



**BEFORE THE PUBLIC UTILITY COMMISSION**  
**OF OREGON**  
**UE 308**

In the Matter of PORTLAND GENERAL )  
ELECTRIC COMPANY, )  
2017 Annual Power Cost Update Tariff )  
\_\_\_\_\_ )  
OPENING TESTIMONY OF  
THE CITIZENS' UTILITY BOARD  
OF OREGON

1 Our names are Bob Jenks and Nadine Hanhan, and our qualifications are listed in  
2 CUB Exhibit 101.

3 **I. Introduction**

4  
5 On April 1, 2016, PGE (“the Company”) filed its 2017 Annual Update Tariff  
6 (“AUT”). The Company is proposing an overall Power Cost forecast of \$499.8 million,  
7 excluding federal production tax credits, resulting in a \$32.3 million reduction relative to  
8 last year’s net variable power cost (“NVPC”) forecast.<sup>1</sup> Despite this reduction in cost,  
9 CUB has several concerns regarding PGE’s 2017 AUT. In its testimony below, CUB  
10 discusses three main points: PGE’s proposal to rate base natural gas reserves, Energy  
11 Imbalance Market (EIM) benefits and costs, and PGE’s modeling enhancement related to  
12 the wind day-ahead forecast error.

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<sup>1</sup> UE 308/PGE/100/Tinker-Sims/1; 11-14.

1 **II. CUB Has Reservations Regarding PGE’s Proposal to Rate**  
2 **Base Natural Gas Reserves (Long-Term Hedging)**

3 **A. Background**

4 On April 18, 2016, parties in UE 308 participated in a pre-hearing conference call  
5 to determine the procedural schedule for the 2017 AUT. In that phone call, CUB  
6 expressed concerns about the timeline for reviewing PGE’s long-term hedging proposal.  
7 PGE’s long-term hedging is not representative of traditional hedging. It is unlike the fuel  
8 costs that are normally considered in the AUT, and it is much closer to a rate base  
9 investment in power generation which is typically reviewed in a general rate case where  
10 parties have an extended schedule. In the pre-hearing conference call, parties eventually  
11 agreed on a bifurcated schedule, where PGE would file additional testimony and a draft  
12 term sheet to give parties an opportunity to conduct specific discovery on PGE’s long-  
13 term hedging strategy.

14 While CUB agreed to the bifurcation schedule, and CUB agrees that parties must  
15 review the specifics of PGE’s proposal, CUB reserved the right to argue that rate basing  
16 natural gas reserves does not belong in the AUT filing and that the limited time to review  
17 the Company’s actual proposal in this docket is inadequate. In this testimony, CUB will  
18 not speak to the specifics of PGE’s draft term sheet filed on June 3, 2016<sup>2</sup>. As agreed in  
19 the bifurcation schedule,<sup>3</sup> CUB will file its testimony as to the specifics of the term sheet  
20 testimony on August 12, 2016. In its present testimony, CUB raises the more general  
21 question of whether PGE’s long-term hedging proposal belongs in the AUT at all and  
22 responds to discussion from PGE’s Direct Testimony.

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<sup>2</sup> UE 308/PGE/600-602.

<sup>3</sup> UE 308 Prehearing Conference Memorandum. Accessed at  
<http://edocs.puc.state.or.us/efdocs/HDC/ue308hdc14543.pdf>.

1 **B. This Rate Base Investment in Gas Reserves is Not a Variable Power Cost**  
2 **Eligible for Recovery in Schedule 125**

3  
4 Throughout its testimony, the Company refers to its proposal as long-term  
5 hedging, but, in reality, the Company is specifically proposing to rate base natural gas  
6 reserves as an alternative to entering into a long-term financial hedge.<sup>4</sup> The Company is  
7 in fact proposing to become a gas producer through acquisition of gas production  
8 properties instead of a natural gas purchaser engaged in market transactions.<sup>5</sup>

9 *i. The Historic Purpose of Schedule 125 is Limited to Variable Power Costs*

10 This docket's purpose is to identify the costs that can be recovered under PGE's  
11 Schedule 125. This was established in 2002 and was controversial from the start. In the  
12 initial case, PGE filed modeling enhancement that CUB believed went beyond the simple  
13 cost update CUB expected, and CUB then proposed some rate base adjustments. Staff  
14 and PGE opposed CUB's rate base adjustment because this docket was limited to  
15 variable power costs.<sup>6</sup> PGE was clear that this is limited to variable power costs:

16 PGE contends that the scope of this proceeding is limited under Schedule  
17 125 to the examination of variable power costs. It argues that CUB's  
18 proposed adjustments relating to fixed costs are outside the scope of the  
19 changes considered in this annual RVM update.<sup>7</sup>

20 The Commission resolved those disputes by stating that Schedule 125 was limited  
21 to variable power costs and updates after April 1<sup>st</sup> were limited:

22 First, the annual update of PGE's RVM should not be the equivalent of a  
23 generation rate case. Rather, it should be a proceeding to review PGE's net  
24 variable power costs. Second, the company should file proposed model  
25 enhancements and data updates for the 2004 RVM adjustment by April 1,  
26 2003, to give interested parties and the Commission sufficient time for  
27 review. The only changes allowed after that time should be limited to

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<sup>4</sup> E.g., a fixed-for-float swap.

<sup>5</sup> UE 308/PGE/100/Tinker-Sims/7.

<sup>6</sup> *In re Application for Annual Adjustment to Schedule 125 under the terms of the Resource Valuation Mechanism*, OPUC Docket No. UE 139, Order No.02-772 (Oct. 30, 2002).

<sup>7</sup> *Id.*

1 updates for load forecasts, new power purchase or sales contracts, new  
2 fuel contracts, and forward prices for electricity and gas.<sup>8</sup>

3 Schedule 125 is very clear as to its purpose:

4 The purpose of this adjustment schedule is to define procedures for annual rate  
5 revisions due to changes in the Company's projected Net Variable Power Costs  
6 (the Annual Power Cost Update).<sup>9</sup>

7 In CUB's opinion, PGE's proposal to make a major long-term capital investment  
8 in natural gas reserves with a return on that investment does not constitute a variable  
9 power cost. Rather, significant capital investments are typically and appropriately  
10 reviewed for prudence in general rate cases where parties have more time to complete  
11 such a review. Capital investments are not variable costs; instead they are the fixed and  
12 predictable cost of return of and return on rate base. If the Commission finds this capital  
13 investment to be prudent, then a predictable set of fixed costs will be used to establish  
14 rates. This is not a variable power cost. The variable here is not cost, but rather  
15 production levels. CUB does not believe that this is eligible under Schedule 125. PGE  
16 should bring this rate base investment to the Commission in a general rate case like any  
17 other significant rate base investment.

18 ***ii. PGE Fails to Explain How This is a Variable Cost***

19 In a data request, CUB asked the Company to explain: 1) how a capital  
20 investment in a gas field is a variable power cost and not a fixed cost; 2) what its basis is  
21 in including a long-term rate based investment in the AUT; 3) what is the basis in seeking  
22 prudence determination of a long-term rate based investment in the AUT; and 4) whether

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<sup>8</sup> *Id.* at 6.

<sup>9</sup> PGE Schedule 125, *see*: [https://www.portlandgeneral.com/-/media/public/documents/rate-schedules/sched\\_125.pdf](https://www.portlandgeneral.com/-/media/public/documents/rate-schedules/sched_125.pdf).

1 PGE has ever proposed recovery of a rate based asset in its AUT filings.<sup>10</sup> CUB did not  
2 find PGE's answers compelling.

3 As part of its response to the data requests, PGE stated the following:

4 PGE's proposal calls for an affiliated entity, Portland General Gas Supply  
5 Co. (PGGS) to transact for gas reserves. As a result, PGGS will have a  
6 capital investment. PGGS will then sell the produced gas to PGE on a  
7 cost-of-service basis in accordance with the terms of the Purchase Gas  
8 Agreement, submitted as part of PGE's request in Docket No. UI 371.  
9 Because PGE will use this gas as fuel for its gas-fired thermal plants, it is  
10 no different than other gas purchases and/or physical hedges, which are  
11 appropriately treated as variable power costs and included in PGE's power  
12 cost forecast (i.e., AUT filings) and actual power costs (i.e., PCAM  
13 filings). As noted in part d, below, the price that PGE pays for these  
14 purchases undoubtedly includes a fixed cost component such as return on  
15 and of capital.<sup>11</sup>

16 The Company further stated:

17  
18 PGE is seeking a prudence determination for the cost per MMBtu of its  
19 proposed long-term gas hedge to be included in AUT filings. We believe  
20 this to be very similar to the NW Natural determination in Commission  
21 Order No. 11-176, wherein the cost of NW Natural's long-term gas  
22 investment will be included in its annual purchased gas adjustment  
23 mechanism.<sup>12</sup>

24 And:

25  
26 PGE proposes to include cost-of-service gas in its AUT filings as  
27 described in PGE Exhibit 300, Section IV. Specifically, the AUT inputs  
28 to PGE's MONET model will include the cost per MMBtu and  
29 average daily gas volume. These amounts are appropriate to include  
30 in PGE's AUT filing because Schedule 125-1 specifies that the  
31 following updates "will be made in each of the Annual Power Cost  
32 Update filings":

- 33 •Contracts for the purchase or sale of power and fuel.  
34 •Changes in hedges, options, and other financial instruments used to serve  
35 retail load.<sup>13</sup>

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<sup>10</sup> See CUB Exhibit 102..

<sup>11</sup> *Id.*

<sup>12</sup> *Id.*

<sup>13</sup> *Id.*

1           Importantly, Order No. 11-176 was the Encana order for UM 1520. UM 1520  
2 was not the PGA but was an unusual single-issue ratemaking docket established for the  
3 sole purpose of examining the prudence of Northwest Natural's ("NWN") rate based  
4 investment in gas reserves. UM 1520 was not an annual docket designed to consider  
5 variable costs. In addition, UM 1520 demonstrates why capital investments are more  
6 typically handled in a general rate case. First, it required updating the cost of capital.  
7 One of the problems with determining the ratemaking treatment of capital investments  
8 outside of a general rate case is that there are two parts to a capital investment: the  
9 investment and the financing of that investment. The only time ratemaking looks at  
10 financing costs is in a general rate case. This led to an unusual provision in UM 1520  
11 that required NWN to file a general rate case and required an update to the capital costs  
12 with a full refund to customers if the cost of financing was below what had been forecast  
13 in NWN's previous general rate case:<sup>14</sup>

14           Second, there was recognition in UM 1520 that the short timeline of the docket  
15 limited review, and this might require a revisiting of the prudence determination:

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<sup>14</sup> *In re Application for Deferred Accounting Order Regarding Purchase of Natural Gas Reserves*, OPUC Docket No. UM 1520, Order No. 11-176 at 4 (May 25, 2011).

1 [T]he Parties agree that given the unique nature of the Proposed  
2 Transaction, the Commission should make a finding of prudence at this  
3 time based upon the information the Parties have reviewed. However, the  
4 Parties recognize that the review in this case has been expedited and that,  
5 if in the future, new information, not made available to Staff and the  
6 intervening parties, arises which demonstrates that NW Natural knew, or  
7 should have known, something of consequence to the Proposed  
8 Transaction at the time of the Proposed Transaction, Staff and the  
9 intervening parties can then use that information to challenge the prudence  
10 of the Transaction.<sup>15</sup>

11 CUB Exhibit 102 contains PGE's complete explanation for why this is a variable  
12 power cost and why the prudence of a significant capital investment should be included  
13 in the AUT, which examines variable power costs. Beyond pointing to UM 1520,<sup>16</sup>  
14 which was a single-issue ratemaking docket created to examine the prudence of a capital  
15 investment by NWN in gas reserves, there is no explanation there.

16 CUB does not agree with PGE's characterization of acquisition of gas production  
17 properties that they are "no different than other gas purchases."<sup>17</sup> Contracts for the  
18 purchase or sale of power and fuel and changes in hedges, options, and financial  
19 instrument mean purchasing directly from the market, and prudence can be demonstrated  
20 by comparing these purchases to other market options. This is a rate base investment, and  
21 prudence must be determined by examining PGE's examination of the various risks  
22 associated with this specific deal, including risks associated with environmental liability,  
23 royalties, future regulation, and production levels. CUB does not believe that this is a  
24 variable power cost that is eligible for recovery under Schedule 125.

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<sup>15</sup> *Ibid.* Appendix A, page 6 of 24

<sup>16</sup> *i.e.*, Order No. 11-176.

<sup>17</sup> See CUB Exhibit 102.



1 **C. There is Not Enough Time in This Proceeding**

2 In support of including reserve hedging in its AUT, the Company states: “based  
3 on our research and evaluations conducted to date, a non-operating working interest  
4 appears to provide the best long-term value for PGE's customers.”<sup>18</sup> However, CUB does  
5 not necessarily agree that this is in the best interest of customers because CUB does not,  
6 nor will it, have enough time to review the proposal for prudence. Consider that PGE  
7 filed its draft term sheet on June 3, which is not yet a signed contract.<sup>19</sup> The only  
8 opportunity for parties to submit testimony on the bifurcated long-term hedging proposal  
9 is August 12 2016, a mere two months after seeing a *draft* of the term sheet. Ultimately,  
10 this means is that parties will have less than two months to conduct discovery, receive  
11 data responses, and draft testimony on a contract that has not yet been signed. CUB has  
12 great concerns about the pace of this process, especially regarding the opportunity for  
13 prudence review, and CUB is not comfortable agreeing to this issue on such a short  
14 timeline.

15 *i. UM 1520*

16 A prudence review within a limited timeframe for a long-term gas proposal is a  
17 concern CUB has previously raised. CUB had similar concerns in its UM 1520  
18 testimony—a single-issue docket that addressed NWN’s long-term gas supply agreement  
19 with a company called Encana. In that docket, parties were also on a short timeline to  
20 review discovery and relevant documents, and while CUB recommended that the  
21 Commission approve the Encana deal with specific caveats, it was a challenging docket  
22 that required 1) that the Company make independent consultants (KPMG, ENVIRON,

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<sup>18</sup> UE 308/PGE/300/Russell-Tooman/12.

<sup>19</sup> UE 308/PGE/600/Russell-Tooman/1-2.

1 NSAI) available for stakeholders; and 2) that the Company fund an independent legal  
2 counsel (Lear & Lear) to advise intervenors on the examination of a significant number  
3 of risks in such a short period of time.<sup>20</sup> CUB's testimony included the following  
4 disclaimer:

It is the shortness of the docket that concerns CUB the most. As of Saturday March 26, 2011, CUB, NWIGU, and their expert witnesses were still receiving new documents for review. This means that the experts hired by NW Natural (KPMG, ENVIRON, NSAI etc.) and experts retained by CUB and NWIGU (Lear & Lear, Salt Lake City, Utah) to review this matter also frequently lacked access to final documents. As of Tuesday, March 29, 2011, the parties were still receiving responses to data requests. Also as of Tuesday, March 29, 2011, many data request responses were yet to be updated from pre-finalized contract document references to post contract finalization references, making it very hard for the intervenors to assess this case. It is with these caveats that we rely on the statements of all of the experts made in the course of reviewing this transaction.<sup>21</sup>

5 *ii. NW Natural IRP*

6 In Oregon, there have been other precedents for caution regarding long-term  
7 hedging. In one important case, NWN's 2014 Integrated Resource Plan (IRP), CUB and  
8 Staff submitted comments regarding its concerns with NW Natural's long-term hedging  
9 proposal.<sup>22</sup> In that docket, NWN proposed a long-term reserve hedging strategy that  
10 would increase its long-term hedging resources from 10% of supply to 25%.<sup>23</sup> Though  
11 the Action Item pertaining to long-term gas hedging was not specifically fleshed out, in  
12 its IRP NW Natural stated:

13 The final step in Long-Term hedging is deciding on the appropriate  
14 transaction. Financial derivatives would be considered as long as additional  
15 "insurance" (such as a credit facility) is included in the evaluation to protect  
16 against counterparty default. Ownership of the gas, such as through a gas

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<sup>20</sup> UM 1520/CUB/100/Jenks/10.

<sup>21</sup> *Ibid*, page 11.

<sup>22</sup> See LC 60, CUB Opening Comments and Staff Initial Comments.

<sup>23</sup> Docket No. LC 60, NW Natural 2014 IRP, pg. 1.21, Action Item 4.1.

1 reserves acquisition, eliminates that particular source of risk but potentially  
2 introduces other risks that similarly must be accounted for in the  
3 evaluation. Gas reserve ownership does have an additional benefit in that  
4 the natural decline over time that is associated with production wells fits  
5 very well with the concept of a hedging strategy that declines in percentage  
6 over time.<sup>24</sup>

7 NWN goes on to talk about the Encana deal in its 2014 IRP:

8 During the first 10 years of the agreement, the Company projected the  
9 volume of gas under the Encana transaction to be approximately 8-10% of  
10 the Company's average annual requirements for its utility operations, with a  
11 peak of about 15% in the years during the height of the drilling program. It  
12 expected its investment to result in the eventual total availability of about 93  
13 billion cubic feet (Bcf) of gas, assuming the development of the  
14 contemplated 102 wells, at a highly competitive price as compared to  
15 equivalent gas supply purchase alternatives over the same term.

16  
17 Recently though, on March 31, 2014, Encana announced the sale of its  
18 interest in the Jonah field to an affiliate of TPG Capital (Jonah Energy  
19 LLC), with a transition to be completed by year-end 2014. The Jonah field  
20 is overwhelmingly “dry” gas and this sale is part of a strategic move by  
21 Encana to refocus on “wet”, i.e., liquids-rich gas plays.<sup>25</sup>

22 As a result of that agreement, customers have been consistently paying more than  
23 \$5/MMbtu for gas out of the Encana deal<sup>26</sup> when, as of this filing, gas prices are under  
24 \$2.30/MMbtu.<sup>27</sup>

25 In NW Natural’s IRP, CUB and Staff submitted comments highlighting concerns  
26 about long-term hedging. Consider Staff’s position in its Initial Comments:

27 NWN is requesting acknowledgement of its revised hedging strategy  
28 intended to increase its long-term hedged position of gas requirements  
29 from the current level of approximately 10 percent up to 25 percent. At a  
30 Commissioner workshop on November 4, 2014, Commissioners stated  
31 that this is an important issue and indicated that there may be interest in  
32 bifurcation of the hedging consideration from the Company’s 2014 IRP.

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<sup>24</sup> Docket No. LC 60, NW Natural 2014 IRP, pg. 3.41.

<sup>25</sup> Docket No. LC 60, NW Natural 2014 IRP, pg. 3.42.

<sup>26</sup> UG 278. Exhibit B, p. 7.

<sup>27</sup> EIA. “Natural Gas.” See “Spot prices table.” Retrieved from  
<http://www.eia.gov/naturalgas/weekly/#tabs-prices-2>. Accessed June 9, 2016.

1 Staff continues to explore the possibility of investigating NWN's proposed  
2 hedging strategy in a separate docket with the Company and IRP  
3 participants.

NWN's responses to Staff data requests DR 51 to DR 55 show that overall, NWN's hedging strategy has resulted in substantial losses for its customers for the period 2009 to 2014. Staff intends to request more data from the Company in order to make a more informed assessment of the rate impact of its hedging strategy. For NWN to increase its long-term hedge position of gas requirements from 10 percent up to 25 percent, the Company should also make a showing that its customers will be protected against unreasonable losses as a result of the increased long-term hedges. Staff will be interested in a hedging strategy that provides the right incentives for the Company but at the same time protect its customers from gas price volatility and unreasonable losses.<sup>28</sup>

4 CUB agrees that it is a Company's responsibility to show that its customers  
5 should be protected against unreasonable losses as a result of long-term hedges. The  
6 Commission also agreed with this position in its LC 60 order when it adopted Staff's  
7 recommendation that the long-term hedging Action Item be removed from the Action  
8 Plan.<sup>29</sup> The Commission also opened a bifurcated schedule to examine NWN's long-  
9 term hedging policy.<sup>30</sup> The order was signed on March 15, 2015.<sup>31</sup> The IRP was filed on  
10 August 29, 2014,<sup>32</sup> and as of this filing, NWN has yet to host its third workshop  
11 pertaining to long-term hedging in docket UM 1720, a docket in which PGE has  
12 intervened.<sup>33</sup> This means stakeholders have had nearly two years to review NWN's long-  
13 term hedging strategy, and this has still not been adequate time for the Company to  
14 demonstrate to parties the prudence of the hedging policy. However, in PGE's 2017

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<sup>28</sup> LC 60. Staff's Initial Comments, pg. 2.

<sup>29</sup> *In re 2014 Integrated Resource Plan*, OPUC Docket No. LC 60, Order No. 15-064 (March 5, 2015).

<sup>30</sup> *Id.*

<sup>31</sup> *Id.*

<sup>32</sup> See LC 60, Initial Filing.

<sup>33</sup> See UM 1720 Actions. Accessed at <http://apps.puc.state.or.us/edockets/docket.asp?DocketID=19453>.

1 AUT, PGE is expecting stakeholders to support its long-term gas reserve contract with  
2 hardly two months of review.

3 *iii. UE 308*

4 In this docket, CUB reviewed the lists of risks that were considered in UM 1520  
5 and asked PGE whether it reviewed the following risks:<sup>34</sup>

- 6 • Water
- 7 • Ozone
- 8 • Greenhouse gas
- 9 • Spills
- 10 • Royalty risks
- 11 • Tax litigation risk
- 12 • Dry hole risk
- 13 • Pre-existing liens
- 14 • Bankruptcy risk
- 15 • Ownership change risk

16 PGE's response to these requests was that it has not yet investigated these risks,  
17 but that it will "conduct reasonable due diligence."<sup>35</sup> As of this filing, CUB has not seen  
18 any updates to this data request. Relevantly, these were the same risks that parties  
19 investigated in the Encana deal, docket UM 1520.<sup>36</sup> At the very least, these or similar  
20 risks should be investigated in the AUT filing, and parties should have ample time to  
21 ensure PGE is indeed doing its due diligence. It is not possible to weigh the costs and  
22 benefits of various approaches for meeting customer needs without quantification of  
23 risks. Moreover, it is not appropriate to dismiss one type of risk without proper  
24 assessment and analysis. CUB feels that the risks listed above and other risks are not  
25 being given proper weight.

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<sup>34</sup> See CUB Exhibit 103.

<sup>35</sup> See CUB Exhibit 103.

<sup>36</sup> See UM 1520/CUB/100.

1 CUB has serious reservations about agreeing to PGE’s long-term hedging  
2 proposal on such a short timeline. PGE points to docket UM 1520,<sup>37</sup> but that docket was  
3 rushed and has led to natural gas that is overpriced in today’s market, which led CUB to  
4 raise concerns in LC 60.<sup>38</sup> The Commission agreed to open a separate investigation to  
5 investigate such a long term hedging strategy,<sup>39</sup> and CUB is currently participating in UM  
6 1720, the PUC’s long-term hedging investigation, which has yet to conclude. Thus, CUB  
7 is puzzled as to why PGE should receive cost recovery of gas reserve hedging assets on  
8 shorter notice, with less opportunity for a prudence review, and no obvious precedent of  
9 including a rate base asset in a net variable power cost filing. In addition, CUB reiterates  
10 that PGE’s proposal has not yet been signed, but even if it had, CUB would only have  
11 two months to review the contract. There is not enough opportunity to fully vet the risks.

12 **D. CUB is Not Convinced that Reserve Hedging is the Ideal Long-Term Hedging**  
13 **Strategy**

14  
15 CUB has argued in other dockets, particularly in NWN’s 2014 IRP, that we are  
16 interested in seeing more than rate based investments as a long-term solution to securing  
17 low gas prices.<sup>40</sup> In CUB’s experience, there is no industry standard for “long-term.”  
18 Rather, “long-term” can range anywhere from 3 years to 30 years, whereas short- to  
19 medium-term tend to be below that range. A long-term hedge does not need to last for  
20 multiple decades and subject customers to risks for 30 years.

21 In another data request to PGE, CUB asked the Company about the cost of the  
22 long-term hedging proposal.<sup>41</sup> In its response, the Company stated that “based on

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<sup>37</sup> See CUB Exhibit 102.

<sup>38</sup> LC 60, CUB’s Opening Comments, pp 2-8.

<sup>39</sup> See *In re 2014 Integrated Resource Plan*, OPUC Docket No. LC 60, Order No. 15-064 (March 5, 2015).

<sup>40</sup> See LC 60, CUB’s Initial Comments.

<sup>41</sup> See CUB Exhibit 104.

1 preliminary discussions with one of PGE’s potential counterparties and because, at that  
2 time and to date, cost-effective, long-term alternatives to a non-operating working  
3 interest have not been available.”<sup>42</sup> PGE’s testimony says that “[b]ased on our research  
4 and evaluations conducted to date, a non-operating working interest appears to provide  
5 the best long-term value for PGE’s customers.”<sup>43</sup> PGE also provides an attachment to  
6 CUB’s data request that demonstrates its belief that another long-term alternative it  
7 analyzed, a [REDACTED]<sup>44</sup> is not cost effective.

However, even though PGE’s example of a long-term alternative is not feasible, this does not mean that other options do not exist somewhere. In docket UM 1720, NWN produced a ten-year hedge quote. CUB Exhibit 106<sup>45</sup> reveals that hedge quotes starting at \$2/MMBtu and ending at less than \$4/MMBtu for 10 years are possible. This does not extend to thirty years, it does not require a capital investment, and it does not expose customers to so many risks. CUB recognizes that the same agreements may not be available to PGE, but CUB cannot ignore the fact that NW Natural’s example is [REDACTED]  
[REDACTED].<sup>46</sup> This illustrates that there are indeed other alternatives to rate basing hedging investments.

## 8 **E. Rate Basing Front-Loaded Costs**

9 PGE’s evaluation of rate basing gas reserves is based on the real levelized cost of  
10 gas in its IRP.<sup>47</sup> This leads to the back cast that is represented in Figure 4 of its Opening  
11 Testimony.

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<sup>42</sup> See CUB Exhibit 104.

<sup>43</sup> UE 308/PGE/300/Russell-Tooman/12; 13&14.

<sup>44</sup> See CUB Confidential Exhibit 105..

<sup>45</sup> Provided with permission from NWN.

<sup>46</sup> See CUB Confidential Exhibit 107.

<sup>47</sup> UE 308/PGE/100/Tinker-Sims/15.

1       **Q. What does Figure 4 indicate with regard to customers' costs when**  
2       **comparing hedged gas versus non-hedged gas?**

3       A. If we compare the "Market Cost" line to the "Market + 30% LT Hedge"  
4       line, where the average difference between them is approximately  
5       \$4.50/MWh, this difference would represent approximately 7.0% of the  
6       average PGE customer's bill for energy charges. Figure 4 also indicates  
7       that when market costs are rising, the hedged costs are less than market.  
8       Conversely, when market costs are declining, the hedged costs are higher  
9       than market.<sup>48</sup>

10       Unfortunately, this is a misleading discussion of customers' costs. The costs that  
11       customers pay for PGE's proposal is not the real levelized cost of gas under the terms of  
12       the deal. Like other capital investments, PGE is proposing cost of service rate base  
13       treatment for this investment. The costs that customers actually pay are not discussed in  
14       PGE's testimony, but are identified in PGE Exhibit 303. CUB summarizes the costs  
15       below:<sup>49</sup>

<b>Original Projections</b>			
Original Annual Revenue Projected			
Year	Revenue Requirement	Volume	Unit Price of Gas
2017	\$30,000,000	6,000,000	\$ 5.00
2018	\$29,000,000	5,900,000	\$ 4.92
2019	\$28,000,000	5,800,000	\$ 4.83
2020	\$27,000,000	5,700,000	\$ 4.74
2021	\$26,000,000	5,600,000	\$ 4.64
...			
2046	\$1,000,000	3,100,000	\$ 0.32

16       As we can see above, the cost to customers in the first year is \$5.00 per therm,  
17       and the price in 2046 is \$0.32 per therm. This raises serious concerns about  
18       intergenerational equity and would change the shape of the revenue requirement  
19       associated with a gas plant so it looks more like a wind farm.

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<sup>48</sup> UE 308/PGE/100/Tinker - Sims/17.

<sup>49</sup> See UE 308/ PGE/303/Russell-Tooman/1.



1 **i. First, Let's Discuss Why This is Happening**

2 When a capital investment is added to rate base, the utility is allowed to charge  
3 customers for the return of the rate base and gets to charge customers a return on its  
4 undepreciated investment. In the case of a 30-year gas reserve investment, customers in  
5 the first year will be paying PGE a return on the undepreciated investment, which is 29  
6 years. Assuming a 30-year investment that is depreciated in a straight line, customers  
7 would pay approximately:

8 Year 1:  $(1/30 \text{ of the capital investment}) + (\text{Pretax ROR}) \times (29.5/30\text{ths of capital investment})^{50}$

9 Year 2:  $(1/30 \text{ of the capital investment}) + (\text{Pretax ROR}) \times (28.5/30\text{ths of the capital investment})$

10 Year 3:  $(1/30 \text{ of the capital investment}) + (\text{Pretax ROR}) \times (27.5/30\text{ths of the capital investment})$

11 ...

12 Year 30:  $(1/30^{\text{th}} \text{ of the capital investment}) + (\text{Pretax ROR}) \times (0.5/30\text{ths of the capital investment})$

13 **ii. This Means Gas Will Almost Always Be Above Market in Early Years and Below**  
14 **Market in Latter Years**

15 PGE proposes that rate base investments be considered cost effective if the real,  
16 levelized cost is at or below the forward price curve from the IRP.<sup>51</sup> This means that on  
17 average, over the life of the production, the cost will, on average be at or below the  
18 current forward price. But shown above, on the back end when this investment is nearly  
19 fully depreciated, it will cost well below what it does in the early years, and in the early  
20 years it will cost many times what it does at the end of its depreciation.

21 But markets do not follow that depreciation curve. This means that gas in the  
22 early years will be above market and gas in the latter years will be below market.

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<sup>50</sup> 29.5 is based on the average rate base return over the 1<sup>st</sup> year.

<sup>51</sup> UE 308/PGE/200 Sims – Outama/4,

1 *iii. This Revenue Requirement Shape Creates Inter-generational Concerns*

2 Rate basing gas reserves under PGE’s proposed structure will require current  
3 customers to buy gas at above market rates so customers in later years can purchase gas  
4 at below market rates. PGE claims that the purpose is not to beat the market,<sup>52</sup> so the  
5 purpose of this is not to get lower costs over the course of the capital investment. This  
6 raises concerns over why current customers should pay above-market rates. What are  
7 customers getting for this value? PGE claims that customers are getting price stability,<sup>53</sup>  
8 but a cost that goes from \$5 to less than \$1 is not stable, it is fixed and declining.

9 *iv. PGE Identifies Avoiding Structural Shifts as a Benefit*

10 PGE is proposing that this investment be considered a hedge against the “potential  
11 for longer-term structural shifts due to fundamental changes in supply and demand.”<sup>54</sup> PGE  
12 includes graphs<sup>55</sup> to show the monthly changes in gas prices to highlight the volatility of gas  
13 prices.<sup>56</sup> But only twice since February 2010 have gas prices been above \$5.00 per MMBtu –  
14 in December 2013 and in February 2014.

15 There is little evidence in their analysis to support charging current customers  
16 \$5/mmBtu to protect against market volatility and structural shifts.

17 **F. Current Gas Prices are Well Below \$5/MMBtu.**

18 The revenue requirement cost of this investment begins at \$5/MMBtu. This is well above  
19 the cost of natural gas in today’s market.

20

21 **Average Natural Gas Prices (\$/MMBtu)<sup>57</sup>**

22

	<b>Th.,06/02</b>	<b>Tue.,06/07</b>	<b>Th.,06/09</b>
23 Henry Hub	2.30	2.29	2.32

24

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<sup>52</sup>UE 308/PGE/100/Tinker – Sims/17,

<sup>53</sup>*Ibid.*

<sup>54</sup>UE 308/PGE/ 100/Tinker - Sims / 10.

<sup>55</sup>UE 308/PGE/ 100/Tinker - Sims / 13.

<sup>56</sup>Actual numbers behind the graph are in PGE’s workpapers.

<sup>57</sup>Clearing Up, June 10, 2016, No. 1752, Page 6.

1	Sumas	1.92	1.69	1.30
2	Alberta	1.17	1.28	1.01
3	Malin	2.22	2.13	2.15
4	Opal/Kern	2.15	2.09	2.10
5	Stanfield	2.12	1.99	1.97
6	PG&E CityGate	2.42	2.35	2.34
7	SoCal Border	2.28	2.18	2.19
8	EP-Permian	2.14	2.10	2.12
9	EP-San Juan	2.15	2.11	2.13

10 **G. Front-Loading the Cost of Fuel Gives a Gas Plant a Revenue Requirement**  
11 **Shape Associated With a Wind Plant**

12  
13 Above, CUB discusses the impact of front-load rate base. Because customers pay  
14 both a return of the capital investment and a return on all the future undepreciated  
15 investment, the revenue requirement impact of that rate base falls heavily on the  
16 customers in the early years.

17 In looking at generation resources, renewable projects have no ongoing fuel costs,  
18 but are nearly entirely capital investment. They tend to have the most front-loaded  
19 revenue requirement. While the capital investment associated with a gas plant is also  
20 front-loaded, that gas plant also has fuel costs. Because fuel costs tend to rise over time –  
21 therefore offsetting the declining rate base revenue requirement – gas plants tend to have  
22 a more levelized revenue requirement than renewable projects.

23 By front-loading some of the fuel supply of that gas plant, PGE is changing the  
24 revenue requirement shape of the plant so it starts to look more like a renewable resource.  
25 CUB is skeptical that this is a good idea. Having a diversity of resources with different  
26 revenue requirement shapes seems to be helpful in managing risk.

Because renewables tend to have front-loaded revenue requirements, having gas  
plants with more levelized revenue requirements helps keep rate affordable and avoids  
rate shock. CUB is not convinced there is a compelling reason to change this revenue  
requirement shape.

1 ***i. The Revenue Requirement Shape Could Change by Changing the Depreciation***  
2 ***Schedule, but This is Problematic***  
3

4 The front-loading of rate base is caused by the fact that the Company gets to  
5 charge customers for both the investment and the return on the investment. Exhibit 303  
6 demonstrates that this is how PGE intends to collect the revenue requirement associated  
7 with this capital investment.<sup>58</sup> The effect of this, however, could be reduced by changing  
8 the depreciation schedule so more of the investment is paid off later. A home mortgage,  
9 for example, is not front-loaded. In the early years of a home mortgage a homeowner is  
10 paying significant interest and very little principle. Over time this changes, and by the  
11 end a small share of the monthly payment is going to interest.

12 By changing the depreciation schedule so we collect less of the capital investment  
13 early, we can attempt to change the revenue requirement shape of a capital investment so  
14 it is more levelized, but this is problematic for a couple of reasons:

- 15 • It increases the financing charges that customers pay. The interest that customers pay  
16 to utilities for investments is significantly higher than the interest rate on a mortgage.  
17 And, instead of a tax write-off, the equity share of this “interest payment” has to be  
18 grossed up by 40% to account for the income taxes the utility has to pay. This means  
19 shifting the capital investment so more of it is recovered in later years adds millions  
20 of dollars of additional financing costs.
- 21 • It increases the risk of stranded costs. Generally, the depreciation schedule for an  
22 asset should relate to how fast that asset is utilized. CUB’s understanding, is that  
23 once drilled, natural gas wells see declining volumes of gas produced.<sup>59</sup> This means  
24 production in the first year is much greater than production in the 10<sup>th</sup> year, or the 30<sup>th</sup>

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<sup>58</sup> UE 308/PGE/303/Russell - Tooman/1.

<sup>59</sup> *Id.*

1 year. The more that we are shifting costs onto those latter years, where there is less  
2 production, the greater risk we are placing on cost recovery. For example, if we  
3 adopted a depreciation schedule where half the capital costs were going to be  
4 recovered with the last ¼ of the gas produced, there could be a cost recovery problem  
5 if the depletion rate of the well is greater than we expected and its useful life is 25  
6 rather than 30 years.

#### 7 **H. PGE's Proposed Guidelines for Long-Term Hedging Should be Rejected**

8 PGE proposes four guidelines and states:

9  
10 [If] PGE proposes a transaction within approved guidelines (and with  
11 appropriate documentation), the presumption is that the transaction is  
12 prudent subject to Commission determination that new circumstances or  
13 evidence demonstrates otherwise.<sup>60</sup>

14 CUB believes that PGE's guidelines are flawed and meeting PGE's  
15 guidelines are not nearly enough to provide a presumption of prudence.

#### 16 PGE's Four Guidelines

17 Guideline (1): Establish that the "Long-Term Projected Cost" must be at or below  
18 the comparable "Long-Term Benchmark Price."

19 Guideline (2): Establish a maximum gas purchase commitment.

20 Guideline (3): Enter into transactions for properties that contain "Proved Reserves"  
21 or "Probable Reserves".

22 Guideline (4): Establish limits within which the unit cost of the long-term gas is  
23 incorporated into PGE's annual power cost update (i.e., AUT filing).<sup>61</sup>

24  
25 There are no guidelines concerning the due diligence PGE should undertake to  
26 ensure that there are limited risks to this investment. There are no guidelines concerning  
27 what information PGE needs to document their evaluation of these investments.

28 Guideline 3 shows that these guidelines only relate to rate basing natural gas reserves and

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<sup>60</sup> UE 308 /PGE/200/Sims - Outama/ 2.

<sup>61</sup> UE 308 /PGE/200/Sims - Outama/ 3.

1 do not apply to alternative methods for securing long term hedges. There is no guideline  
2 that the utility consider other long-term hedges that are not rate based investments.  
3 Instead all we have is these simple four guidelines. And, these guidelines themselves  
4 offer little protection to customers.

5 *i. Guideline (1): Establish That the "Long-Term Projected Cost" Must Be at or*  
6 *Below the Comparable "Long-Term Benchmark Price"*

7  
8 PGE is attempting to establish a basis to determine whether an investment is cost  
9 effective. But the Long-Term Benchmark Price is defined as the real levelized cost used  
10 in PGE's IRP<sup>62</sup>. PGE does one IRP every two years. In PGE's 2009 IRP, by the time the  
11 IRP decision reached the Commission, Staff, and NWECA were arguing that the natural  
12 gas forecast was out of date and inaccurate.<sup>63</sup>

13 The IRP natural gas forecast is often stale and should not be used to establish a  
14 presumption of cost effectiveness that leads to a presumption of prudence. This guideline  
15 should be rejected.

16 *ii. Guideline (2): Establish a Maximum Gas Purchase Commitment*

17 While PGE identifies this guideline as establishing a maximum, all the discussion  
18 of the guideline is about a requirement that PGE engage in long-term hedging for a  
19 minimum of 15% of its gas supply and a maximum of 30%.<sup>64</sup> CUB objects to this  
20 guideline. At this point in time, Oregon has limited experience with these kinds of  
21 transactions, such as NWN's Encana deal and NWN's Post Carry Wells. Both of these  
22 examples have had gas production that is well below was projected in the prudence

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<sup>62</sup> UE 308 /PGE/200/Sims – Outama/4.

<sup>63</sup> OPUC Order No. 10-457, page 6.

<sup>64</sup> UE 308/PGE/200/Sims - Outama/4

1 review.<sup>65</sup> Since there is no experience of customers actually benefiting from a rate base  
2 investment in gas reserves in Oregon, CUB recommends that the guideline be rejected.  
3 There is no demonstration that customers will benefit from rate basing 15% to 30% of its  
4 gas supply.

5 **iii. Guideline (3): Enter into Transactions for Properties that Contain "Proved**  
6 **Reserves" or "Probable Reserves"**

7  
8 Proven reserves are reserves where a consultant believes there is a 90% likelihood  
9 that production estimates will be reached. Probable reserves are reserves where a  
10 consultant believes there is a 50% likelihood that production estimates reach proven plus  
11 probable projections.<sup>66</sup> The consultants that make these projections are professionals but  
12 are typically hired by natural gas extraction companies that are drilling thousands or tens  
13 of thousands of wells. The risk factor for a utility which does not have internal expertise  
14 in drilling and will drill dozens of wells is much greater.

15 The NWN experience<sup>67</sup> raises concerns about whether this will give customers  
16 enough protection. When considering its proposal to rate base natural gas reserves,  
17 NWN hired Netheland Sewell and Associates (NSAI) a "respected" firm that provides  
18 independent projections of reserves. NSAI determined that the reserves that NWN  
19 purchased were classified as "Proved Reserves, which means there is a 90% probability  
20 that actual volumes will equal or exceed estimated volumes."<sup>68</sup> The first set of wells that  
21 NWN invested in were called the Carry Wells and there production was lower than the  
22 forecast.<sup>69</sup> The second set of wells called the Post Carry Wells was even worse.

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<sup>65</sup> OPUC Order No. 15-297 at 3.

<sup>66</sup> UE 308/PGE/200/Sims - Outama / 7.

<sup>67</sup> i.e., in UM 1520.

<sup>68</sup> UM 1520/Joint/100/Zimmerman-Miller-Jenks-Pyron/7-8.

<sup>69</sup> OPUC Order No 15-297, page 3.

1 Production at those wells “has been materially below expectations. NW Natural now  
2 projects that these wells will produce on average 1.1 Bcf - well below its 1 .6 Bcf break-  
3 even threshold.”<sup>70</sup>

4 *iv. Guideline (4): Establish Limits Within Which the Unit cost of the Long-Term Gas is*  
5 *Incorporated into PGE's Annual Power Cost Update (i.e., AUT filing)*

6 This guideline has little to do with determining prudence and concerns the  
7 ratemaking for a project after prudence is determined.

8 *v. Presumption of Prudence in Guidelines*

9 The primary purpose of these guidelines is to allow PGE to go forward and invest  
10 potentially hundreds of millions of dollars in rate based natural gas reserves with a  
11 presumption of prudence. As such, they offer more protection to shareholders than they  
12 do to ratepayers. The Commission should reject these guidelines.

13 **II. Other Issues**

14 **A. EIM Benefits Should Not Be Zero**

15 *i. PGE's Exhibit Lists a Cost and Benefit Estimate for the Energy Imbalance*  
16 *Market (EIM), but the AUT Filing Projects Zero Benefits and Costs*

17 PGE's testimony outlines specific costs it expects to incur upon entry into EIM. In  
18 particular, the Company expects “\$11 million in capital, which would represent a revenue  
19 requirement of approximately \$3.5 million in year one of the project's book life.”<sup>71</sup> There  
20 is also an estimate of \$1.9 million that the Company is expected to incur by October 1,  
21 2017.<sup>72</sup> In addition to these costs, the Company highlights a series of benefits pertaining

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<sup>70</sup> *Ibid.* page 4.

<sup>71</sup> UE 308/PGE/400/Niman-Peschka-Hager/20.

<sup>72</sup> *Ibid.*



1 to entry into EIM, specifically sub-hourly dispatch savings, flexible reserve savings, and  
 2 reliability benefits.<sup>73</sup> The Company enlisted Energy + Environmental Economics (E3) to  
 3 do a study of costs and benefits,<sup>74</sup> which PGE includes as Exhibit 402.

4 The E3 study estimates that the startup cost of PGE entering EIM would be  
 5 around \$645,000, with ongoing costs of \$ 400,000-500,000 a year.<sup>75</sup> Importantly, E3 also  
 6 provided the Company with a range of benefit estimates, seen below:<sup>76</sup>

**Table 1. Annual Savings to PGE from Participation in Western EIM or NWPP SCED (2015 \$million)**

Scenario	Western EIM Savings	NWPP SCED Savings
<b>Sub-hourly Dispatch Savings only</b>		
Base Case	\$2.7	\$4.6
High Gas Price	\$5.8	\$6.4
Alt. Transmission Transfer <sup>7</sup>	\$3.0	N/A
<b>High RPS Case</b>	<b>\$6.1</b>	<b>\$7.2</b>

7 In addition to this range, E3 estimates the following:<sup>77</sup>

**Table 2. PGE's diversity benefit from Western-EIM and NWPP-SCED**

Scenario	Western EIM Savings	NWPP SCED Savings
<b>Sub-hourly Dispatch Savings only</b>		
Base Scenario	\$2.7	\$4.6
<b>Dispatch and Reserve savings</b>		
Base Scenario with Reserve Pooling	\$3.5	\$5.3

8  
 9 The tables show a range of benefits from \$2.7 million to \$7.2 million, based on  
 10 various assumptions, but the base case scenario is well above the yearly estimated cost of  
 11 \$500,000 a year, and also above PGE's estimated start-up cost of \$1.9 million.

<sup>73</sup> UE 308/PGE/400/Niman-Peschka-Hager/17.

<sup>74</sup> *Id.*

<sup>75</sup> UE 308/PGE/402/Niman-Peschka-Hager/9.

<sup>76</sup> UE 308/PGE/402/Niman-Peschka-Hager/10.

<sup>77</sup> UE 308/PGE/402/Niman-Peschka-Hager/11.

1 Presumably, the Company would not be entering into EIM if there was no benefit  
2 to doing so. However, the Company is projecting neither costs nor benefits in its AUT  
3 filing:

4 **Q. Have you included EIM benefits and costs in this case?**

5  
6 A. No. Due to the uncertainty surrounding the level of benefits that will be  
7 achieved and the costs that will be incurred, particularly in the early stages  
8 of PGE's participation in the EIM, we propose to set benefits equal to zero  
9 in our 2017 forecast.<sup>78</sup>

10  
11 Moreover, the Company states that it does not "plan to defer costs associated with  
12 EIM implementation or participation."<sup>79</sup> According to the way PGE models its forecast,  
13 because the benefit forecast is zero, the cost forecast is also zero. The Company states in  
14 its testimony that it will enter the EIM market on October 1, 2017.<sup>80</sup> Thus, there are three  
15 months of costs and benefits that are not included in PGE's AUT filing.

16 As an additional note, it is ironic that in PacifiCorp's TAM proceeding,  
17 PacifiCorp is forecasting a financial benefit to its customers from PGE joining the EIM  
18 and is proposing to pass that benefit through to its customers.<sup>81</sup>

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<sup>78</sup> UE 308/PGE/400/Niman-Peschka-Hager/20; 22-25.

<sup>79</sup> See CUB Exhibit 107.

<sup>80</sup> UE 308/PGE/400/Niman-Peschka-Hager/17; 2.

<sup>81</sup> UE 307 - 2017 Transition Adjustment Mechanism PacifiCorp's List of Corrections or Omissions,  
<http://edocs.puc.state.or.us/efdocs/HAH/ue307hah92148.pdf>.

1 **B. By Not Including a Value for EIM Benefits, PGE Is Effectively Forecasting Those**  
2 **Benefits to Be Zero**

3 As CUB explains above, there is clear evidence on the record that zero is not a  
4 reasonable forecast for EIM benefits. While CUB is not offering a specific value in this  
5 testimony, CUB will be reviewing other Parties' testimony on EIM benefits and will  
6 either propose a specific non-zero value for the forecast of benefits or will propose a  
7 tracking mechanism to ensure that these benefit flow through to customers.

8 **B. Wind Day-Ahead Forecast Error Cost Update.**

9 PGE recently (June 9, 2016) filed a letter with the parties letting parties know that  
10 PGE was changing the methodology used to forecast the Day-Ahead Forecast Error from  
11 what was used in the initial filing and this would nearly double the cost from \$0.2/MWh  
12 to \$0.38/MWh.<sup>82</sup> PGE also filed a confidential attachment that provides the ROM  
13 summary sheet.

14 In that letter PGE is clear that the methodology that was used in the initial filing  
15 was consistent with the estimate generated in its last general rate case (UE 294) but  
16 adjusted for one year of escalation. The update this month was based on "enhancement  
17 in the model that now provides sub-hourly (i.e. 15-minute) dispatch capability and more  
18 explicit ramp rate constraints."<sup>83</sup>

19 This modeling enhancement should be rejected. The AUT (previously called the  
20 RVM) was controversial for years because of the constant tinkering with the underlying  
21 models. Rather than a simple, abbreviated case that simply updates variable power costs,  
22 it became a series of annual price adjustments based on modeling changes, not changes in

---

<sup>82</sup> UEE 308 - Wind Day-Ahead Forecast Error Cost Update. Accessed at  
<http://edocs.puc.state.or.us/efdocs/HAH/ue308hah153758.pdf>.

<sup>83</sup> *Ibid.*

1 costs and revenues. This led to an agreement that modeling enhancements would be  
2 limited to the years that PGE filed a General Rate Case. The idea was to lock down the  
3 modeling between general rate cases, and focus on actual changes in variable power  
4 costs.

5 This is reflected in the Minimum Filing Requirements (“MFR”) that PGE  
6 included with its testimony:

7 In either an AUT year (April 1 initial filing) or a GRC year (Feb. 28 initial  
8 filing), at a minimum the following portion of the Direct Case Filing  
9 MFRs will be delivered with the initial filing:

- 10 • Summary Documents (Items 1-6)
- 11 • Modeling Enhancements and New Item Inputs (Item 14)- not applicable  
12 in AUT year.<sup>84</sup>

13 These MFRs show two problems with PGE’s Wind Forecast Error modeling  
14 enhancement. First, the filing requirements for model enhancements is not applicable for  
15 AUT years because model enhancements are not allowed during AUT years. Second,  
16 when modeling enhancements are allowed (GRC years), those enhancements are required  
17 to be filed with the Direct Case by February 28. There is no provision that allows PGE to  
18 add a modeling enhancement in June of an AUT year. This modeling enhancement  
19 should be rejected.

20

### 21 **III. Conclusion**

22 In its 2017 AUT filing, PGE has proposed a cost reduction of 32.3 million relative  
23 to last year’s forecast. However, this does not mean that there aren’t significant issues

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<sup>84</sup> UE 308/ PGE/ 401/Niman - Peschka - Hager/1.

1 with the Company's current filing. As CUB has stated above, our main concerns with  
2 PGE's proposals are:

- 3 • PGE's proposal to rate base gas reserves;
- 4 • Energy Imbalance Market (EIM) benefits and costs; and
- 5 • PGE's modeling enhancement related to the wind day-ahead forecast  
6 error.

7 CUB's primary concern with PGE's long-term hedging proposal is that it is not a  
8 variable cost. It is a rate base asset and there precedents in Oregon that lead CUB to  
9 approach this investment with skepticism. These precedents are UM 1520 and LC 60. In  
10 addition, there is not enough time in this proceeding to conduct sufficient review for  
11 prudence. Both UM 1520 and LC 60 had more time overall to review long-term hedging  
12 investments, so CUB believes it is necessary to approach PGE's proposal with the same  
13 level of caution. PGE's proposal also changes the traditional the shape of revenue  
14 requirement associated with a gas plant, and CUB has concerns about the inter-  
15 generational equity issues associated with the investment. CUB also has reservations with  
16 PGE's proposed guidelines and believes they should be rejected for reasons stated in  
17 Section II.

18 In addition to concerns about gas reserve hedging, CUB believes that PGE should  
19 not be forecasting zero EIM benefits as we believe there is evidence to the contrary.

20 PGE's day-head wind forecasting modeling enhancement should also be rejected  
21 on the grounds that filing requirements for model enhancements are not applicable for  
22 AUT years and also because there is no provision that allows PGE to add a modeling  
23 enhancement in June of an AUT year.

## WITNESS QUALIFICATION STATEMENT

**NAME:** Bob Jenks

**EMPLOYER:** Citizens' Utility Board of Oregon

**TITLE:** Executive Director

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

**EDUCATION:** Bachelor of Science, Economics  
Willamette University, Salem, OR

**EXPERIENCE:** Provided testimony or comments in a variety of OPUC dockets, including UE 88, UE 92, UM 903, UM 918, UE 102, UP 168, UT 125, UT 141, UE 115, UE 116, UE 137, UE 139, UE 161, UE 165, UE 167, UE 170, UE 172, UE 173, UE 207, UE 208, UE 210, UE 233, UE 246, UE 283, UG 152, UM 995, UM 1050, UM 1071, UM 1147, UM 1121, UM 1206, UM 1209, UM 1355, UM 1635, UM 1633, and UM 1654. Participated in the development of a variety of Least Cost Plans and PUC Settlement Conferences. Provided testimony to Oregon Legislative Committees on consumer issues relating to energy and telecommunications. Lobbied the Oregon Congressional delegation on behalf of CUB and the National Association of State Utility Consumer Advocates.

Between 1982 and 1991, worked for the Oregon State Public Interest Research Group, the Massachusetts Public Interest Research Group, and the Fund for Public Interest Research on a variety of public policy issues.

**MEMBERSHIP:** National Association of State Utility Consumer Advocates  
Board of Directors, OSPIRG Citizen Lobby  
Telecommunications Policy Committee, Consumer Federation of America  
Electricity Policy Committee, Consumer Federation of America  
Board of Directors (Public Interest Representative), NEEA

## WITNESS QUALIFICATION STATEMENT

**NAME:** Nadine Hanhan

**EMPLOYER:** Citizens' Utility Board of Oregon (CUB)

**TITLE:** Utility Analyst

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

**EDUCATION:** Master of Science, Applied Economics, 2015  
Oregon State University, Corvallis, OR

Bachelor of Arts, Economics and Philosophy, 2010  
California State University San Bernardino, San Bernardino, CA

**WORK EXPERIENCE:** Provided testimony and comments in dockets including LC 55, LC 56, LC 57, LC 58, LC 59, LC 60, LC 61, LC 62, LC 63, UE 264, UE 296, UM 1505, UM 1657, UM 1662, UM 1667, UM 1675, UM 1716, UM 1719, and UM 1746. Also worked at CUB as an analyst on various other dockets, including UE 246, UE 262, UE 263, and UM 1720.

April 29, 2016

TO: Sarah Knox-Ryan  
Citizens Utility Board of Oregon (CUB)

FROM: Patrick Hager  
Manager, Regulatory Affairs

**PORTLAND GENERAL ELECTRIC  
UE 308  
PGE Response to CUB Data Request No. 025  
Received April 15, 2016**

**Request:**

**The AUT is an automatic adjustment clause for variable power costs.**

- a. Please explain how the capital investment in a gas field is considered a variable power cost and not a fixed cost.**
- b. What is the basis to seek prudence determination of a long-term rate based investment in the AUT?**
- c. What is the basis to introduce a long-term rate based investment in an AUT update?**
- d. Has PGE ever proposed recovery of a rate based asset in the AUT (or its predecessors)?**

**Response:**

- a. PGE's proposal calls for an affiliated entity, Portland General Gas Supply Co. (PGGS) to transact for gas reserves. As a result, PGGS will have a capital investment. PGGS will then sell the produced gas to PGE on a cost-of-service basis in accordance with the terms of the Purchase Gas Agreement, submitted as part of PGE's request in Docket No. UI 371. Because PGE will use this gas as fuel for its gas-fired thermal plants, it is no different than other gas purchases and/or physical hedges, which are appropriately treated as variable power costs and included in PGE's power cost forecast (i.e., AUT filings) and actual power costs (i.e., PCAM filings). As noted in part d, below, the price that PGE pays for these purchases undoubtedly includes a fixed cost component such as return on and of capital.
- b. PGE is seeking a prudence determination for the cost per MMBtu of its proposed long-term gas hedge to be included in AUT filings. We believe this to be very similar to the NW Natural determination in Commission Order No. 11-176, wherein the cost of NW Natural's



UE 308 PGE Response to CUB DR No. 025

April 29, 2016

Page 2

long-term gas investment will be included in its annual purchased gas adjustment mechanism.

- c. See PGE's response to part a, above. PGE proposes to include cost-of-service gas in its AUT filings as described in PGE Exhibit 300, Section IV. Specifically, the AUT inputs to PGE's MONET model will include the cost per MMBtu and average daily gas volume. These amounts are appropriate to include in PGE's AUT filing because Schedule 125-1 specifies that the following updates "will be made in each of the Annual Power Cost Update filings":
- Contracts for the purchase or sale of power and fuel.
  - Changes in hedges, options, and other financial instruments used to serve retail load.
- d. In its AUT filing, PGE is requesting recovery of cost-of-service gas that will be used to fuel its gas-fired thermal plants. The fact that this cost per MMBtu includes fixed costs is no different than other gas purchased from unaffiliated producers. All gas and energy purchases that are priced at cost or higher (market conditions allowing) will include applicable fixed costs and return on investment.

April 29, 2016

TO: Sarah Knox-Ryan  
Citizens Utility Board of Oregon (CUB)

FROM: Patrick Hager  
Manager, Regulatory Affairs

**PORTLAND GENERAL ELECTRIC  
UE 308  
PGE Response to CUB Data Request No. 024  
Received April 15, 2016**

**Request:**

**See UE 308/PGE/300/Russell-Tooman. With regards to PGE's participation in a non-operating working interest, please explain and document how PGE is evaluating the following risks:**

- a. Water**
- b. Ozone**
- c. Greenhouse gas**
- d. Spills**
- e. Royalty risks**
- f. Tax litigation risk**
- g. Dry hole risk**
- h. Pre-existing liens**
- i. Bankruptcy risk**
- j. Ownership change risk**

**Response:**

PGE objects to this request on the grounds that it is vague and ambiguous. PGE did not provide this list in testimony or exhibits and the terms and issues are not defined. Without waiving this objection, PGE responds as follows:

- a. PGE will conduct reasonable due diligence as described in PGE Exhibit 300, Section II, Part C, pages 7-12, regarding risks associated with water including the potential to contaminate water and potential water supply issues. Following any purchase, regularly scheduled inspections and audits will be conducted to confirm that all practical mitigation efforts are being conducted.
- b. PGE will conduct reasonable due diligence as described in PGE Exhibit 300, Section II, Part C, pages 7-12, regarding risks associated with emissions of ozone (smog) forming compounds. Following any purchase, regularly scheduled inspections and audits will be conducted to confirm that all practical mitigation efforts are being conducted.
- c. PGE will conduct reasonable due diligence as described in PGE Exhibit 300, Section II, Part C, pages 7-12, regarding risks associated with emissions of greenhouse gases. Following any purchase, regularly scheduled inspections and audits will be conducted to confirm that all practical mitigation efforts are being conducted.
- d. PGE will conduct reasonable due diligence as described in PGE Exhibit 300, Section II, Part C, pages 7-12, regarding risks associated with spill prevention. Following any purchase, regularly scheduled inspections and audits will be conducted to confirm that all practical mitigation efforts are being conducted.
- e. PGE will conduct reasonable due diligence regarding land and title issues, including a review of the land records, recorded liens, leases and royalty interest holders.
- f. PGE will conduct reasonable due diligence regarding any pending litigation and tax implications of the transaction.
- g. PGE has retained Netherland Sewell and Associates Inc. (NSAI) to help PGE evaluate resource proposals for both new wells and existing wells that PGE might consider. PGE will work closely with NSAI to evaluate any drilling programs and will factor the statistical likelihood of dry holes into its decision making. Existing wells, however, are actively producing and therefore not considered to be dry holes.
- h. See (e) above.
- i. PGE will conduct reasonable due diligence regarding the financial condition of any counterparty to assess counter-party and bankruptcy risk. Depending upon the results of such due diligence efforts, the terms and conditions of the final definitive agreement may address and mitigate this risk.
- j. The definitive agreements will include assignment provisions governing the assignment of contractual rights and will be subject to negotiation, agreement, and final documentation in the definitive agreements. In addition, the definitive agreements will reflect binding contractual obligations that will be binding upon any assignee or successor entity.

June 9, 2016

TO: Sarah Knox-Ryan  
Citizens Utility Board of Oregon (CUB)

FROM: Patrick Hager  
Manager, Regulatory Affairs

**PORTLAND GENERAL ELECTRIC  
UE 308  
PGE Response to CUB Data Request No. 033  
Received May 26, 2016**

**Request:**

**Please see PGE's data response to CUB data request 17. As part of its response, the Company states, "A decision has not been made. PGE is not exclusively pursuing non-operated working interests." However, the Company [REDACTED] [REDACTED] for long-term hedging costs. Please explain how the [REDACTED] [REDACTED] if a decision has not yet been made.**

**Response:**

PGE included the referenced amount as a pro forma estimate based on preliminary discussions with one of PGE's potential counterparties and because, at that time and to date, cost-effective, long-term alternatives to a non-operating working interest have not been available. "Based on our research and evaluations conducted to date, a non-operating working interest appears to provide the best long-term value for PGE's customers" (PGE Exhibit 300, page 12). In addition, PGE included the pro forma estimate with the expectation that it could change significantly as we further evaluated potential counterparties and negotiated possible transactions. See PGE Exhibit 600, page 5, lines 13-18, for the updated cost/MMBtu and volume associated with the term sheet provided as PGE Exhibit 601C.

By way of example, Attachment 033-A provides an analysis of a recent long-term alternative to a non-operating working interest and demonstrates that it is not cost-effective. PGE continually evaluates the market for these types of products and Attachment 033-A is typical in that it is priced at a premium to our long-term market forecast. Attachment 033-A is protected information and subject to Protective Order No. 16-137.

**UE 308**

**Attachment 033-A**

**Provided in Electronic Format only**

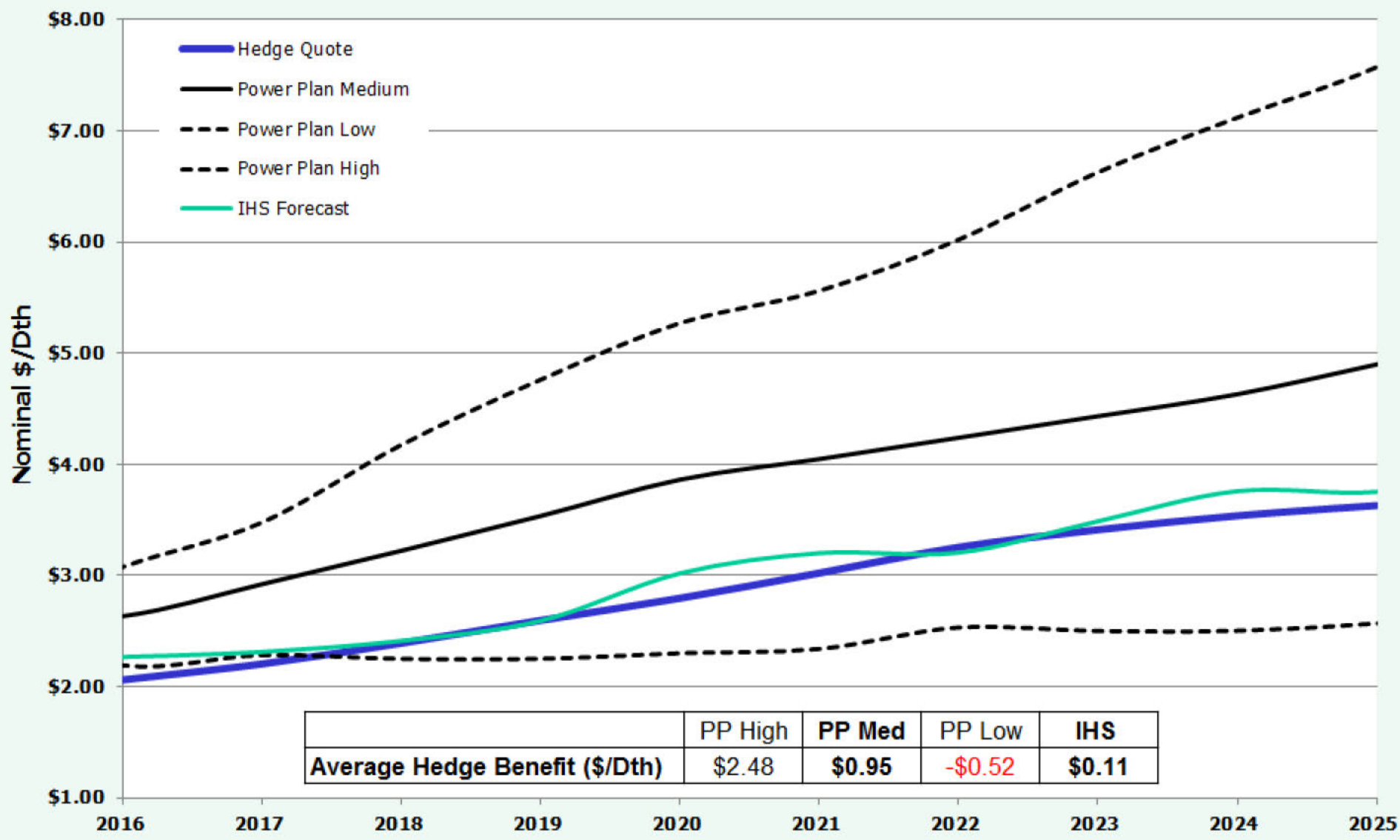
**Protected Information Subject to Protective Order No. 16-137**

Alternative to Non-Operating Working Interest

CUB Exhibit 105 is confidential and was submitted to each party designated to receive confidential information pursuant to Order 16-137.



### Financial Hedge Price vs Price Forecasts- January 2016 Example



CUB Exhibit 107 is confidential and was submitted to each party designated to receive confidential information pursuant to Order 16-137.



June 14, 2016

TO: Sarah Knox-Ryan  
Citizens Utility Board of Oregon (CUB)

FROM: Patrick Hager  
Manager, Regulatory Affairs

**PORTLAND GENERAL ELECTRIC**  
**UE 308**  
**PGE Response to CUB Data Request No. 038**  
**Received June 6, 2016**

**Request:**

**Is the Company planning on deferring any of the costs of EIM (both start-up costs and otherwise)? If so, please detail and estimate the costs that the Company plans to defer. Please provide a demonstration/explanation of the Company's understanding of prudence/used and usefulness for EIM investments when the Company is forecasting no benefit to customers during the forecasted time period.**

**Response:**

PGE objects to this request to the extent that it seeks a legal opinion from PGE. Without waiving its objection, PGE responds as follows.

No, PGE does not currently plan to defer costs associated with EIM implementation or participation.

With respect to prudence, PGE excluded costs and benefits from its 2017 net variable power cost forecast. Since costs and benefits are excluded, a prudence determination by the Commission in Docket No. UE 308 is not necessary.

PGE believes that its decision to participate in the Western EIM is prudent as part of its efforts to enhance operational efficiency, integrate renewable resources, and optimize PGE's generation portfolio. The key capital projects described in PGE Exhibit 400, pages 19 – 20 will be used to enable PGE's participation in the Western EIM. PGE is preparing for a market entry date of October 1, 2017.

## UE 308 – CERTIFICATE OF SERVICE

I hereby certify that, on this 20<sup>th</sup> day of June, 2016, I served the foregoing **CUB Confidential Testimony & Exhibits** in docket UE 308 upon the Commission and each party designated to receive confidential information pursuant to Order 16-137 by U.S. mail, postage prepaid.

Bradley Mullins	Mountain West Analytics	333 SW Taylor Ste. 400	Portland	OR	97204
Tyler C. Pepple	Davison Van Cleve	333 SW Taylor Ste. 400	Portland	OR	97204
S. Bradley Van Cleve	Davison Van Cleve	333 SW Taylor Ste. 400	Portland	OR	97204
Gregory M. Adams	Richardson Adams	PO Box 7218	Boise	ID	83702
Douglas C. Tingey	PGE	121 SW Salmon St. 1WTC-0306	Portland	OR	97204
Jay Tinker	PGE	121 SW Salmon St. 1WTC-0306	Portland	OR	97204
Stephanie S. Andrus	PUC Staff - DOJ - Business Activities Section	1162 Court St. NE	Salem	OR	97301-4096
John Crider	OPUC	PO Box 1088	Salem	OR	97308-1088

Respectfully submitted,



Michael P. Goetz, OSB #141465  
Staff Attorney  
Citizens' Utility Board of Oregon  
610 SW Broadway, Ste. 400  
Portland, OR 97205  
(503) 227-1984 phone  
(503) 224-2596 fax  
[mike@oregoncub.org](mailto:mike@oregoncub.org)