - Exh 1100 - WP02 Res and Com UPC Model, with the one limited exception of RS 3 Commercial.[4] The Company decided to keep the use of indicator variables consistent across all rate schedules for this filing.

Q. Please describe Staff's recommendation that the Company use additional indicator variables in the UPC Forecast model.

A. Staff recommends the Company add additional indicator variables (one for the WARM billing period, and one each for the remaining months) to the UPC

[4] The Company considers coefficients with p-values of less than 0.10 as statistically significant for the purposes of the UPC Forecast model.

Forecast model, with the constant omitted, instead of a single indicator variable that groups summer months. Staff arrived at this recommendation after examining model outputs for RS 2 Residential only.

Q. What is the Company's response to Staff's recommendation that the Company use additional indicator variables, instead of a single indicator variable that groups summer months?

A. The Company examined the impact of using Staff's recommended indicator variables on the filed UPC Forecast model for both residential and commercial rate schedules. For a direct comparison with the filed model, we kept the model specification and input data consistent. Overall, the Company finds negligible differences between the model outputs, with Staff's indicator variables producing UPCs roughly 0.10 percent lower than the filed UPCs for both residential and commercial rate schedules. While we find Staff's indicator variables produce a model with less optimal Durbin-Watson test statistics relative to the Company's, using these variables produces a nearly identical mean absolute percent error ("MAPE") value in a backcast test of model accuracy.[5] Since the Company's comparison of its filed model against Staff's recommendation does not suggest overall improvement in the test statistics and the backcast test results, the Company does not accept Staff's recommendation from a results perspective. The Company does, however, accept Staff's specific recommendation for

[5] The Company performed an analysis using three backcast tests of varying data vintages to compare model forecast performance against actual load data, for both residential and commercial rate schedules. This analysis is consistent with the Company's backcast test procedure used to test its initial UPC Forecast model.

additional indicator variables as part of a broader evaluation process for determining a model specification that produces acceptable test statistics and slightly improved forecast accuracy based on a backcast analysis.

Including additional historical data

Q. Briefly describe the Company's use of historical data in the UPC Forecast model.

A. For this filing, the Company matched actual therm usage and actual HDDs for the period of September 2013 through May 2019 to create inputs for the ARIMA model. The month bookends were chosen because they fall within shoulder periods, coinciding with neither expected high nor expected low system demand.

Q. What is Staff's recommendation on the use of historical data?

A. Staff notes that the Company's UPC Forecast model workpapers contained historical data as far back as January 2012. Staff recommends using the historical data available in the Company's workpapers.

Q. What is the Company's response to Staff's recommendation that the Company include additional historical data prior to September 2013?

A. The Company notes that Staff makes this recommendation after only testing the results for RS 2 Residential and finding that the additional data produce slightly better model test results. Further, it does not appear that Staff used a backcast analysis to test forecast performance. We note that using historical data may not always be a superior approach. For instance, if we use data far into the past, it may represent a different set of customers and usage profiles than those that exist today. This is especially relevant for non-residential rate schedules where customers are fewer and more rate switching occurs over time.

While the Company accepts that additional historical data may produce improved results for some rate schedules, we feel that when selecting historical data for modeling purposes consistency of approach across all modeled rate schedules should be considered and a backcast analysis should be run to demonstrate improved forecasting ability.

Using discrete forecasts based on geographic region

Q. Briefly describe the Company's use of discrete UPC Forecasts based on geographic region.

A. The Company did not create separate UPC Forecasts based on the geographic locations of its customers. The Company constructs the UPC Forecast on a state-wide rate class basis so that it is consistent with the Company's jurisdictional ratemaking.

Q. What is Staff's recommendation with regard to the use of geographic region in the UPC Forecast model?

A. Staff proposes that the Company estimate coefficients for each of eight Oregon geographic regions, and create a discrete UPC forecast for each region. Staff converts the UPC forecasts to demand forecasts by region. Finally, Staff produces a singular weighted base and heat load coefficient by weighting each region's UPC coefficients by fraction of total forecasted demand. Staff makes this recommendation after testing the methodology only on RS 2 Residential data, and without a backcast test of forecasting accuracy, stating: "A general best practice in modeling is to model at the finest degree possible, given your data limitations."[6]

Q. What is the Company's response to Staff's recommendation that the Company use eight discrete forecasts based on geographic region to develop one set of UPC Forecast model coefficients?

A. The Company disagrees with Staff's recommendation. Whether or not variations exist in customers' response to weather across its Oregon service territory, the Company sets its rates using a state-wide ratemaking framework.

The Company is concerned that Staff is in effect proposing geography-based ratemaking. The UPC Forecast is used to forecast Test Year demand, as well as to estimate the base and heat load coefficients that set the state-wide weather-normalized UPC benchmark that drives two rate adjustment mechanisms—Weather Adjusted Rate Mechanism ("WARM") and the Partial Decoupling Mechanism ("Decoupling")—for firm sales Rate Schedules ("RS") 2 Residential, 3 Small Commercial (WARM and Decoupling), and 31 Commercial (Decoupling only).[7] Both mechanisms are administered on a state-wide basis using one set of estimation coefficients to create one usage benchmark. Staff's proposal ultimately develops one set of coefficients, but this set is based on the demand-weighted coefficients of eight discrete geographic-based benchmarks.

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[6] Staff/1000 Gibbens/13: 10-11.
[7] As noted by Staff, "the UPC Forecast, apart from determining load in this case, is also used as a direct input in the WARM and Partial Decoupling mechanisms currently approved by the Commission." *See* Staff/1000 Gibbens/5: 10-12.

The WARM and Decoupling mechanisms, as adopted and administered, do not consider load profile variability based on a customer's geographic location.[8]

The Company also notes that Staff did not test the efficacy of its proposal against other firm sales rate schedules subject to the adjustment mechanisms: RS 3 Commercial and RS 31 Commercial. The Company is concerned that the results for these schedules would not be shown to be as robust as the RS 2 Residential results, due to the much lower sample sizes found in some geographies. For instance, currently there is one RS 31 Commercial customer in the Coos Bay geography, 13 in The Dalles, and 18 in Astoria. A small number of customers within a single rate schedule and with a large demand could drive the individual geography estimation coefficients, and since the overall coefficient values would be weighted using demand, these large customers could give outsized weight to poorly estimated coefficients that then impact the state-wide rate adjustment mechanism baselines. The Company is unconvinced Staff's proposal improves upon the forecast methodology for all WARM and Decoupling rate schedules, and is similarly concerned that the proposal reduces the model's simplicity and replicability.

While geographic-based customer and load data is more granular than state-wide data, the Company rejects the recommendation that it is necessarily a "best practice" to use available data for the purposes of the UPC Forecast.

[8] The WARM and Decoupling mechanisms, however, account for observed weather and count of active customers by the eight geographies used in Staff's analysis.

First, we do not believe that Staff has demonstrated that this recommendation improves model results for all rate schedules subject to the WARM and Decoupling mechanisms. The Company ran backcast testing using the demand side management (DSM) adjusted coefficients presented by Staff in workpaper, UG 388 – Exh. 1000 – Issue 1 Load Forecast Erratum,[9] which indicates Staff's model both greatly under-forecasts actual load and produces a higher MAPE compared to the Company's filed model. Second, we are concerned that the use of eight regression models to create one set of coefficients could potentially introduce more statistical noise compared to one regression model, as noise present in one geography is more acute in that geography's regression relative to a state-wide regression.

In practice, when modeling data for rate-setting purposes, the Company must balance the goal to achieve the finest model granularity possible against the Company's existing ratemaking and regulatory frameworks.

III. <u>LONG-RUN INCREMENTAL COST STUDY</u>

Q. Please briefly describe the purpose of the LRIC study.

A. The overall objective of the LRIC study is to apportion the incremental revenue requirement to rate schedules based on each schedule's specific cost to serve an incremental customer in the long run. The LRIC study methodology is an engineering economics exercise that evaluates the Company's future

[9] The Company used the WARM baseload coefficient of 0.5380 and the heating coefficient of 0.1467 as shown on the "Model Data" tab in UG 388 – Exh. 1000 – Issue 1 Load Forecast Erratum. We note that these figures differ slightly from the coefficients presented in testimony at Staff/1000, Gibbens/14: 10-11.

incremental capital and operations costs by rate schedule and, along with the capital carrying costs, derives the total cost to serve customers. LRIC study results are one factor to weigh when considering a rate spread proposal, along with the principle that equitable distribution of the rate spread should be balanced against customer rate impacts in order to avoid rate shock and signal rate volatility for any one rate schedule.

Q. The Company submitted an updated version of the LRIC study prior to the parties' Opening Testimony filings. Can you explain how this version differs from the Company's initial study?

A. Yes. The Company made two corrections to its initial LRIC study filing. These corrections were the result of discussion with parties through the discovery process and provided via email on March 25, 2020. I have attached the updated LRIC study as a work paper to this testimony, submitted as UG 388 –Exh. 2500 – WP01 LRIC Study Model Update. The corrections are as follow:

1. Staff noted that the Company's presentation of Functionalized Costs (at Lines 18 through 22)[10] were not aligned with Margin Revenue at Current Rates (Line 26) such that the difference did not equal the Company's proposed revenue requirement deficiency. We erred by excluding revenue sensitive dollars associated with gas costs in the Margin Revenues, while at the same time including these dollars on the Functionalized Cost side. In the updated

[10] References to specific lines in this testimony refer to the "LRIC Summary" tab of the Company's updated LRIC study, filed with this testimony as UG 388 –Exh. 2500 – WP01 LRIC Study Model Update. The summary is also presented in NW Natural/2501, Wyman.

LRIC study, the revised Functionalized Costs are appropriately off-set by the Margin Revenue to tie out to the revenue requirement deficiency.

2. The Company recognized an issue that resulted in the double-counting of Commodity Demand Charges (Line 5). The Company pulled the correct demand charges, but the input for Cost of Gas (Line 6) was actually total commodity costs, which includes both demand charges and the gas costs. The updated LRIC study removes the double-counting of these charges.

Q. Did parties propose any methodological changes to the Company's corrected LRIC study?

A. Yes. Staff and AWEC proposed methodological changes, which I summarize below. I also respond to other adjustments and observations made by Staff and AWEC in their testimonies.

1. Staff recommends that the Company use an approach that allocates a portion of peak firm demand related deliverability capacity costs to interruptible rate schedules.
2. AWEC disagrees with the Company's use of non-contemporaneous underground storage cost data and recommends that the Company commit to studying its incremental storage cost allocator methodology prior to filing its next rate case.

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Allocating a portion of peak firm demand related capacity costs to interruptible schedules

Q. Briefly describe how the Company allocated peak firm demand related capacity costs.

A. The Company used a peak firm capacity allocator (Line 4b) to assign system core mains costs (Line 13) to rate schedules based on firm demand. This particular allocator was not used to assign any costs to interruptible schedules.

Q. What is Staff's proposal regarding the peak firm demand related capacity cost allocator?

A. Staff argues that because interruptible customers enjoy near-firm service due to "virtually non-existent interruptions,"[11] some portion of peak demand capacity costs should be allocated to the interruptible rate schedules. Staff elected to create an additional peak demand allocator for all non-transportation schedules in addition to the Company's allocator. Staff used its new allocator as a basis to assign underground storage costs (Line 22) to all non-transportation schedules.

Q. What is the Company's response to Staff's recommendation that a portion of peak firm demand related deliverability costs be allocated to interruptible customers?

A. The Company recognizes Staff's argument that interruptible schedules, due to the historic low rate of interruptions, should be allocated a portion of peak demand related capacity costs. Since Staff's recommendation to create a new

[11] Staff/1100 Compton/10: 4-5.

allocator impacts how incremental underground storage costs are allocated, which is a topic of interest to AWEC (see next recommendation below), the Company will review how its peers allocate costs to interruptible schedules as a broader review of storage cost allocation.

Studying the incremental storage cost allocator methodology

Q. Briefly describe the Company's incremental storage cost allocator methodology as filed in this case.

A. The Company used a recall of Mist underground storage capacity in 2015 as a basis for its incremental storage cost allocator. The Company used the investment cost associated with this recall event because it simulates a transaction-based valuation for procuring the Company's *incremental* underground storage capacity. I escalated the investment cost to Test Year dollars using the Handy-Whitman Index. The incremental storage investment cost is allocated to all sales firm and sales interruptible rate schedules based on the estimated design day load factor (Line 4). This result is found on Line 14.

Q. What is AWEC's proposal for the incremental storage cost allocator methodology as filed in this case?

A. AWEC argues that the Mist recall data are not contemporaneous and that the escalation is not adequate because underground storage costs are growing faster than index. AWEC recommends the Company commit to studying alternative allocators prior to its next rate case filing.

Q. What is the Company's response to AWEC's recommendation that the Company commit to studying its incremental storage cost allocator methodology prior to its next rate case filing?

A. The Company believes its methodology was appropriate for this filing because it was based on the best incremental investment cost data available. We have no reason to believe that the Handy-Whitman Index, an industry standard for cost escalation calculations, would not recognize and report appropriate inflation rates for storage plant costs. Further, AWEC provides no evidence that per-customer incremental underground storage investment costs are growing faster than the index used by the Company.

The Company notes that Staff's methodology, which is based on embedded underground storage plant costs, produces nearly identical results to the Company's methodology.[12] The Company is not opposed, however, to reviewing its incremental storage cost allocator methodology and the application of costs to interruptible rate schedules against the practices of its peers prior to its next rate case filing.

Q. Staff made other adjustments to and critiques of the Company's LRIC study, but did not make specific recommendations. Does the Company have a response to any other issues addressed by Staff?

A. Yes. Staff notes that the LRIC-indicated incremental mains extension investment is based on forecasted Test Year customer counts and costs, but the indicated

[12] For comparison, reference Staff Exhibit 1102/Compton, Lines 22 and 22a.

incremental core mains investment is based on present-day values. Staff escalates the indicated core mains cost by the Company's forecasted 4.5 percent customer growth rate through the Test Year in an effort to align the cost to the Test Year. The Company finds that this escalation is inappropriate. In its filed workpaper, UG 388 - Exh. 1100 – WP04 LRIC Mains and Services Costs, the Company developed the basis for its incremental system core mains investment costs. I inflated nominal year mains job cost data to Test Year dollars using the Handy-Whitman Index for distribution mains. Staff's adjustment, therefore, results in escalating system core mains costs that have already been escalated. Further, the Company takes exception to Staff's dispute with the Company's average length and cost-per-foot estimates of mains extensions within the customer groups and that, according to Staff, "refining those amounts within the time frame of a general rate case seemed most unlikely."[13] The Company explained in detail in its Opening Testimony how those values were produced using actual main extension jobs order data, which were provided in full in the filed workpaper, UG 388 - Exh. 1100 – WP04 LRIC Mains and Services Costs.[14] The Company also responded in detail to Staff's inquiry on this topic in discovery.[15] Staff had multiple months' opportunity to review the Company's testimony, workpaper, and data response and present its own analysis in this proceeding.

[13] Staff/1100, Compton/11; 5-9.
[14] NW Natural/1100, Wyman/22-24.
[15] NW Natural/2504, Wyman (NW Natural's Response to Staff DR 186).

Q. Staff and AWEC note that the Company's indicated LRIC study Target Revenue does not correspond to its calculated revenue requirement increase. Does the Company have a response to these observations?

A. Yes. Staff and AWEC observed a discrepancy between the Company's indicated Target Revenue and its calculated revenue requirement increase of less than 0.005 percent. The Company's originally proposed revenue requirement increase, as presented in NW Natural/1102, Wyman, is based on volumetric billing rates rounded to the fifth decimal as necessitated by the Company's tariffs. Therefore, this discrepancy is caused by rounding limitations.

Q. Has the Company provided an update to its originally filed LRIC study with this testimony?

A. Yes. Please refer to UG 388 Exh. 2500 – WP01 LRIC Study Model Update for the Company's updated LRIC study. This workpaper represents the post-filing corrected LRIC study previously submitted to the parties. The results of this workpaper are summarized in NW Natural/2501, Wyman.

Q. Please summarize the results of the Company's updated LRIC study.

A. Table 1 below shows the Relative Margin-to-Cost Ratio for the present firm sales rate schedules as indicated by the updated LRIC study. Overall, these results are largely consistent with the originally filed LRIC study as they indicate that RS 3 Commercial customers are not paying their cost of service at present rates while the remaining commercial and industrial rate schedules are paying more than their cost of service at present rates. RS 2 Residential remains roughly at the parity level, moving from slightly below 1.00 to just above. The updated ratios are expressed in the table with larger, highlighted text, while the original filed ratios are indicated just below with small text.

Table 1
Relative Margin-to-Cost Parity Ratio at Present Rates, by Rate Schedule

RATE SCHEDULE	02R	03C	03I	27R	31CSF	31CTF	31ISF	31ITF
LRIC Study Determined Parity Ratio	**1.01** 0.99	**0.77** 0.76	**1.84** 1.82	**1.08** 1.06	**1.74** 1.72	**1.83** 1.81	**1.82** 1.80	**2.04** 2.01
RATE SCHEDULE	32CSF	32ISF	32CTF	32ITF	32CSI	32ISI	32CTI 32ITI	33T
LRIC Study Determined Parity Ratio	**1.98** 1.96	**2.55** 2.53	**2.21** 2.18	**1.68** 1.66	**2.41** 2.38	**2.00** 1.98	**1.89** 1.87	**0.00** 0.00

Note: The top ratio indicates the updated value; the bottom ratio represents the original filed value.

IV. RATE SPREAD AND RATE DESIGN

Q. Please summarize the Company's rate spread position.

A. The Company affirms its original position to spread incremental revenue requirement such that costs will be more closely aligned to the indicated LRIC study results across all rate classes. This goal can be achieved even if each rate schedule is allocated a non-zero portion of the incremental revenue requirement. The Company's proposal equitably distributes the incremental revenue requirement such that the rate classes as a whole are moved closer to parity based on their indicated cost causation, without causing rate shock.

Q. Does the Company propose any changes to its original rate spread proposal?

A. No, the Company does not propose a change to its rate spread proposal at this time.

Q. Does the Company propose any changes to its original rate design proposal?

A. Yes. The Company proposes to increase the RS 27 Dry-Out base charge by $2.00, increasing the charge from $6.00 to $8.00, per Staff's recommendation. The Company also proposes to move the amount of revenue generated by increasing the RS 3 Commercial base charge $5.00 from that schedule's base charge to its volumetric rate.

Q. Which parties proposed an alternative to the Company's original rate spread proposal in their Opening Testimony?

A. Staff and AWEC proposed alternatives to the Company's original rate spread proposal.

Q. Please summarize Staff's rate spread proposal.

A. Staff recommends a non-zero rate increase for large RS 31 and 32 commercial and industrial schedules, as well as RS 3 Industrial, only on condition that the Company is awarded an overall margin increase that exceeds 10 percent.[16] Further, any margin increase for these schedules should be capped at 8.2 percent. Staff recommends a rate increase for RS 2 Residential that is 0.5 percent greater than equal percent of margin based on the Company's proposed incremental revenue requirement.

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[16] In discovery, Staff clarified that testimony describing the 10 percent *revenue requirement* increase, such as at Staff/1100 Compton/15: 17-18, as a test for whether to apply a non-zero rate increase to large commercial and industrial schedules, is meant instead to refer to a 10 percent *margin* increase.

Staff recommends a rate increase of greater than equal percent of margin for RS 3 Commercial, and a less than equal percent of margin increase for RS 27 Dry-Out.

Q. Please summarize AWEC's rate spread proposal.

A. AWEC proposes that a customer impact offset ("CIO") adjustment standard be applied to spread rates. AWEC proposes a rate spread using the CIO adjustment based on the Company's initial LRIC study, with a margin increase cap and floor. The cap is set such that no schedule receives a percent margin increase greater than 1.5 times the overall percent margin increase. The floor is set at zero percent and applies to any schedule overpaying its cost of service as indicated by the Company's LRIC study.

AWEC's proposal results in no rate increase for large RS 31 and 32 commercial and industrial schedules, as well as RS 3 Industrial. RS 2 Residential and RS 3 Commercial both receive a greater than equal percent of margin rate increase, and RS 27 Dry-Out receives a less than equal percent of margin increase.

Q. Which parties proposed an alternative to the Company's original rate design proposal in their Opening Testimony?

A. Staff proposed changes to the Company's proposed base charges.

Q. Please summarize Staff's rate design proposal.

A. Staff proposed to reduce the Company's proposed $5.00 increase of the RS 3 Commercial base charge to $3.00. The new base charge would be $18.00 under this proposal. Staff also proposed to increase the RS 27 Dry-Out base charge by $2.00 from $6.00 to $8.00.

Q. What is the Company's response to Staff's and AWEC's rate spread proposals?

A. The Company's disagrees with AWEC's position that "NW Natural's proposal however does not address the significant subsidies that are embedded in NW Natural's rates because it would move above parity rate schedules further away from parity."[17] The Company does in fact respond to the subsidies shown in the LRIC study results. For any schedule with a Relative Margin-to-Cost Ratio above the parity value of 1.00, determined to be the RS 31 and RS 32 rate classes plus RS 3 Industrial, a rate increase of *less* than equal percent of margin moves it closer to unity. The converse is true for schedules with a parity ratio below 1.00. An equal percent of margin rate increase retains a schedule's Relative Margin-to-Cost Ratio.

Table 2 below compares the Relative Margin-to-Cost Ratio for each rate schedule at current rates versus the results at proposed rates. This table demonstrates that the Company's proposal does in fact respond to the LRIC study results. For each rate schedule, the bottom figures are the corrected LRIC study Relative Margin-to-Cost ratios while the top figures would be the results after applying the Company's proposed rate spread. The blue highlighted figures indicate those schedules that would move incrementally closer to a unity parity

[17] AWEC/100 Mullins/9: 18-20.

ratio of 1.00. RS 2 Residential and RS 27 Dry-Out, which are already near unity, would retain the same ratio due to the proposed equal percent of margin rate spread.

Table 2
Relative Margin-to-Cost Parity Ratio at Present and Proposed Rates, by Rate Schedule

RATE SCHEDULE	02R	03C	03I	27R	31CSF	31CTF	31ISF	31ITF
LRIC Study Determined Parity Ratio	**1.01** 1.01	0.80 0.77	1.72 1.84	**1.08** 1.08	1.62 1.74	1.71 1.83	1.70 1.82	1.90 2.04
RATE SCHEDULE	32CSF	32ISF	32CTF	32ITF	32CSI	32ISI	32CTI 32ITI	33T
LRIC Study Determined Parity Ratio	1.85 1.98	2.38 2.55	2.06 2.21	1.57 1.68	2.25 2.41	1.86 2.00	1.76 1.89	**0.00** 0.00

Note: For each rate schedule, the top ratio indicates the Relative-Margin-to-Cost at the proposed rates while the bottom represents present rates. The blue highlights indicate rate schedules whose ratios would move closer to unity under the Company's proposed rate spread.

While AWEC's proposal also moves all schedules closer to unity, it focuses too heavily on the cost study results while sacrificing other principles of ratemaking meant to balance rate equity against the impacts of rate shock and volatility for the benefit of all the Company's customers. For instance, after applying the cap to RS 3 Commercial, AWEC's proposed rate floor causes roughly 35.8 percent of its revenue requirement increment to be shifted to just two rate schedules: RS 2 Residential and RS 27 Dry-Out.[18] Further, we note that the Company's rate spread proposal more than achieves AWEC's standard set by its rate increase cap such that no schedule receives a percent margin

[18] *See*: Exh. AWEC/103. The tab, "AWEC 103 (2)," shows a reallocation of $16.6 million of $46.5 million caused solely by the application of AWEC's floor.

increase greater than 1.5 times the overall percent margin increase by limiting this gap to under 1.3 times.

An incremental step toward schedule parity across rate cases would more appropriately align with these principles compared to a large leap in a single case. AWEC has argued, as recently as the Company's last Oregon rate case, that such an incremental approach is appropriate "so as not to create undue increased stress on any particular rate class." [19] As an alternative to an across-the-board equal percent of margin rate increase, AWEC recommended "a gradual movement to cost of service in order to produce more rate equity across the various rate classes."[20]

The Company also opposes Staff's 10 percent margin increase condition as a test for allocating incremental revenue requirement to the large commercial and industrial rate schedules. We feel that the Company's ability to smooth rate shock and incrementally move towards parity should not be subject to arbitrarily-determined tests.

Both Staff and AWEC have proposed a greater than equal percent of margin rate increase for RS 2 Residential. Given that the LRIC study indicates this schedule pays essentially its parity cost to serve, the Company affirms its recommendation to increase this schedule at an equal percent of margin.

Finally, Staff and AWEC have proposed a less than equal percent of margin rate increase for RS 27 Dry-Out. The Company also affirms its

[19] UG 344 AWEC/100 Gorman/2: 13-14.
[20] *Ibid*, at 11-12.

recommendation to increase this schedule at an equal percent of margin using the same reasoning as its RS 2 Residential proposal.

Q. What is the Company's response to Staff's rate design proposal?

A. The Company agrees with Staff that it would be appropriate to increase the base charge on RS 27 Dry-Out from $6.00 to $8.00 to align fixed cost recovery with that of RS 2 Residential.

While the Company's initial base charge proposal for RS 3 Commercial was justified given the LRIC study indicated these customers have the lowest Relative Margin-to-Cost Ratio at the Company's current rates, the Company understands Staff's position that the Commission's policy has preferred volumetric-based rates over fixed charges in the interest of promoting energy conservation.[21] Upon further consideration , the Company proposes to shift its proposed $5.00 base charge increase fully to the volumetric rate such that customers in this schedule can choose to realize cost savings by reducing usage.

Q. Please summarize the Company's proposed rate spread methodology.

A. NW Natural continues to propose a three-step process for spreading the $63.3 million incremental revenue requirement proposed in NW Natural/2400, Walker:

1. Calculate the revenue spread on an equal percent of margin basis for all rate schedules. Retain this revenue allocation for the RS 2 Residential, RS 3 Commercial, and RS 27 Dry-Out rate schedules.

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[21] Staff/1100 Compton/20: 8-10.

2. Add an additional $3.6 million in revenue spread to the RS 3 Commercial rate schedule amount calculated in Step 1. This is the amount of revenue that would be generated if the RS 3 Commercial base charge were increased by $5.00.
3. Reduce the revenue spread allocated to the RS 3 Industrial rate schedule and the RS 31 and RS 32 rate classes in Step 1 by $3.6 million on an equal percent of margin basis.

Q. Please summarize the Company's new rate design proposal.

A. The Company proposes to move the amount of revenue generated by increasing the RS 3 Commercial base charge by $5.00 from that schedule's base charge to its volumetric rate. The Company also proposes to increase the RS 27 Dry-Out base charge from $6.00 to $8.00.

Q. What is the rate impact of the Company's proposal to firm sales customers?

A. Table 3 below shows the incremental revenue requirement and average bill increase for firm sales customers, based on the Company's updated proposed $63.3 million incremental revenue requirement, as shown in NW Natural/2400, Walker.

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Table 3
Incremental Revenue Requirement and Average Bill Increase, Firm Sales Customers Only

Rate Schedule	Revenue Req. Increase	Pct. of Revenue Req. Increase[1]	Pct. Increase to Avg. Cust. Bill[2]
02R	$ 42,630,974	67.3%	10.6%
03C	$ 16,624,244	26.2%	11.6%
03I	$ 170,546	0.3%	4.3%
27R	$ 106,723	0.2%	9.6%
31C Firm Sales	$ 690,132	1.1%	5.3%
31I Firm Sales	$ 266,478	0.4%	4.2%
32C Firm Sales	$ 926,204	1.5%	4.7%
32I Firm Sales	$ 204,749	0.3%	3.3%

1: The proposed incremental revenue requirement allocated to firm sales schedules accounts for 97.3% of the overall increase.
2: The average customer bill impact figure calculation excludes pipeline capacity charges for RS 31 and RS 32 rate classes, and thus the rate impacts for these schedules are overstated.

Q. Does your testimony present the rate and bill impacts associated with this proposal for all rate schedules?

A. Yes. NW Natural/2502, Wyman shows the revenue increases and average bill impacts by rate schedule, and NW Natural/2503, Wyman contains the volumetric rate increases by rate schedule and block.

Q. Does this conclude your Reply Testimony?

A. Yes.

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Robert J. Wyman

CUSTOMER AND VOLUME FORECAST, LONG RUN INCREMENTAL COSTS, AND RATE SPREAD

EXHIBIT 2501

May 29, 2020

NW Natural
Oregon Jurisdictional Rate Case
Test Year Twelve Months Ended October 31, 2021
Long-Run Incremental Cost Study
Summary of Results

Source: UG 388 - Exh 2500 - WP01 LRIC Study Model Update

= Indicates input cells that have been modified.

Note: The LRIC Target Increase (Line 29) is based on the Company's initial UG 388 revenue requirement.

Line No.			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	CUSTOMER CLASS		Residential	Commercial	Industrial	Commercial	Commercial	Commercial	Industrial	Industrial	Commercial	Industrial	Commercial	Industrial	Commercial	Industrial			
	SERVICE TYPE		Sales	Sales	Sales	Sales	Sales	Transportation	Sales	Transportation	Sales	Sales	Transportation	Transportation	Sales	Sales	Transportation	Transportation	
			Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Firm	Interruptible	Interruptible	Interruptible		Special
	RATE SCHEDULE		02	03CSF	03ISF	27R	31CSF	31CTF	31ISF	31ITF	32CSF	32ISF	32CTF	32ITF	32CSI	32ISI	32CTI / 32ITI	33T	Contracts
	STATISTICS	Totals																	
1	2021 TY ANNUAL THERM DELIVERIES	1,016,530,246	397,528,668	173,857,392	5,083,337	1,267,136	22,839,728	3,157,897	12,897,578	518,703	44,951,403	15,952,158	7,875,844	89,036,191	20,355,295	26,395,950	194,812,966	-	75,323,584
2	2021 TY AVG CUSTOMERS - END OF PERIOD	687,722	623,209	59,995	350	2,299	676	59	206	5	526	66	33	106	49	59	84	-	8
3	AVERAGE ANNUAL THERM DELIVERIES PER CUSTOMER	1,478	638	2,898	14,524	551	33,787	53,524	62,610	103,741	85,459	241,699	238,662	839,964	415,414	447,389	2,319,202	-	9 415,448
4	ESTIMATED DESIGN DAY LOAD FACTOR	27.8%	20.9%	22.7%	21.4%	18.4%	24.4%	36.8%	35.9%	44.1%	27.4%	53.4%	41.0%	51.8%	44.8%	42.2%	59.7%	51.8%	
	4a Average Firm Daily Deliveries	2,123,195	1,089,120	476,322	13,927	3,472	62,575	8,652	35,336	1,421	123,155	43,705	21,578	243,935	-	-	-	-	
	4b Peak Firm Day Deliveries	8,834,993	5,217,751	2,098,024	64,961	18,855	256,379	23,534	98,312	3,224	448,752	81,862	52,677	470,661	-	-	-	-	
	4c System Firm Load Factor	24.0%																	
5	Demand Charges	$72,053,303	$42,126,113	$18,423,667	$538,681	$134,278	$2,420,326	$0	$1,366,758	$0	$4,763,499	$1,690,451	$0	$0	$256,680	$332,850	$0	$0	$0
6	Cost of Gas	$163,270,739	$90,004,466	$39,363,052	$1,150,917	$286,893	$5,171,142	$0	$2,920,141	$0	$10,177,447	$3,611,728	$0	$0	$4,608,643	$5,976,310	$0	$0	$0
7	Total Cost of Gas	$235,324,042	$132,130,579	$57,786,719	$1,689,598	$421,171	$7,591,468	$0	$4,286,899	$0	$14,940,946	$5,302,179	$0	$0	$4,865,323	$6,309,160	$0	$0	$0
8	Account Services (Meter Reading, Billing, etc.)	$28,506,817	$23,142,068	$2,776,956	$16,200	$106,413	$616,236	$194,043	$187,788	$16,444	$479,497	$60,165	$108,532	$348,619	$80,574	$97,017	$276,264	$0	$26 311
	Customer Capital Investment LRIC Costs																		
9	Meter & Regulators	$35,491,962	$27,545,764	$6,006,160	$173,414	$100,164	$437,127	$35,941	$172,651	$3,517	$525,239	$88,485	$34,213	$109,898	$67,020	$75,451	$116,918	$0	$11 135
10	Services	$225,069,642	$189,088,442	$32,950,253	$444,453	$290,324	$703,469	$71,970	$244,896	$5,533	$613,343	$85,309	$40,170	$197,346	$41,165	$90,692	$202,276	$0	$19,264
11	Main Extensions	$275,897,718	$170,782,543	$97,463,314	$605,026	$262,602	$1,968,484	$113,287	$721,146	$17,504	$1,572,351	$162,676	$71,512	$798,507	$106,185	$361,634	$890,947	$0	$84 852
12	System Core Mains -- Total Throughput Allocation	$15,735,192	$6,153,471	$2,691,193	$78,687	$19,614	$353,543	$48,882	$199,646	$8,029	$695,817	$246,928	$121,913	$1,378,219	$315,086	$408,591	$3,015,571	$0	$0
13	System Core Mains -- Firm Demand Allocation	$40,909,580	$24,160,288	$9,714,698	$300,797	$87,307	$1,187,140	$108,973	$455,225	$14,926	$2,077,901	$379,056	$243,916	$2,179,352	$0	$0	$0	$0	$0
14	Storage Costs	$6,216,184	$3,780,249	$1,519,737	$47,054	$13,654	$185,706	$0	$71,215	$0	$325,030	$59,288	$0	$0	$90,147	$124,103	$0	$0	$250,347
15	Total Customer Capital Investment Costs	$599,320,277	$421,510,758	$150,345,355	$1,649,430	$773,665	$4,835,469	$379,054	$1,864,779	$49,509	$5,809,681	$1,021,742	$511,724	$4,663,322	$619,603	$1,060,471	$4,225,713	$0	$365,599
16	Total System Reinforcement Cost	$1,968,596	$1,162,690	$467,440	$14,473	$4,199	$57,119	$5,243	$21,903	$718	$99,977	$18,238	$11,736	$104,858	$0	$0	$0	$0	$0
17	Long Run Incremental Distribution Cost	$865,119,731	$577,946,095	$211,376,470	$3,369,701	$1,305,448	$13,100,292	$578,340	$6,361,369	$66,672	$21,330,101	$6,402,324	$631,993	$5,116,799	$5,565,500	$7,466,649	$4,501,977	$0	$391 909
	Proposed Cost by Functional Classification																		
18	Cost of Gas Commodity	$237,009,905	$133,077,163	$58,200,703	$1,701,702	$424,188	$7,645,853	$0	$4,317,610	$0	$15,047,983	$5,340,164	$0	$0	$4,900,178	$6,354,359	$0	$0	$0
19	Account Services (Meter Reading, Billing, etc.) Costs	$58,284,465	$47,315,808	$5,677,709	$33,123	$217,569	$1,259,943	$396,736	$383,947	$33,622	$980,370	$123,012	$221,903	$712,780	$164,739	$198,360	$564,844	$0	$91 277
20	Meters & Services Costs	$73,683,913	$61,261,736	$11,016,439	$174,726	$110,426	$322,548	$30,516	$118,078	$2,559	$321,978	$49,147	$21,035	$86,885	$30,594	$46,983	$90,265	$0	$14,587
21	Core Main Costs	$296,069,135	$179,040,003	$97,818,719	$876,528	$328,994	$3,124,281	$241,403	$1,225,095	$36,022	$3,869,391	$702,160	$389,373	$3,878,302	$375,066	$685,747	$3,478,050	$0	$153 406
22	Storage Costs	$21,976,854	$13,364,789	$5,372,917	$166,356	$48,272	$656,550	$0	$251,777	$0	$1,149,119	$209,609	$0	$0	$318,707	$438,756	$0	$0	$1 501,780
23	Proposed Cost	$687,024,272	$434,059,499	$178,086,488	$2,952,435	$1,129,449	$13,009,176	$668,655	$6,296,507	$72,203	$21,368,842	$6,424,092	$632,311	$4,677,967	$5,789,284	$7,724,205	$4,133,159	$0	$1,761 050
24	**LRIC Based Target Margin**	**$450,014,367**	**$300,982,336**	**$119,885,785**	**$1,250,733**	**$705,261**	**$5,363,322**	**$668,655**	**$1,978,897**	**$72,203**	**$6,320,859**	**$1,083,928**	**$632,311**	**$4,677,967**	**$889,106**	**$1,369,847**	**$4,133,159**	**$0**	**$1 761,050**
25	Revenue at Current Rates	$615,577,699	$387,849,293	$136,039,202	$3,641,877	$1,062,016	$15,498,214	$1,031,425	$7,349,319	$123,711	$25,583,035	$7,669,614	$1,174,671	$6,628,135	$6,703,773	$8,657,206	$6,566,209	$0	$1,761,050
26	**Margin Revenue at Current Rates**	**$378,567,792**	**$254,772,129**	**$77,838,498**	**$1,940,175**	**$637,828**	**$7,852,361**	**$1,031,425**	**$3,031,708**	**$123,711**	**$10,535,052**	**$2,329,451**	**$1,174,671**	**$6,628,135**	**$1,803,595**	**$2,302,847**	**$6,566,209**	**$0**	**$1,761,050**
27	Current Revenue to Proposed Cost (Includes Cost of Gas)	**0.90**	**0.89**	**0.76**	**1.23**	**0.94**	**1.19**	**1.54**	**1.17**	**1.71**	**1.20**	**1.19**	**1.86**	**1.42**	**1.16**	**1.12**	**1.59**	-	-
28	Current Margin Revenue to LRIC Based Target Margin	**0.84**	**0.85**	**0.65**	**1.55**	**0.90**	**1.46**	**1.54**	**1.53**	**1.71**	**1.67**	**2.15**	**1.86**	**1.42**	**2.03**	**1.68**	**1.59**	-	-
	28a **Relative Margin to Cost Ratio at Present Rates**	**1.00**	**1.01**	**0.77**	**1.84**	**1.08**	**1.74**	**1.83**	**1.82**	**2.04**	**1.98**	**2.55**	**2.21**	**1.68**	**2.41**	**2.00**	**1.89**	-	-
29	Component LRIC Target Increase by Schedule	$71,446,575	$46,210,207	$42,047,287	($689,442)	$67,433	($2,489,039)	($362,769)	($1,052,812)	($51,509)	($4,214,193)	($1,245,522)	($542,359)	($1,950,169)	($914,489)	($933,000)	($2,433,050)	$0	$0
30	Target Increase as Percent of Total Present Revenue	11.61%	11.91%	30.91%	-18.93%	6.35%	-16.06%	-35.17%	-14.33%	-41.64%	-16.47%	-16.24%	-46.17%	-29.42%	-13.64%	-10.78%	-37.05%	0.00%	0.00%
	30a Target Increase as Percent of Present Margin Revenue	18.87%	18.14%	54.02%	-35.54%	10.57%	-31.70%	-35.17%	-34.73%	-41.64%	-40.00%	-53.47%	-46.17%	-29.42%	-50.70%	-40.52%	-37.05%	0.00%	0.00%

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Robert J. Wyman

CUSTOMER AND VOLUME FORECAST,
LONG RUN INCREMENTAL COSTS,
AND RATE SPREAD

EXHIBIT 2502

May 29, 2020

NW Natural
Oregon Jurisdictional Rate Case
Test Year Twelve Months Ended October 31, 2021
Long-Run Incremental Cost Study
Proposed Incremental Revenue Requirement Allocation by Rate Schedule Summary

Source: UG 388 - Exh 2500 - WP02 Rate Spread Proposal Proof Update

Line No.	Rate Schedule	Margin Revenue at Present Rates A	Total Revenue at Present Rates B	Proposed Margin Revenue Increase C	Margin Revenue at Proposed Rates D = A+C	Total Revenue at Proposed Rates E = B+C	Margin Revenue Percentage Increase	Total Revenue Percentage Increase	Average Bill Percentage Increase
1	02	$ 254,772,129	$ 390,706,141	$ 42,630,974	$ 297,403,103	$ 433,337,116	16.73%	10.91%	10.60%
2	03CSF	$ 77,838,498	$ 137,288,632	$ 16,624,244	$ 94,462,742	$ 153,912,875	21.36%	12.11%	11.60%
3	03ISF	$ 1,940,175	$ 3,678,408	$ 170,546	$ 2,110,721	$ 3,848,954	8.79%	4.64%	4.30%
4	27R	$ 637,828	$ 1,071,122	$ 106,723	$ 744,551	$ 1,177,845	16.73%	9.96%	9.60%
5	31CSF	$ 7,852,361	$ 15,662,353	$ 690,132	$ 8,542,493	$ 16,352,485	8.79%	4.41%	5.30%
6	31CTF	$ 1,031,425	$ 1,031,425	$ 90,660	$ 1,122,084	$ 1,122,084	8.79%	8.79%	10.80%
7	31ISF	$ 3,031,708	$ 7,442,007	$ 266,478	$ 3,298,187	$ 7,708,486	8.79%	3.58%	4.20%
8	31ITF	$ 123,711	$ 123,711	$ 10,875	$ 134,587	$ 134,587	8.79%	8.79%	10.10%
9	32CSF	$ 10,535,052	$ 25,906,079	$ 926,204	$ 11,461,255	$ 26,832,283	8.79%	3.58%	4.70%
10	32ISF	$ 2,329,451	$ 7,784,255	$ 204,749	$ 2,534,200	$ 7,989,004	8.79%	2.63%	3.30%
11	32CTF	$ 1,174,671	$ 1,174,671	$ 103,232	$ 1,277,902	$ 1,277,902	8.79%	8.79%	11.40%
12	32ITF	$ 6,628,135	$ 6,628,135	$ 582,627	$ 7,210,762	$ 7,210,762	8.79%	8.79%	10.90%
13	32CSI	$ 1,803,595	$ 6,808,968	$ 158,543	$ 1,962,137	$ 6,967,510	8.79%	2.33%	2.20%
14	32ISI	$ 2,302,847	$ 8,793,619	$ 202,491	$ 2,505,338	$ 8,996,109	8.79%	2.30%	2.10%
15	32CTI / 32ITI	$ 6,566,209	$ 6,566,209	$ 577,790	$ 7,143,999	$ 7,143,999	8.80%	8.80%	9.40%
16	33T	$ -	$ -	$ -	$ -	$ -	0.00%	0.00%	0.00%
	Total	$ 378,567,792	$ 620,665,735	$ 63,346,267 (A)	$ 441,914,060	$ 684,012,002	16.73%	10.21%	

NOTE: **(A)** The proposed margin revenue increase is based on volumetric billing rates rounded to the fifth decimal as necessitated by the Company's tariff. Therefore, there may be a small discrepancy with the indicated Target Revenue presented in the Company's LRIC study.

NOTE: The average customer bill percentage impact figure calculation excludes pipeline capacity charges for RS 31 and RS 32 rate classes, and thus the bill rate impacts for these schedules are overstated.

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Robert J. Wyman

CUSTOMER AND VOLUME FORECAST, LONG RUN INCREMENTAL COSTS, AND RATE SPREAD

EXHIBIT 2503

May 29, 2020

NW Natural
Oregon Jurisdictional Rate Case
Test Year Twelve Months Ended October 31, 2021
Long-Run Incremental Cost Study
Proposed Base Charges and Base Rates by Rate Schedule and Block

Source: UG 388 - Exh 2500 - WP02 Rate Spread Proposal Proof Update

							UG 388		UG 388		UG 388	UG 388
Line No.	Schedule	Block	Block Volumes	Test Year Volumes	Test Year Customers	Current Rates: Margin Revenue	Proposed: Revenue Increase	Current Monthly Base Charge	Proposed Monthly Base Charge	Current Rates: Base Rate	Proposed Increase: Base Rates	Proposed Base Rates
1	2R		N/A	397,528,668	623,209	$254,772,129	$42,630,974	$ 8.00	$ 8.00	$0.49039	$0.10724	$0.59763
2	3C Firm Sales		N/A	173,857,392	59,995	$77,838,498	$16,624,244	$ 15.00	$ 15.00	$0.38560	$0.09562	$0.48122
3	3I Firm Sales		N/A	5,083,337	350	$1,940,175	$170,546	$ 15.00	$ 15.00	$0.36928	$0.03355	$0.40283
4	27 Dry Out		N/A	1,267,136	2,299	$637,828	$106,723	$ 6.00	$ 8.00	$0.37273	$0.04068	$0.41341
5	31C Firm Sales	Block 1	2,000	12,134,053	676	$7,852,361	$690,132	$ 325.00	$ 325.00	$0.23815	$0.03151	$0.26966
6		Block 2	all additional	10,705,676						$0.21729	$0.02875	$0.24604
7	31C Firm Trans	Block 1	2,000	1,237,478	59	$1,031,425	$90,660	$ 575.00	$ 575.00	$0.20857	$0.03029	$0.23886
8		Block 2	all additional	1,920,419						$0.19070	$0.02769	$0.21839
9	31I Firm Sales	Block 1	2,000	4,148,074	206	$3,031,708	$266,478	$ 325.00	$ 325.00	$0.18515	$0.02214	$0.20729
10		Block 2	all additional	8,749,504						$0.16690	$0.01996	$0.18686
11	31I Firm Trans	Block 1	2,000	118,697	5	$123,711	$10,875	$ 575.00	$ 575.00	$0.18577	$0.02264	$0.20841
12		Block 2	all additional	400,006						$0.16790	$0.02047	$0.18837
13	32C Firm Sales	Block 1	10,000	33,364,119	526	$10,535,052	$926,204	$ 675.00	$ 675.00	$0.11429	$0.02170	$0.13599
14		Block 2	20,000	9,992,148						$0.09648	$0.01832	$0.11480
15		Block 3	20,000	1,397,941						$0.06688	$0.01270	$0.07958
16		Block 4	100,000	197,195						$0.03721	$0.00706	$0.04427
17		Block 5	600,000	-						$0.01588	$0.00301	$0.01889
18		Block 6	all additional	-						$0.00577	$0.00110	$0.00687
19	32I Firm Sales	Block 1	10,000	6,000,723	66	$2,329,451	$204,749	$ 675.00	$ 675.00	$0.10799	$0.01578	$0.12377
20		Block 2	20,000	6,072,266						$0.09116	$0.01332	$0.10448
21		Block 3	20,000	2,271,665						$0.06307	$0.00922	$0.07229
22		Block 4	100,000	1,607,504						$0.03503	$0.00512	$0.04015
23		Block 5	600,000	-						$0.01550	$0.00227	$0.01777
24		Block 6	all additional	-						$0.00565	$0.00083	$0.00648
25	32C Firm Trans	Block 1	10,000	3,279,561	33	$1,174,671	$103,232	$ 925.00	$ 925.00	$0.10964	$0.01586	$0.12550
26		Block 2	20,000	2,720,836						$0.09317	$0.01348	$0.10665
27		Block 3	20,000	1,048,244						$0.06579	$0.00952	$0.07531
28		Block 4	100,000	814,825						$0.03839	$0.00555	$0.04394
29		Block 5	600,000	12,377						$0.02191	$0.00317	$0.02508
30		Block 6	all additional	-						$0.01099	$0.00159	$0.01258
31	32I Firm Trans	Block 1	10,000	10,055,646	106	$6,628,135	$582,627	$ 925.00	$ 925.00	$0.10964	$0.01362	$0.12326
32		Block 2	20,000	15,265,458						$0.09317	$0.01158	$0.10475
33		Block 3	20,000	10,449,168						$0.06579	$0.00817	$0.07396
34		Block 4	100,000	22,599,870						$0.03839	$0.00477	$0.04316
35		Block 5	600,000	24,971,483						$0.02191	$0.00272	$0.02463
36		Block 6	all additional	5,694,567						$0.01099	$0.00137	$0.01236
37	32C Interr Sales	Block 1	10,000	4,466,990	49	$1,803,595	$158,543	$ 675.00	$ 675.00	$0.10896	$0.01228	$0.12124
38		Block 2	20,000	5,267,214						$0.09199	$0.01037	$0.10236
39		Block 3	20,000	3,055,988						$0.06367	$0.00718	$0.07085
40		Block 4	100,000	6,002,700						$0.03535	$0.00398	$0.03933
41		Block 5	600,000	1,562,403						$0.01835	$0.00207	$0.02042
42		Block 6	all additional	-						$0.00593	$0.00067	$0.00660
43	32I Interr Sales	Block 1	10,000	5,945,061	59	$2,302,847	$202,491	$ 675.00	$ 675.00	$0.10860	$0.01205	$0.12065
44		Block 2	20,000	7,316,869						$0.09168	$0.01017	$0.10185
45		Block 3	20,000	3,444,126						$0.06345	$0.00704	$0.07049
46		Block 4	100,000	6,661,250						$0.03522	$0.00391	$0.03913
47		Block 5	600,000	3,028,643						$0.01828	$0.00203	$0.02031
48		Block 6	all additional	-						$0.00589	$0.00065	$0.00654
49	32C Interr Trans	Block 1	10,000	7,321,550	84	$6,566,209	$577,790	$ 925.00	$ 925.00	$0.10762	$0.01103	$0.11865
50	32I Interr Trans	Block 2	20,000	12,197,978						$0.09148	$0.00937	$0.10085
51		Block 3	20,000	8,859,459						$0.06459	$0.00662	$0.07121
52		Block 4	100,000	27,792,967						$0.03767	$0.00386	$0.04153
53		Block 5	600,000	57,196,530						$0.02154	$0.00221	$0.02375
54		Block 6	all additional	81,444,481						$0.01079	$0.00111	$0.01190
55	33		N/A	-	-	$0	$0	$ 38,000.00	$ 38,000.00	$0.00574	$0.00000	$0.00574

Totals		1,016,530,246	687,722	$378,567,792	$63,346,267

BEFORE THE

PUBLIC UTILITY COMMISSION OF OREGON

UG 388

NW Natural

Reply Testimony of Robert J. Wyman

CUSTOMER AND VOLUME FORECAST, LONG RUN INCREMENTAL COSTS, AND RATE SPREAD

EXHIBIT 2504

May 29, 2020

Rates & Regulatory Affairs
UG 388
2020 OR General Rate Revision
Data Request Response

Request No.: UG 388 OPUC DR 186

186. The "Inc.Investment" Tab of Work-papers "Exh 1100 – WP12 LRIC Study Model" shows average main extension feet per customer (line 8) and average cost per foot (line 10). Please provide an intuitive/engineering rationale behind the following seeming anomalies: $10 cost per foot for 27R compared to nothing less the $33 per foot elsewhere; $50/ft. versus $33/ft. for 31CSF and 31CTF; the range of $37/ft. to $158/ft. for 32CTF through 33T.

Response:

The main extension Test Year costs for all rate schedules were developed in the "Mains Summary" tab of the file, *UG 388 - Exh 1100 - WP04 LRIC Mains and Services Costs.xlsx*. For rate schedule ("RS") 2 Residential and 27 Residential Dry-Out, mains costs were developed using an equal weight of a forecast developed by the Company's Business Analytics team using data from the Company's Marketing and Engineering teams, and a five-year median of actual project costs. For all other schedules, the mains costs were additionally weighted based on pipe size and type.

Main extensions associated with RS 27 Residential Dry-Out are completely attributable to new residential construction, as compared to conversions. The costs associated with this type of construction are the lowest for all rate schedules for several reasons: For new residential developments, natural gas mains are generally laid in open trenches with other utility equipment; therefore, shared cost efficiencies exist with other utilities. Some developers will prep their sites for utility installations. Working with pre-prepped trenches is less costly relative to ground excavation, which is often required of conversion projects. Excavation requires cutting into pavement, heavy equipment, utility locates, and (in general) higher traffic management costs, permitting fees, and repaving. Conversion projects can also be complicated by rocky soils and uneven grades, as well as costs associated with easement acquisitions and environmental mitigation.

New construction projects also benefit from economies of scale. RS 27 Residential Dry-Out mains can be extended to simultaneously connect multiple services (e.g., within a newly developed neighborhood), as opposed to RS 2 Residential conversion projects which are generally extended for individual services.[1]

NW Natural/1100 Wyman Page 21 Line 8 through *Page 24 Line 4* explains that, for the commercial and industrial rate schedules, main extensions costs were developed using forecasts as well as actual project data pulled from the Company's Geographic Information System ("GIS") database. Actual data were used to help account for the types of projects historically associated with the Company's rate schedules. This is important because, as the Company has observed, mains extension costs can vary by pipe size and type. While this factor varies little with the residential rate schedules, it can vary greatly among the commercial and industrial rate schedules.

In general, it costs more to install mains of greater than four inches because the construction process requires more excavation, in terms of both width and depth. Further, pipe material can greatly determine project costs as the raw material cost of polyethylene ("poly") pipe is cheaper than steel pipe.[2] Pipe material also determines installation cost. Poly pipe arrives in spools of 500 feet and is easily joined with other piping, whereas steel pipe is joined by welding. Steel pipe comes in non-standard lengths averaging 42 feet; it requires advanced equipment and a higher level of sophistication and craft to install.

RS 31CSF is assigned a higher cost per foot because the study found that customers on this schedule are more likely to be connected to mains that are greater than four inches and are made from steel relative to RS 31CTF customers. The same principle for calculating costs applies for RS 32CTF through RS 33T.

[1] In 2018, for instance, 5.5% of residential conversion main extension projects connected greater than one service, compared to 47.9% of new construction residential main extension projects that connected greater than one service.
[2] As of February 2020, the NW Natural Purchasing Department reports that the cost of four-inch poly pipe is $2.99 per foot, whereas the cost of four-inch green coated steel pipe (the most likely type of steel pipe to be used for high pressure mains) is $13.96 per foot. Raw materials costs also vary based on pipe diameter as per foot costs for two-inch poly and coated steel pipe are currently $0.84 and $10.80, respectively.