BEFORE THE PUBLIC UTILITY COMMISSION

OF OREGON

UM 1717

In the Matter of	)
NORTHWEST NATURAL GAS COMPANY, dba NW NATURAL	)
Application for Prudence Review of Costs of Post-Carry Wells	)

OPENING TESTIMONY OF THE

CITIZENS' UTILITY BOARD OF OREGON

May 11, 2015

BEFORE THE PUBLIC UTILITY COMMISSION

OF OREGON

UM 1717

In the Matter of NORTHWEST NATURAL GAS COMPANY, dba NW NATURAL Application for Prudence Review of Costs of Post-Carry Wells	OPENING TESTIMONY OF THE CITIZENS' UTILITY BOARD OF OREGON

My name is Jaime McGovern and my qualifications are listed in CUB Exhibit 101.

I. Background

In January of 2014, Encana notified Northwest Natural ("NW Natural" or "Company") "of its intent to sell its interest in the Jonah Field."[1] In order to make its asset easier to sell, Encana requested that NW Natural "release Encana from the obligation to drill additional carry wells in return for certain accommodations."[2] In other words, Encana did not need NW Natural to release Encana from drilling obligations in order to sell its own interest in the field, but could make a more marketable package if NW Natural did so. NW Natural therefore had a unique opportunity to recover some of the depressed value of its interest in the drilled carry wells to its ratepayers. This move

[1] UM 1717 – NWN/100/Summers/6; CUB notes that this is inconsistent with NW Natural Gas Company's Application for Prudence Review of Costs of Post-Carry Wells ("Application") at pg 4, which states that Encana sold its interests in the Jonah Field to Jonah Energy LLC in December 2013.
[2] Application at 3.

had import, considering Encana had, to date, fallen short of its drilling obligation under the original agreement (72 of 102 wells) and the wells production was less than had been forecast. Consequently, NW Natural negotiated a modification of its Original Agreement with Encana, which came to be known as the Second Amended Agreement.[3] Pursuant to the Second Amended Agreement, NW Natural agreed to "terminat[e] the Company's obligation to fund, and Encana's obligation to drill, the carry wells that had not yet been drilled."[4] In exchange for this, NW Natural received a larger ownership interest in the Jonah Field, which would "increas[e] its expected gas reserves to a number closer to that originally forecast."[5,6]

NW Natural maintained all other benefits of the contract.

> Importantly all other rights and obligations conferred by the Original Agreement remained in place, including the terms governing the drilling of post-carry wells.[7]

This is relevant, because in the Original Agreement, the contract conferred a right to consent to post-carry wells

> [A]fter the drilling of the carry wells had been completed, NW Natural would have the option to participate in the drilling of additional elective "post-carry" wells.[8]

Moreover, the as-yet drilled carry wells under the Original Agreement were reclassified as post-carry wells under the Second Amended Agreement, which means that "for each post-carry well in which NW Natural consent[s] to participate, the Company [will] receive a share of the gas produced from that well."[9]

---

[3] Application at 3.
[4] NWN/100/Summers/6.
[5] NWN/100/Summers/7.
[6] CUB argues below that this does not make the value of the new agreement equal to the forecasted value of the original agreement.
[7] Application at 3.
[8] Application at 2.
[9] NWN/100/Summers/12.

On March 28, 2014, Encana sold its interest in the Jonah Field to Jonah Energy, a subsidiary of TPG Capital.[10] Soon after the sale, TPG Capital posted notice of drilling intent, and offered NW Natural an opportunity to participate in the drilling of nine post-carry wells, seven of which the Company accepted.[11] This docket is a determination of the prudence of NW Natural's decision to engage in drilling those seven post-carry wells.

II. Northwest Natural has not demonstrated prudency in exercising the option on behalf of ratepayers to participate in the post-carry wells

NW Natural has fallen far short of its burden to demonstrate that its decision to consent to the post-carry well drilling was prudent on behalf of ratepayers, who are ultimately being asked to pay for these decisions.

The Company knew these post-carry wells contained more risk than the carry wells, yet it made no attempt to adjust its analysis based on this recognition of risk or quantify an acceptable risk premium. NW Natural compared the forecasted price of the post-carry wells to the cost of an example of a 10 year hedge. In doing so, NW Natural added an 18 cent per dekatherm premium to the 10-year hedge to account for the cost of hedging the counterparty risk of the hedge.[12] In addition, the Company did not do a rigorous analysis of hedging opportunities. They added no risk premium to the post-carry wells analysis to account for the significant risk of the post-carry wells.

While the Original Agreement was evaluated from the benchmark of other hedges, the post-carry well agreement contains significantly more risk for customers, as discussed below, and therefore offers lower value.

---

[10] *Ibid*.
[11] Application at 5.
[12] NWN/100/Summers/19.

Even though the carry wells presented less risk, the performance of those wells should have made the Company act very carefully with regard to the post-carry wells. With both the carry wells and post-carry wells, the production has been below the Company's forecasts. In addition, the price has been well out of the money. When the first attempt to pursue long-term hedging goes poorly, one should be careful about the second.

III. The NSAI analysis does not demonstrate prudency

The NSAI analysis that the Company heavily relies on falls short in many ways, which the Company knew or should have known at the time that it was making its decisions whether to drill the proposed post-carry wells. Given that this is the same company that NW Natural employed to dissect the potential of the original carry wells that fell far short of expectations, CUB believes that the Company should have been skeptical of the NSAI data and demanded more rigor. NW Natural has not provided analysis in this case that addresses this issue.

A. Based on the results of the carry wells, the Company knew or should have known that the NSAI analysis for post-carry wells could overstate the expected volumes

The Company sets the following bar for itself in terms of prudence determination:

> prudence is measured from the point of time of the decision at issue, not with the advantage of hindsight . . . we must take the position of a reasonable person at the time the decisions had to be made.[13]

However, at the decision points regarding the post-carry wells, NW Natural was in possession of additional information (relative to the decision point of the Original

[13] Application at fn. 3.

Agreement), to which it failed to apply appropriate weight, regarding the accuracy of NSAI's forecasts, and the productivity of Jonah Field. In particular:

- NW Natural knew that NSAI had over-forecast the productivity of the initial wells or "the Company had been receiving less gas than originally forecast."[14]
- NW Natural's Original Agreement with Encana was out of the money because the forecasted upward pressure on market gas prices never realized.[15]

The following statement says it all:

> [b]ased on reserve forecasts provided by Netherland and Sewell & Associates (NSAI), the Company estimated that the transaction would provide it with 93.1 Bcf of gas over thirty years—with the majority received in the first ten years—priced at an average of $0.529 per therm.[16]

The revealed future, as opposed to the forecasted future, revealed multiple risks, all risks that the Company was aware of (1) Encana sold their interests leaving NW Natural with only "72/102 of the original volume[17]" (2) production was lower than expected and (3) market prices dropped instead of increased.

CUB is not stating that because the true outcome was different from the forecasted outcome that the forecasts had no value. Rather, all forecasts are uncertain, and, given the outcome of the carry wells, NW Natural should be hesitant about accepting NSAI's forecast for the additional wells, or at least provide analysis demonstrating the original circumstances and conditions that caused the first 72 wells to produce below forecast would not apply to subsequent wells. Was the underproduction random, and within acceptable error bounds? Or, more disconcerting, are there elements of risk that are specific to Jonah Field? If so, NW Natural should present evidence that NSAI adjusted its forecast methodology accordingly.

---

[14] NWN/100 Summers/9.
[15] Note: Here CUB is not reevaluating the prudence of the Original Agreement, merely stating an ex-post observation that was evident by the time the post-carry well opportunity presented.
[16] NWN/100/Summers/2.
[17] NWN/100/Summers/8.

The Company attempts to assuage parties concerns of bad investment by stating:

> After the ownership interest adjustments, the Company now expects to receive from the carry wells between 65 and 67.1 Bcf, which is nearly the same volume (prorated) that the Company expected to receive from the carry wells under the Original Agreement.[18]

However, confidence would be misplaced as two substantial changes have occurred (1) the current partner (Jonah Energy) has no obligation to NW Natural to drill (as Encana had), meaning that if future sell-off of assets and interests occur, NW Natural retains no bargaining leverage as it did when Encana desired to sell its interests, and (2) in meetings where NW Natural discussed its propensity to relieve Encana of its drilling obligation, in exchange for a greater ownership interest in the drilled carry wells, CUB recalls that the Company told parties that it believed originally that Encana was a very low risk partner, presenting little risk of selloff, and that the relationship with Encana was very workable. NW Natural stated that it had very little faith that future partnerships with other companies would be so secure.

That is to say, NW Natural was only able to make up the low volumes (partially, as it can only be calculated on a prorated basis and fixed/sunk costs cannot be prorated) because of the obligatory leverage that it held over Encana. If NSAI's forecasts turn out to be overly optimistic, as they have so far, then NW Natural has no bargaining chip with which to enhance the position of its customers.

B. The Company did not know how to apply the results of the NSAI analysis

The Company admits that until it began to evaluate the fifth post-carry well, it was applying the results from NSAI improperly.[19] Referring to its review

---

[18]NWN/100/Summers/9.

of the fifth well, after the consent of the first four wells had been given, NW Natural states:

> [a]lso, at this point we received some information from NSAI that prompted us to make corrections to the way we were applying their type curve information.[20]

This means that for the first four wells, The Company did not have the proper approach to interpreting and applying the results of their consultant, NSAI. The Company assigned zero cost to risk. This is one of the largest concerns for CUB.

NW Natural seems to have a systematically optimistic view of risky ventures that are funded by ratepayers and return a secure stream of revenue to the Company's shareholders. Of course, if these ventures involve adding items to rate base, which provides security to shareholders, CUB expects that they should also provide security to ratepayers, or at the very least, the Company should be rigorous about properly evaluating all possible risks to ratepayers, and invest accordingly. The testimony by the Company below demonstrates a very loose and low standard of evaluation, never rejecting any well for which the expected cost of gas might narrowly beat a ten year hedge, but the potential costs, when accounting for risks, might be well above the ten year hedge. The Company clearly states:

> NW Natural consented to any well for which the expected cost of gas compared favorably to the costs of a ten-year financial hedge.[21]

Or, in other words, the Company consented if the expected cost of gas was less than or equal to the cost of a ten year financial hedge. The problem with this analysis is that a ten year financial hedge, with a risk premium added to offset counterparty risk buys the

---

[19] NWN/100/Summers/21.
[20] *Ibid*.
[21] Application at 5.

ratepayers a secure future, whereas the consent to drilling buys, at a cost, an expected stream of gas for the ratepayer, but without certainty.

Multiple risks are present. For example, at the very least, NW Natural should have discounted the value of the post-carry wells by the appropriate risk premium:

(1) Party risk: NW Natural had originally expressed lack of confidence in workability with new partners, and had limited experience with Texas Pacific Group. CUB notes its concerns about this particular party risk below

(2) Reserve Risk: This is a Schrodinger's Cat dilemma. Exactly how much gas is in that area of the field (especially given the unproductiveness of earlier wells)?

(3) Commodity Price Risk: What if the wells are productive, but so are many other wells in the country, driving down market prices, making the hedge ineffective?

(4) Mechanical Risk: What is the reliability of the equipment, and subsequent cost of drilling?

(5) Deal Structure Risk: It is costly to ensure a tightly structured contract, in favor of ratepayers, especially with an experienced drilling company. [22]

All of these risks (and potentially others) have costs, and should be assigned appropriate value. Averages are simply not good enough.

Put simply, if one is given a 50/50 chance at $10 million, or, alternatively, guaranteed $5 million, which option is more valuable? Most individuals would choose to accept $5 million but would also not turn down a small discount, in exchange for certainty. That is, most individuals also would prefer to accept $4.9 million to a 50/50 chance at $10 million (here $5M-$4.9M = $.1 Million equals the risk premium). Drilling productivity estimates can be above, or vastly below, forecasts and so NW Natural

[22] *See* http://geology.com/articles/oil-and-gas-investments/

bought the lottery ticket for the $10 million gamble, instead of the $5 million dollar check.

NW Natural makes no distinction or discussion about the trade-off for risk and certainty, and what variation around the expected value would be acceptable. Standard deviations and likelihood of large deviations from expected costs should be known and present in the case for prudency determination. CUB finds the employment of this basic analysis starkly absent.

C. The analysis leads to confusing conclusions and more questions

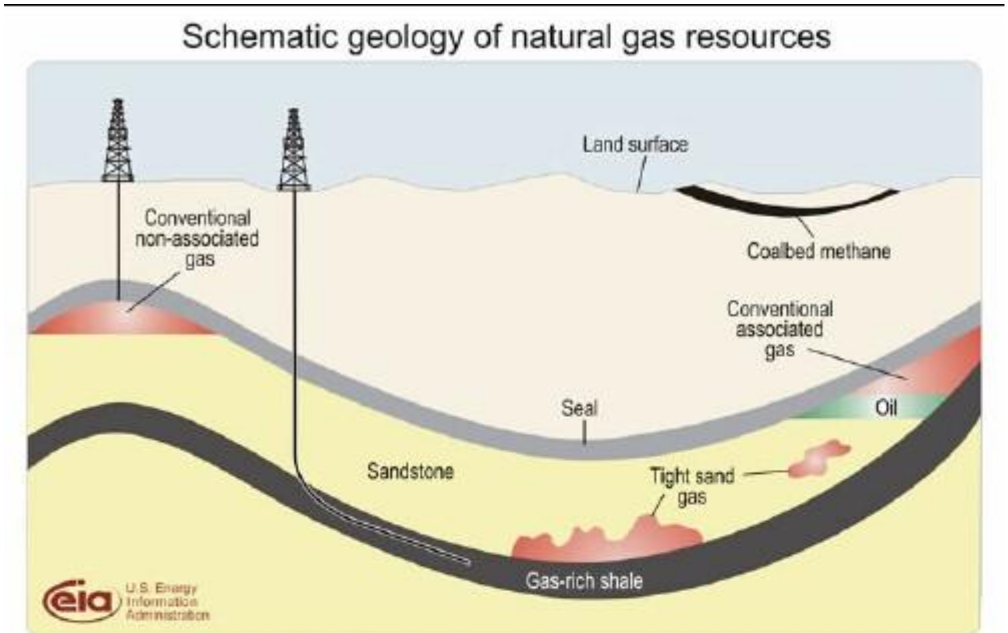
The Company acknowledges there is an opportunity to earn on post-carry wells even if it does not consent to drilling. However, the Company assigns zero probability to the well enough gas to meet that target:

> If NW Natural does not consent, the Company will forego NW Natural's share of gas from that well until Jonah Energy's proceeds from the sale of that gas equal 200 percent of what would have been NW Natural's capital share of the development costs. At that point, NW Natural will receive any subsequently produced gas from that well based on the Company's pro rata share of the gas for the relevant section. Importantly, based on volume forecasts, NW Natural does not ascribe significant value to this right.[23]

However, based on the section above, the Company doesn't consider the impact of the well producing far above expectations. Many concerns arise, such as whether the Company weighed its expected return against getting no gas at all, or against a small likelihood of getting some gas once the 200% mark is reached. Did the Company consider the impact of the well producing far below expectations?

More questions arise in the possible interplay between wells. Consider the following diagram:

[23] NWN/100/Summers/14.



When a new well is drilled in one of NW Natural's sections, does that deplete the gas that is being produced from its other wells? Alternatively, the Company chose to substitute NSAI's analysis with its own historical analysis:

> [f]or the *Historical Performance* approach we used our own calculations of future volumes based on NSAI data showing the performance of the carry wells drilled to date.[24]

But it should be clear that that the historical performance would be better than the expectation for future wells. That is, Encana logically would have placed the wells in the areas with the highest productivity and lowest cost. The remaining well opportunities should be expected to be subpar.

CUB believes that more sensitive and comprehensive analysis should have been done, well above looking at expected output and expected costs. The Company relied too heavily on the work of NSAI, with the lack of expertise to implement it appropriately and did not account for risk properly.

[24] NWN/100/Summers/20.

IV. There is no Reward in Risk for ratepayers, only Shareholders

The risk of the original carry wells was realized in below expected production. NW Natural's shareholders still receive the reward of the carrying costs from this investment. In the case of the post-carry wells, if approved, NW Natural shareholders would face none of the risk of reduced volumes, but receive the benefit of carrying costs on drilling independent of post-carry well production. NW Natural presents its recollection of the events in this case and the termination of Encana's obligation to drill additional carry wells.

As it recalls, NW Natural approached the parties and suggested that NW Natural shareholders invest in the post-carry wells due to the riskier nature of the investment, accepting both the benefits and the risks presented.[25] Staff and the parties disagreed with that approach.[26] As stated by NW Natural, "[t]hey viewed the opportunity to participate in the post-carry wells as a customer asset, and stated that the Company would need to make a prudent decision ***on behalf of customers*** as to whether or not to invest."[27]

The carry wells pursuant to the Original Agreement with Encana are regulated assets. The option for the Company to invest in post-carry wells was also maintained through the contract amendment. If The Company had viewed exercising this option as an unregulated activity as an option, it should have included this in its analysis of options when severing the Encana relationship.[28,29] More importantly, CUB viewed the deal

---

[25] Application at 4.
[26] *Ibid.*
[27] *Ibid.*
[28] The Company viewed itself as only having three options: (1) hold Encana and a new buyer to the terms and conditions of the Original Agreement and proceed to drill the remaining carry wells ("Original Agreement"); (2) sell its interests along with Encana's interests ("Sell"); or (3) agree to terminate the obligation to fund and drill carry wells but retain all other rights under the Original Agreement, including

primarily as a risk – a big risk, and clearly stated such in conversations with the Company. As stated above, the Company is clearly in agreement:[30]

> NW Natural viewed the risks raised by participation in the post-carry wells as significantly higher than participation in the carry wells.[31]

Not only did the Company acknowledge CUB's concern for the risk, NW Natural understood that the time allotted for evaluation was insufficient:

> Second, we explained that NW Natural was required to make a decision about whether to participate in the wells within 30 days from the date proposed, and that it would be difficult for the parties to fully evaluate the risks and benefits in such a short timeline.[32]

CUB believes that the timeline turned out to be insufficient for the Company as well, independent of any additional process that would have been necessary for stakeholders to have conducted their own evaluations. Originally, the Company was offering the post-carry wells to customers, if parties pre-approved them, and to shareholders if there was no pre-approval. CUB was unwilling to support pre-approval, but was still very concerned about the risk because, in part, the Company was no longer dealing with Encana. Rather, NW Natural was now negotiating with TPG. CUB and this Commission have had some experience with TPG which makes CUB a bit skeptical of a partnership with TPG. Specifically, TPG attempted to purchase PGE in 2004 and during that case, it became clear that TPG's public claims and private plans for PGE were significantly different, raising questions concerning TPG's transparency and veracity.[33]

---

the option to consent to the development of future post-carry wells in exchange for adjusted ownership percentages ("Terminate").

[29] NWN/100/Summers/9.
[30] NWN/100/Summers/13.
[31] NWN/200/Miller/2.
[32] NWN/200/Miller/4.
[33] UM 1121 – OPENING BRIEF OF THE CITIZENS' UTILITY BOARD, pages 4,15-17, 31 and 46.

V. The modification of the NW Natural's rights with the sale of the Encana interests created a new benchmark

In 2011, the Company put forth the arrangement with Encana as a long-term hedge for customers. In the four years that have passed, that hedge has not paid off, and has cost customers money. In addition, the market has continued to evolve and four of the 10 years, from which the "majority of the gas"[34] should have been delivered, have elapsed. That means, if the Company originally demonstrated need for a 10 year hedge, only six years are remaining, and therefore, the Company should have demonstrated need for an additional four years, or instead, considered its analysis of the production of the wells against a five year financial hedge. In retrospect, all parties can see that the Original Agreement with Encana was out of the money. However, Encana's interest in terminating the contract provided the Company an opportunity and obligation to revisit the needs of its customers, within or outside the context of the carry wells (or post-carry wells). NW Natural has learned that carrying the costs for a share in wells carries many risks. On the other hand, customers' needs are relatively stable, and there are currently very stable options in the marketplace. The Company, before deciding whether the post-carry wells were a 'good deal' or not should have done rigorous analysis to determine whether there were unmet needs of its customers which were compatible with this opportunity.

VI. Conclusion

NW Natural undertook a risky venture on a very short timeline, short enough that parties would not have sufficient opportunity to make an informed prudence decision if

[34] Application at 2.

preapproval was required. NW Natural raced through with the process, acknowledging the fact that the shareholders would bear the risk. Therefore, if NW Natural was making a logical decision, it believed that the risk of judgement of imprudence and subsequent loss of revenue was outweighed by the chance of approval and increased rate base. CUB believes that the Company did not take seriously enough the concerns of parties and that its analysis of potential risks to ratepayers was severely lacking. Any investment, by the Company on the behalf of customers should be expected, at a minimum, to include valuation of risk. CUB believes that the Company's negligence in quantifying and analyzing, and incorporating this risk means that their investment in the post-carry wells was imprudent. In addition, CUB finds many disconcerting elements about NW Natural's process, which adds weight to the argument that the Company's shareholders should be required to shoulder the cost of this risky venture that they hurriedly undertook.

CUB recommends that the Commission find NW Naturals elective investment in, and decision to consent to, each of the seven carry wells imprudent. Therefore, CUB also recommends that the full amount invested into the post-carry wells be disallowed from rate base, as it provides no security to customers and was entered into imprudently.

WITNESS QUALIFICATION STATEMENT

NAME: Jaime McGovern

EMPLOYER: Citizens' Utility Board of Oregon

TITLE: Senior Economist

ADDRESS: 610 SW Broadway, Suite 400
Portland, OR 97205

EDUCATION: PhD, Economics
W.P. Carey School of Business
Arizona State University

Masters of Science, Economics
Arizona State University

Bachelors of Arts, Economics and Mathematics
Arizona State University

EXPERIENCE: Provided testimony or comments in a number of OPUC dockets, including UE 262, UE 283, UM 1633, and UM 1654. Worked as Utility Analyst at the Oregon Public Utility Commission from 2006-2008, providing advice on rate cases, analysis in meetings with the Bonneville Power Administration and performing benchmarking studies regarding telecom and electric competition in the state of Oregon.

Economics professor at Mesa Community College and the State University of New York from 2004–2010.