CASE: UG 435
WITNESS: MATT MULDOON

PUBLIC UTILITY COMMISSION
OF
OREGON

STAFF EXHIBIT 1800
REDACTED

All Confidential and Highly Confidential Material Is Redacted

Rebuttal Testimony:
Public Comments Received,
Renewable Natural Gas, Hydrogen, and
Residential Line Extensions

June 30, 2022

Q. Please state your name, occupation, and business address.

A. My name is Matt Muldoon. My position is Manager of Energy Rates and Finance of the Rates Finance and Audit (RFA) Division of the Public Utility Commission of Oregon (OPUC). My business address is 201 High Street SE, Suite 100, Salem, Oregon 97301.

Q. Have you previously provided testimony in this case?

A. Yes. Please see Exhibits Staff/100, and Staff/1700 for my opening testimony.

Q. What is the purpose of your testimony?

A. I address remaining issues in this general rate case:

First, I summarize public comments received by the Commission.

I then consider cost recovery and rate spread for the Lexington Renewable Gas (RNG) Project and associated intervenor testimony in Exhibits AWEC/100, Coalition/100, and CUB 200. In addition, I examine the Company's proposed Automatic Adjustment Clause (AAC) mechanism for RNG and NW Natural's proposed upgrade to Schedule 198, which intervenors also spoke to in Exhibits AWEC/100, and CUB/200. NW Natural replied to intervenor's concerns and suggestions regarding the Lexington RNG project in Exhibits NWN/2100 Chittum, and NWN/2300 Walker; and regarding an RNG AAC in Exhibit NWN/1600.

Finally, I address residential line extension policy, earlier discussed in Exhibits CUB/100, Coalition/100, and Coalition/200; to which NW Natural responded in Exhibit NWN/1800.

Q. Did you prepare any supporting exhibit for this docket?

A. Yes. I prepared Exhibit Staff/1801, containing an article highlighting some of the challenges even a very large company supported with federal loan guarantees can face in participating in a green hydrogen renewable energy mega-hub.

Q. Will other Staff witnesses submit testimony regarding the issues they reviewed?

A. No. Staff provides just this 1800 series Rebuttal Testimony.

Q. How is your testimony organized?

A. My testimony is organized as follows:

ISSUE 1. SUMMARY OF PUBLIC COMMENTS RECEIVED

Q. Please summarize the public comments received to date in this rate case.

A. This case has produced a very large number of public comments. In its Opening Testimony, Staff reviewed 951 public comments (hereinafter referred to as "Comments") received up to April 10, 2022. Since then, the Commission has received an additional 76 Comments giving us the cumulative totals for the docket shown below through June 22, 2022:

For Increase	Against Increase	Form Comments	Request Additional PM's	Total Comments as of 4/10/2022
0%	100%	828	199	1027

Docket No. UG 435's public comments reflect passionate opposition to a rate increase from NW Natural. This increase request as noticed includes an 11 percent rate increase for residential customers. 100 percent of the comments are in opposition to the rate increase, and range in intensity. The Commission received comments from non-profit organizations including:

1. Sierra Club;
2. Northwest Environmental Defense Center;
3. Metro Climate Action;
4. Oregon Physicians for Social Responsibility, and
5. Benefit Corporations for Good.

The major themes of the comments are:

1. Climate change is a huge issue for Oregon and the world, and investing in natural gas and fossil fuel infrastructure is a bad investment. The money should be used instead to switch to renewable energy sources;
2. Ratepayers should not have to pay for executive salary increases and

bonuses. NW Natural has excellent profits, and the executives make huge salaries. Ratepayers are struggling financially due to the state of the world, inflation, and the COVID-19 pandemic and should not have to pay for these increases;

3. Rate increases will disproportionately impact vulnerable communities including senior citizens on fixed incomes, people of color, and low-income households;
4. NW Natural had a rate increase in November of 2020 and having another double-digit rate increase this year is more than customers of Oregon energy utilities can handle given the relatively lower rate of customer wage increases; and,
5. Advertising is an inappropriate use of customer funds because NW Natural is a monopoly. The advertisements utilize greenwashing to encourage the public to believe that natural gas is a clean energy source. There should not be advertisements for an energy source that should be phased out as soon as possible.

Q. How may interested persons view these Comments?

A. The Commission will post a link or instructions on how the public can see all public comments received, including those from the edited transcript for the Public Informational Hearing, of Thursday, March 10, 2022, at: https://apps.puc.state.or.us/edockets/DocketNoLayout.asp?DocketID=23085.

This is the last testimony in which Staff will be able to address Public Comments received in this general rate case. However, the Company may respond to Staff's summary of the Comments or to the Comments themselves in subsequent evidentiary testimony.

Q. Does Staff testimony address comments received through June 22, 2022?

A. Yes.

ISSUE 2. LEXINGTON RNG PROJECT

COST RECOVERY

Q. Briefly summarize the status of the Lexington RNG project.

A. **[BEGIN HIGHLY CONFIDENTIAL]** [redacted]

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[1] See NWN/2100, Chittum/16.
[2] See NWN/2100, Chittum/16 - 23.

[redacted] [**END HIGHLY CONFIDENTIAL**]

Q. How do lowered production and the increase in forward natural gas price curves impact the revenue requirement for the Lexington RNG project?

A. [**BEGIN CONFIDENTIAL**] [redacted] [**END CONFIDENTIAL**][5] As noted in NWN/2300 Walker-Wyman/3, lines 16-17, the overall revenue requirement for the Lexington RNG project has declined.

Q. What is Staff's position on the prudence of the Lexington RNG project?

A. Staff generally concludes the costs for developing and operating the Lexington RNG facility appear prudent. On the one hand, in developing its first geographically remote from Oregon RNG project, Staff sees the Company as selecting possibly overly complex business relationships that minimized risk to NW Natural Holding Company, though not necessarily minimizing cost and risk to Oregon ratepayers of the regulated utility. On the other hand, the Lexington

3 See NWN/2100, Chittum/17-18.
4 See NWN/2100, Chittum/20.
5 See NWN/2301, Walker-Wyman/1-2.

RNG project satisfies the parameters established in Senate Bill (SB) 98 (2019) for an eligible investment in renewable natural gas. NW Natural is authorized by SB 98 to invest in renewable natural gas to meet the legislatively established portfolio target for same. SB 98 also specifies that the Commission should establish a Renewable Natural Gas program and that utilities should recover prudent utility investments to meet the SB 98 portfolio targets. Furthermore, the Commission has already approved a stipulation in an affiliated interest docket that provides some protection to customers for the transactions related to this investment.

Q. Please describe the docket and stipulation?

A. Docket No. UI 451 concerned NW Natural's request for approval of an affiliated interest agreement with Lexington Renewables, LLC. Commission Order No. 22-211 adopted a stipulation resolving the issues in that docket and provided some controls regarding the affiliated interest relationship between Lexington and NW Natural, to protect utility customers. An example of a control is a performance expectation for cost recovery and a market price cap.[6]

Q. How does the Commission's order in UI 451 influence Staff's thinking?

A. Staff is satisfied that NW Natural customers are protected from significant risks associated with the Lexington RNG investment. Given this and given that the legislature has found that renewable natural gas, "provides benefits to natural gas utility customers and to the public" and has established a portfolio target

[6] *In the* Matter *of* Northwest *Natural Gas Company dba NW Natural, Request for Approval of an Affiliated Interest Agreement with Lexington Renewables*, LLC., Docket No. UI 451, Order No. 22-211, p. 2 (June 6, 2022).

for renewable natural gas investments, Staff concludes that NW Natural's decision to invest in the Lexington RNG satisfies the Commission's standard for prudent investment.

Q. What do the other parties to UG 435 state about the Lexington RNG investment?

A. The Coalition for the Communities of Color (Coalition) recommends the Commission reject NW Natural's proposal to recover the costs of the Lexington RNG project because it is not prudent. In support of this recommendation, the Coalition testifies that acquisition of the Renewable Thermal Certificates (RTCs) associated with the production of renewable natural gas as opposed to the gas itself is not contemplated by SB 98.[7] They also assert the investment is imprudent because it cannot not help NW Natural satisfy the emission reductions required by Climate Protection Plan (CPP) adopted in 2021.[8]

[BEGIN HIGHLY CONFIDENTIAL] [redacted]

[7] Coalition/100, Apter/17-20.
[8] Coalition/100, Apter/19-20.

[redacted]

[redacted]

[9] AWEC/100, Mullins/35-36.

[redacted]

10 AWEC/100, Mullins/36.
11 AWEC/100, Mullins/36-37.
12 NW Natural/2100, Chittum/19.
13 *Id.*

[redacted]. **[END HIGHLY CONFIDENTIAL]**

Q. The Coalition has expressed concern that there is not enough RNG and hydrogen to decarbonize NW Natural's network.[15] Does Staff Agree?

A. Staff agrees with the Coalition that RNG and hydrogen alone are insufficient to achieve decarbonization. Staff sees that multiple cost- and risk-effective initiatives in the aggregate are more likely to be a viable solution than concentrated reliance on a single effort.

A consistent theme is that as one tries to approach 100 percent renewables through concentration on a single approach, the cost becomes greater and greater, until it may no longer practicable. This is referred to in economics as diminishing returns. For this reason, Staff believes that practicable solutions to meet Oregon's environmental goals likely will need to rely on multiple approaches including energy efficiency.

Q. Are hydrogen projects likely to have as much uncertainty as RNG?

A. Initially, no, for the following reasons:

[14] See AWEC/100, Mullins/37-38.
[15] See Coalition/100, Apter/15.

1. Current efforts to blend hydrogen in Oregon's natural gas supply have targets lower than those achieved in other jurisdictions;[16]
2. The Company is partnering with competent entities like the Eugene Water and Electric Board (EWEB) and the Bonneville Environmental Foundation that can help shoulder costs and risks in hydrogen projects centered on electrolyzers to convert water to hydrogen and oxygen;[17] and,
3. Geographically proximate hydrogen projects delivering physically and geographically to Oregon can back off brown natural gas to achieve more tangible Oregon-centric benefits than geographically remote RNG operations which are not practical to physically and geographically deliver RNG (other than notionally) to Oregon to back off brown gas here.

However, participation in large scale remote hydrogen hub projects bears significant risk even to the largest participants, and even when backed by U.S. DOE loan guarantees.[18]

Q. The Company emphasizes that surveys performed five years ago as relied on by the Coalition have not kept up with the rapid pace of RNG development. Does Staff agree there has been an acceleration in the number of RNG projects?

A. Yes. As Staff discussed in Exhibit Staff/1700 Muldoon, California programs massively upgraded the relative environmental rankings of certain RNG

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16 See NWN/1704, Heiting-Bracken/79 where the Company estimates that up to 20 percent hydrogen injection may be feasible and safe.
17 See NWN/1700, Heiting-Bracken/58.
18 See Staff/1801 Muldoon/1 for "Chevron Pulls Out of Utah Hydrogen Hub Backed by DOE" by Siri Hedreen – S&P Global Market Intelligence – Jun. 24, 2022.

facilities. This is particularly pronounced in anaerobic digester upgrades to livestock and dairy farms' manure lagoons to produce RNG credited into the California Clean Fuels Program.[19]

Q. The Coalition and CUB also question whether RNG is available at a reasonable cost.[20] The Company disagrees based on certain reference benchmarks. Can they all be right?

A. Yes. NW Natural makes a valid set of points generally stating its RNG projects are competitively priced to other energy products and renewable alternatives. However, competitively priced or not, the Coalition and CUB question whether regular people, who are Oregon utility customers, can afford such extravagantly priced renewables.

Consider for example the electric vehicle (EV), Mercedes EQS sedan starting at $102, 310.[21]

Mercedes Benz makes likely valid points that this car is a great value compared to other high performance luxury EVs, such as in comparison with the Cadillac Celestiq EV starting at over $200,000. That does not mean the average Oregon energy utility customer can readily afford one of these vehicles. The relative value proposition does not necessarily provide the wherewithal to acquire all that would be nice to have.

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[19] See "California clean fuel standard sparks renewable gas boom in Midwest" by Frank Jossi of Energy News Network published on May 13, 2021 and available at: Calif. clean fuel standard sparks Midwest RNG boom | Energy News Network.

[20] See Coalition/100, Apter/16, CUB/100, Jenks/5, and CUB/102, Jenks/4.

[21] See All Vehicles | Mercedes-Benz USA (mbusa.com) for a comparison of the benefits of this vehicle verses competitor performance EV's.

The risk herein is that cost of RNG can incrementally raise Oregon energy utility customers' bills faster than the rate of household income increases. In that case, CUB is correct that RNG costs may not be sustainable.

Q. The Coalition is concerned that methane leaks will negate RNG environmental benefits.[22] The Company disagrees, citing its performance record. Does Staff find the Coalition argument compelling?

A. No. Many concerns about methane leakage are better targeted to other utilities that have not undergone the extensive modernization that NW Natural has.

[22] See Coalition/100, Apter/16 and NWN/1700, Heiting-Bracken/65.

RATE SPREAD FOR THE LEXINGTON RNG PROJECT

Q. NW Natural's initial proposed rate spread for the Lexington RNG Project was to spread costs on an equal cents per therm basis to all sales and transportation customers. CUB agreed with the Company on some issues, but proposed to allocate these costs to all customers except storage, including special contract customer.[23] How does Staff respond?

A. Staff agrees with CUB because its proposal follows cost allocation principles. Staff has yet to see evidence that one Oregon utility customer class receives greater benefit than another with regard to an initiative with the characteristics of the Lexington RNG project.

Q. Has the Company shifted its position from its initial filing?

A. Yes. NW Natural now also agrees with CUB and has modified its stance from the Company's initial filing. The Company also agrees with CUB that the Oregon CPP rules make NW Natural the single point of regulation for all emissions associated with customers taking natural gas service on NW Natural's distribution system.

Q. AWEC proposes that costs of the Lexington RNG project not be allocated to transportation customers and that for the other customers, costs should be allocated on an equal percent of margin basis.[24] What are Staff's positions on these proposals?

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23 See CUB/200, Gehrke/42, 46 and NWN/2300, Walker-Wyman/4.
24 See AWEC/100, Mullins/33 and NWN/2300, Walker-Wyman/5.

A. AWEC argues that SB 98 provides no authority to allocate investments made under that law to transportation customers.[25] AWEC also asserts that since NW Natural contracted for the Lexington RNG project prior to the adoption of HB 2021, NW Natural cannot rely on compliance with CPP as a benefit that warrants spreading the costs to transportation customers.[26]

Staff believes transportation customers should be allocated costs of the Lexington RNG project and does not agree with AWEC's interpretation of SB 98, which Staff will address AWEC's arguments in briefs. Staff acknowledges that equal percent of margin basis is often used as a cost allocation methodology between engaged parties in Oregon regulatory proceedings. But at this time, Staff believes CUB has the stronger argument.

Q. Has Staff lingering concerns that the Lexington RNG project is not an ideal template on which to scale up RNG development.

A. Yes. Staff does not see the Lexington RNG project framework as a streamlined, efficiently optimized template ready for duplication to bring new RNG online in ways to maximally benefit Oregon utility customers at least cost and risk. Rather Staff sees the Lexington RNG project as having exceedingly complex business relationships and dynamics, as well as incremental costs related to being remotely managed by third parties that require incentives and risk controls.

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[25] AWEC/100, Mullins/33-34.
[26] *Id.*

Further, remote geographic delivery of natural gas into interstate pipelines with no cost-effective or practical way to transport RNG to Oregon to back off current Oregon brown gas consumption or to create an RNG business cluster geographically centered in Oregon eliminates some of the value RNG could bring to Oregonians. Staff would rather see NW Natural develop the expertise to bring each RNG project along at successively lower unit costs due to the learning derived from overcoming startup challenges in prior projects completed.

Q. If the Company represents it has gained learning and is in the process of gaining core competencies in RNG development and operations, why are Staff's concerns still valid?

A. NW Natural indicates that it intends to acquire a diverse portfolio of RNG facilities. If each of these is distinctly different and purchased through myriad external parties, and even operated by external parties requiring incentives for performance, then hoping that many diverse (geographically remote to Oregon) contractors will prioritize cost and risk control for the benefit of Oregon utility customers may be overly optimistic.

And where there are opportunities to construct similar facilities such as with Tyson Foods, Staff has not to date heard that with each successive similar project after the Lexington RNG project, the Company expects to become more knowledgeable, more hands-on, and better able to reduce risk and costs. Staff's fear is that instead of going in that direction, NW Natural would contemplate replicating the Lexington RNG approach with near identical partners, each requiring incentives and risk mitigation assurances, and in the process not achieve efficiencies expected as when competitive businesses learn.

Staff accepts that Lexington RNG project as the first out of the gate would have some startup challenges and inefficiencies. Staff stops short of AWEC's position regarding the contract between NW Natural and BioCross. But for subsequent projects, AWEC's concerns and expectations for greater efficiencies are valid.

Q. Please recap Staff's recommendation regarding rate spread for the Lexington RNG project costs.

A. Staff recommends the Commission find costs for the Lexington RNG project prudent and adopt CUB's recommendation to spread costs on an equal cents per therm basis to all sales and transportation customers including special contract customers. The only exclusion would apply to storage customers.

ISSUE 3. AAC FOR RNG PROJECTS

Q. NW Natural has proposed a new tariff, Schedule 198, with a RNG AAC. CUB supports an AAC and has provided recommended modifications to the structure proposed by NW Natural. Conversely AWEC argues that Schedule 198 would not be necessary as general rate cases, deferrals and other current regulatory mechanisms already provide for recovery of prudently incurred costs of qualified investments in RNG infrastructure.[27] What is Staff's position?

A. Staff believes AWEC makes good points, however Staff supports a RNG AAC, in part for the efficiencies it can offer. Staff generally agrees with CUB's proposal but would look for:

1. NW Natural to make a supplemental filing updating Operations and Maintenance (O&M) costs on August 1 of each year.
2. New projects to be addressed in rate filings in February of each year and must be expected to be operational before October 1, which is 31 days before an RNG AAC effective date of November 1 each year. Most information should be known in February filings. This framework would give parties several weeks to review compliance filings and be assured a project is online before included in rates.
3. The Commission to reject NW Natural's proposal to allow rate changes on a date other than November 1 and to adopt CUB's proposal to have RNG AAC Rate change occur ONLY on November 1 of each year.

[27] See AWEC/100 Mullins/39.

4. As CUB proposes, no deferrals between when a project comes online and when it is included in rates as the Company can work to time its projects to come online by October 1;
5. If the Commission decides to authorize deferrals, ROE on deferrals should be the Commission Authorized ROE minus 100 basis points (bps) as such a mechanism reduces risk to the Company.
6. For true-up between forecast and actuals, Staff recommends a deadband of +/- 50 basis points to incent the company to operate efficiently.

Q. The Company argues that an AAC ensures that RNG costs are recovered in a timeframe that is consistent with customers receiving immediate benefits of RNG projects.[28] Is that consistent with Staff's thinking?

A. Intergenerational equity is one of Staff's cost causation principles. Generally, Staff agrees that the utility customers receiving benefits today should be those who pay for said service.

Q. AWEC argues that there are few if any procedural benefits to an AAC through Schedule 198.[29] CUB and the Company see efficiencies, though from different perspectives.[30] What is Staff's perspective?

A. Staff anticipates procedural efficiencies if CUB and Staff modifications to the Company's proposed Schedule 198 are authorized by the Commission.

[28] See NWN/1600, Kravitz/26.
[29] See AWEC/100, Mullins/40.
[30] See CUB/200, Gehrke/25, 27 and NWN/1600 Kravitz/25.

Giving the Company the flexibility it proposes in its Schedule 198 could greatly diminish or eliminate procedural efficiencies. Staff contends that NW Natural's statement that the "Schedule 198 process is faster than a rate case", is only true if the AAC structure utilizing Schedule 198 is predictable and routine.[31] Staff recommends the Commission give the Company's argument for flexibility, including rate changes other than on November 1 of each year no weight, as such variance would defeat the necessary efficiencies that would make a RNG AAC preferable to simply addressing prudently incurred RNG expense in the next general rate case with some modest regulatory lag for cost recovery.[32]

Staff agrees with CUB that the AAC efficiencies are derived from a known structure and predictable schedule, which minimizes frequency of rate changes.[33] Having an AAC should reduce the levels of the deferrals and associated interest as the rate is updated for the forecast of the following year versus using a "stale" base rate value.

Q. AWEC argues that cost allocations are best restricted to general rate cases. The Company disagrees.[34] What is Staff's direction on this?

A. Staff agrees with the Company that the Purchase Gas Adjustment (PGA) provides a precedent for the now proposed RNG AAC.[35]

31 See NWN/1600, Kravitz/28.
32 NW Naturals argument for broad Company discretionary flexibility in timing starts at NW Natural/1600, Kravitz/32, line16.
33 See CUB/200, Gehrke/24.
34 See AWEC/100, Mullins/40, 41 and NWN/1600 Kravitz/28.
35 See NWN/1600, Kravitz/28. The Company cites ORS 757.259(2)(e) for applicable law.

EARNINGS TEST – WITH AND WITHOUT DEFERRALS

Q. Why shouldn't the Company be able to defer costs associated with RNG plant put in service prior to the rate effective date of November 1?

A. Staff concludes there is minimal regulatory lag when utilizing a RNG AAC and a deferral is not needed.[36] Further, the Company's argument for a deferral in its RNG AAC conflicts with its arguments in support of an AAC. On the one hand, NW Natural indicates that it needs a RNG AAC through Schedule 198 because general rate cases and deferrals are inadequate and too slow to ensure appropriate cost recovery. But for this issue, the Company pivots and indicates that the RNG AAC requires the support of deferrals.[37] Logically, both conflicting arguments cannot be simultaneously true.

Q. AWEC argues that were the Commission to authorize deferrals for projects in service prior to being authorized in rate, then the deferrals should be subject to an earnings test 100 basis points less than NW Natural's authorized Return on Equity (ROE)?[38] Why does Staff support this approach?

A. These projects have lower risk of rate recovery and their true required rate of return is much lower and near cost of incremental long-term debt.

Q. Would the Company be harmed if its AAC did not include a deferral?

[36] See AWEC/100, Mullins/41 and CUB/200 Gehrik/26.
[37] See NWN/1600, Kravitz/36-38.
[38] See AWEC/100, Mullins/42.

A. Not to the extent the Company can time its projects to come on-line near November 1 of each year. Also the Company can file a general rate case if NW Natural believes the harm it faces is too great.

Q. Would it be inconsistent with ORS 757.394 and ORS 757.396 to authorize an AAC with no deferral, or with a true-up mechanism subject to an earnings test of 100 basis points (bps) less than NW Natural's authorized ROE?

A. I do not think so. Required ROE is predicated on risk of comparable endeavors. Returns that "AUTOMATICALLY" flow through to the Company have comparable risk to top rated corporate bonds and only slightly greater risk than U.S. Treasuries.

Q. Is Staff saying investors would receive adequate compensation in the above scenario?

A. Yes. Investors, and investment bank and market analysts like a sure thing.

Q. What rate spread does Staff advise for additional RNG projects including qualified projects subject to an AAC?

A. Again, Staff recommends CUB's approach for the allocation of costs on an equal cents per therm basis to all customers except storage, including special contract customers.

ISSUE 4. RESIDENTIAL LINE EXTENSION POLICY

Q. Please recap line extension discussions in this general rate case to date.

A. The Coalition and CUB propose changes to line extension policy.[39] They consider the carbon reduction costs for a new customer over a 20-year period and changes in green-house gas (GHG) emissions and climate policy since residential line-extension policy was last revised. While the Company acknowledges that utility customer costs will be directly impacted by compliance with the CPP and HB 2021, NW Natural disagrees with both CUB's and the Coalition's findings and proposes no change to its Schedule X.[40]

Q. Does Staff believe it is appropriate to implement the policy change proposed by the Coalition and CUB in a rate case concerning only one gas utility?

A. No. Staff recommends the Commission find that the issues raised by the Coalition and CUB are complex matters applicable to all natural gas utilities, and more appropriately handled in a separate docket. Staff believes there is considerable benefit to a common decision-making framework applicable to all three natural gas utilities. Further, Staff does not think the record is sufficient to implement CUB's framework for allocating carbon reduction costs for the coming two decades to these new customers.

[39] See CUB 100, Jenks/12, 17 and Coalition/200, Burgess/30.
[40] See NW Natural/1800, Taylor/21.

Q. Does Staff offer an opinion now on whether a new customer should pay 100 percent of environmental compliance costs at time of connection or otherwise pay for the financing of guarantees of these costs?

A. Not now. These are important questions that the Commission could consider addressing in a docket with all three gas utilities operating in Oregon and opportunity for interested persons and organizations to get involved.

STAFF RECOMMENDATIONS

Q. What does Staff Recommend regarding the prudence of costs incurred, cost recovery and cost allocation for the Lexington RNG project?

A. Staff recommends the Commission determine the Lexington RNG project is prudent and authorize recovery under SB 98 (2019). Staff further recommends that costs be allocated on an equal cents per therm basis, as proposed by CUB, to all customers except storage, including special contract customers.

Q. Does Staff recommend a RNG AAC utilizing an updated Schedule 198, and if so with what parameters?

A. Yes. Staff recommends the Commission start with CUB's AAC proposal but inject some of Staff proposed provisions, some of which parallel the Company's and CUB's apparent intent. Staff recommends an AAC with the following elements.

1. O&M costs to be updated August 1 of each year;
2. RNG AAC rate changes to occur ONLY on November 1 of each year;
3. New projects to be addressed in rate filings by February 28 of each year;
4. RNG projects must be operational by October 1 for cost recovery; and
5. No authorization for deferrals for projects when they are brought on-line.
6. However, if the Commission decides to allow for deferrals, ROE on deferrals should be the Commission authorized ROE minus 100 bps.
7. Staff recommends a deadband of +/- 50 basis points on deferred amounts to incent the company to operate efficiently.
8. Cost allocation for new RNG projects whether or not an AAC is authorized would also be as recommended by CUB above for the Lexington RNG project.

Q. What recommendation does Staff make regarding updating residential line-extension policy?

A. Staff recommends that this topic be addressed in a separate docket to ensure all stakeholders are given adequate opportunity to participate and to allow the Commission to formulate common practicable solutions across all three Commission-jurisdictional natural gas utilities.

Q. Does that conclude your testimony?

A. Yes.

CASE: UG 435
WITNESS: MATT MULDOON

PUBLIC UTILITY COMMISSION
OF
OREGON

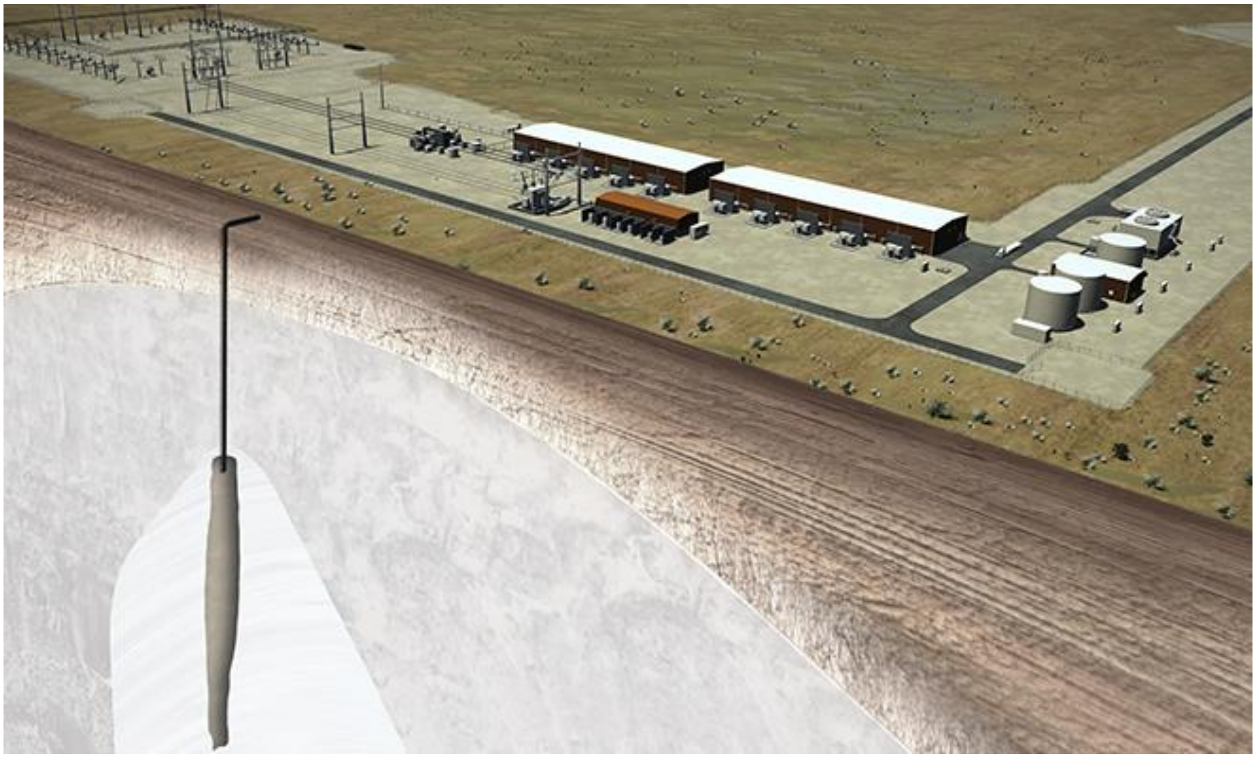
STAFF EXHIBIT 1801
Hydrogen Mega Hub News

Exhibits in Support
Of Rebuttal Testimony

June 30, 2022

Chevron Pulls Out of Utah Hydrogen Hub Backed by DOE

by Siri Hedreen – S&P Global Market Intelligence – Jun. 24, 2022



A rendering of the Advanced Clean Energy Storage project in Delta, Utah.

Chevron USA Inc. is **pulling out** of a renewable-powered hydrogen project in **Delta, Utah**, just **weeks after** the **U.S. Energy Department issued** a **$504.4 million loan guarantee** for the project dubbed the "world's largest **green hydrogen hub**."

The **Chevron** Corp. subsidiary **said** in **September 2021** that it **would acquire** an **equity interest in** the **Advanced Clean Energy Storage project**, or **ACES**. A few days later, Chevron **unveiled** a broader strategy to spend **$10 billion through 2028** in **ventures** to reduce greenhouse gas emissions, including renewable fuels, carbon capture and hydrogen projects.

But the company is **walking back** its **plan** to acquire a stake in ACES, Chevron confirmed to S&P Global Commodity Insights on June 23.

Chevron said in an emailed statement that "commercial agreements must meet certain thresholds" before its low-carbon business opportunities can proceed.

"Unfortunately, our opportunity to acquire an equity interest in ACES Delta LLC no longer meets our requirements," a spokesperson said. "We continue to explore hydrogen opportunities – including in the western United States where we have established an early and growing business – and remain committed to identifying and pursuing lower carbon solutions and providing affordable, reliable, ever-cleaner energy."

ACES, a **collaboration of Mitsubishi** Power Americas Inc., **Magnum** Development, LLC, **Haddington** Ventures LLC and **Black & Veatch** Holding Co., aims to **produce hydrogen using 220 MW** of **electrolyzer machines** and **store** it in **two underground salt caverns**.

The clean-burning gas will be used as a feedstock for industry, transportation and power generation, including the Intermountain power station. There, the **hydrogen** will be **converted into electricity serving** municipal **utilities** in **Utah and California**, **including** the **L**os **A**ngeles **D**epartment of **W**ater and **P**ower California.

"We expect this opportunity to generate attractive returns and to provide cost-effective entry into a scalable hydrogen production platform with existing and future demand sources," Jeff Gustavson, president of the company's Chevron New Energies division, said during a September 2021 call.

In May, Chevron confirmed it had put another of its low-emissions projects on hold. The company withdrew its permit application at the U.S. Environmental Protection Agency for a carbon capture and storage facility in Mendota, Calif.

Chevron's emissions-reduction strategy differs from that of its European oil and gas peers in not including wind and solar power generation projects. The company is instead focusing on "managing molecules," Chevron CEO Michael Wirth said recently.

But investment in Big Oil may be risky as companies bet on unproven technologies like carbon capture, according to the Carbon Tracker Initiative, a London-based think tank.

CERTIFICATE OF SERVICE

UG 435 – Rebuttal Testimony

I certify that I have, this day, served the foregoing document upon all parties of record in this proceeding by delivering a copy in person or by mailing a copy properly addressed with first class postage prepaid, or by electronic mail pursuant to OAR 860-001-0180, to the following parties or attorneys of parties.

Dated this 30th day of June, 2022 at Salem, Oregon

Kay Barnes

Kay Barnes
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UG 435 – SERVICE LIST (4/22/2022)

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