



# Oregon

Kate Brown, Governor

## Public Utility Commission

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January 4, 2019

### ***Via Electronic Filing***

OREGON PUBLIC UTILITY COMMISSION  
ATTENTION: FILING CENTER  
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**RE: Docket No. UG 344 Ph 2 – In the Matter of  
NORTHWEST NATURAL GAS COMPANY, dba NW NATURAL,  
Request for a General Rate Revision.**

Attached are Exhibits 1800-1801 for Staff Cross Answering Testimony.

*/s/ Kay Barnes*

Kay Barnes

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CASE: UG 344 Phase 2  
WITNESS: JOHN L. FOX

**PUBLIC UTILITY COMMISSION  
OF  
OREGON**

**STAFF EXHIBIT 1800**

**Staff Cross-Answering Testimony**

**January 4, 2019**

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

2 A. My name is John L. Fox. I am a Senior Financial Analyst employed in the  
3 Energy Rates, Finance and Audit Division of the Public Utility Commission of  
4 Oregon (OPUC). My business address is 201 High Street S.E., Suite 100,  
5 Salem, Oregon 97301.

6 **Q. Have you previously provided testimony in this case?**

7 A. Yes, I provided Opening Testimony labeled Exhibit Staff 300, Rebuttal and  
8 Cross-Answering Testimony labeled Exhibit Staff 1500 and Staff Rebuttal  
9 Testimony labeled Exhibit Staff 1700.

10 **Q. What is the purpose of your testimony?**

11 A. The purpose of my testimony is to further elaborate on the background and  
12 environment giving rise to Northwest Natural Gas Company's (NW Natural or  
13 Company) pension balancing account problem and provide Staff's response to  
14 certain elements of the rebuttal testimony filed by the Oregon Citizen's Utility  
15 Board (CUB) and Alliance of Western Energy Consumers (AWEC).

16 **Q. Did you prepare an exhibit for this docket?**

17 A. Yes. I prepared Exhibit Staff/1801, which is a table showing rates of return for  
18 the pension balancing account assumed by the Company during the period  
19 2009-2017.

20 **Q. How is your testimony organized?**

21 A. My testimony is organized as follows:

22	Issue 1. Further Discussion and Background Regarding the Pension	
23	Balancing Account (PBA) .....	2
24	Issue 2. Staff Response to Rebuttal Testimony of AWEC and CUB .....	10



1 Company to set aside resources sufficient to pay the benefits due to  
2 employees in the future.<sup>1</sup>

3 The Pension Trust is a separate economic and legal entity<sup>2</sup> that  
4 receives the Company's cash contributions and invests them for the benefit  
5 of, and eventual payment to, the Company's employees who are plan  
6 participants. Although the plan trustees can include individuals who are also  
7 employees of the Company, trustees must act independently and have a  
8 fiduciary responsibility to the plan participants not the Company itself.

9 The Customers are the Company's ratepayers, who ultimately may  
10 provide the funds necessary for the Company to provide a retirement benefit  
11 through inclusion of pension costs in ratemaking proceedings.

12 The Company employees enrolled in the pension plan are the Plan  
13 Participants.<sup>3</sup>

14 **Q. Please discuss certain basic pension terms and concepts that have**  
15 **been introduced into the record in this proceeding and past**  
16 **Commission orders regarding pensions.**

17 A. A working understanding of certain terms and concepts is essential to  
18 understanding the various assertions of the parties regarding the PBA. Most

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<sup>1</sup> The Company cites changes in minimum funding standards as one of the circumstances beyond its control that resulted in the PBA's failure to reverse. NW Natural/2800, Wilson/16.

<sup>2</sup> Federal law requires that retirement plans fund promised benefits adequately and keep plan assets separate from the employer's business assets. The funds must be held in trust or invested in an insurance contract. The employer's creditors cannot make a claim on retirement plan funds. <https://www.dol.gov/agencies/ebsa/about-ebsa/our-activities/resource-center/faqs/retirement-plans-and-erisa-consumer>, accessed 12/21/2018.

<sup>3</sup> As noted in testimony, the defined benefit plans at issue are closed to new participants. See NW Natural/2800, Wilson/5.

1 terms and concepts have been defined and footnoted in previous testimony.  
2 However, without a background in pension accounting and administration, it  
3 can be difficult to understand how each of the entities or groups interact in the  
4 pension benefit process.

### 5 **FAS 87 Expense**

6 FAS 87 expense is the annual actuarially determined expense recognized by  
7 the Company for financial statement purposes. The sum of FAS 87 expense  
8 over the life of the pension plan should be equal to the amount of cash benefits  
9 paid out of the Pension Trust less the earnings from investment of trust assets.

10 The components<sup>4</sup> of FAS 87 expense are the elements necessary to  
11 account for the changing estimates and timing issues inherent in running a  
12 pension program. Although the components may be complex, it is important  
13 to remember what FAS 87 represents; the full cost to the Company of  
14 providing the pension benefit. The Commission has chosen to allow only  
15 FAS 87 cost in rates that will result in the Company recovering the full cost of  
16 pension benefits from Customers; not more, not less.

### 17 **Cash Contributions**

18 This is the amount the Company actually transfers to the Pension Trust. Cash  
19 contributions can be more, less, or equal to FAS 87 expense in any particular  
20 year. Contributions are invested by the Pension Trust until needed to pay  
21 benefits to Plan Participants. Ultimately, the amount of contributions plus

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<sup>4</sup> Components of FAS 87 expense are current service cost, amortization of unrecognized prior service costs, interest on the pension liability, actual return on plan assets, and amortization of gains and losses.

1 investment earnings, over the life of the plan, should be equal to the amount of  
2 cash benefits paid to Plan Participants.

3 Key concept: The amount of cash contributions to the Pension Trust,  
4 over the life of the plan, should equal FAS 87 expense recognized by the  
5 Company and paid for by Customers.

### 6 **Expected Long Term Rate of Return**

7 This is the assumed average future rate of return on the investment portfolio  
8 held by the Pension Trust. NW Natural's expected long term rate of return is  
9 7.50 percent as of December 31, 2017.

10 The expected rate of return is inversely related to FAS 87 expense and  
11 cash contributions. A higher return results in less cost to the Company. A  
12 lower rate of return results in more cost to the Company.

13 Key concept: The term "de-risking" refers to intentionally changing the  
14 mix of investments held by the Pension Trust to a lower risk, lower return mix,  
15 e.g., more bonds, less stocks. If the investments held by the Pension Trust  
16 are de-risked, the cash contributions would have to increase in order to obtain  
17 the same funding status, all else remaining equal.

### 18 **Discount Rate**

19 Accounting rules require the Company to calculate the funding status of the  
20 plan each year. This statistic compares the value of the investment portfolio  
21 held by the Pension Trust to the liability of the Company to pay benefits to Plan

1 Participants in the future. NW Natural reported a funded status for all plans of  
2 59.2 percent as of December 31, 2017.<sup>5</sup>

3 The discount rate is the rate of return used to calculate the current  
4 value of the Company's future obligation to pay benefits. The rate NW Natural  
5 uses to calculate funded status is 3.52 percent as of December 31, 2017.

6 It is important to note that the discount rate used to value the Company's  
7 obligation to pay benefits has nothing to do with rate of return on the  
8 investment portfolio held by the Pension Trust.

9 Key concept: The discount rate is also inversely related to FAS 87  
10 expense. A lower discount rate increases the Company's benefit obligation  
11 and increases FAS 87 expense.

12 **Q. Please summarize how the PBA was intended to function.**

13 A. The Company anticipated making large cash contributions to the Pension Trust  
14 in the early years, 2011 in particular. The Company planned that these  
15 contributions would produce additional investment income sufficient to result in  
16 negative FAS 87 expense in future years, ultimately reducing the balancing  
17 account to zero. As discussed above, increased investment income reduces  
18 FAS 87 expense and cash contributions over the life of the pension plan.

19 **Q. If FAS 87 expense and cash contributions are equal over the life of the**  
20 **plan, how can the PBA have been expected to reduce both?**

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<sup>5</sup> Plan assets of \$288 million divided by a benefit obligation of \$486 million (includes Pension, OPEB, and Stock Compensation).



1 A. The PBA was essentially expected to function as a prepayment scheme. The  
2 Company planned to make large cash contributions in the early years, 2011 in  
3 particular, which would provide an increased basis for investment returns that  
4 would ultimately reach a point that negative FAS 87 expense would be required  
5 in future years to balance FAS 87 and cash contributions over the life of the  
6 plan.

7 **Q. Why did the PBA not reverse as anticipated?**

8 A. The parties have made a number of seemingly complex assertions regarding  
9 the PBA's failure to reverse. The Company asserts the PBA failed to  
10 reverse due to the following circumstances, which were beyond the  
11 Company's control:

- 12 • The expected long-term rate of return decreased from 8.25 percent to  
13 7.5 percent (resulting in decreased investment returns and increased  
14 FAS 87 expense).
- 15 • The discount rate decreased from 6 percent to 3.8 percent (resulting in a  
16 higher benefit obligation and higher FAS 87 expense).
- 17 • New legislation (MAP-21 and H.R. 5201) decreased the expected cash  
18 contributions to the Pension Trust (resulting in a smaller investment  
19 portfolio, lower investment returns, and higher FAS 87 expense).

20 Staff and interveners assert that the PBA failed to reverse due to the  
21 Company's failure to make the large contributions anticipated in the early  
22 years of the PBA (resulting in a smaller investment portfolio, lower investment  
23 returns, and higher FAS 87 expense).

1 **Q. Has the Company quantified the impact on FAS 87 expense of the**  
2 **circumstances it claims were beyond its control?**

3 A. Partly. The Company estimates the change in discount rate resulted in an  
4 increase in annual FAS 87 expense between \$9.6 million and \$11.2 million per  
5 year and annual FAS 87 expense increased by \$0.7 million for each 25 basis  
6 point decrease in the expected long term rate of return.<sup>6</sup>

7 The Company did not attempt to quantify the change in FAS 87  
8 expense due to the legislative changes, only stating the Company made cash  
9 totaling \$124 million of the \$128 million underlying the Company's original  
10 PBA projections.<sup>7</sup>

11 **Q. What are Staff's conclusions regarding the Company's assertions and**  
12 **cash contributions to the plan?**

13 A. Staff's conclusions are discussed in my recently filed rebuttal testimony. They  
14 remain unchanged.

15 **Q. Do you believe it is worthwhile to pursue a counterfactual analysis**  
16 **attempting to quantify what FAS 87 expense would have been added to**  
17 **the PBA under differing circumstances?**

18 A. No. As discussed above, over the life of the plan the amount of FAS 87  
19 expense will equal the Company's cost of providing the pension benefit.  
20 However, for any particular year, the amount of FAS 87 expense is determined  
21 by the Company's actuaries based on an evaluation of the many variables

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<sup>6</sup> NW Natural/2800, Wilson/15.

<sup>7</sup> NW Natural/2800, Wilson/16.

1 affecting the plan at that point in time. The calculations are a moving target that  
2 is refreshed each year then superseded the following year. A retrospective  
3 analysis attempting to determine what the actuarial result would have been in  
4 any particular year using different assumptions and how it would have changed  
5 the PBA is highly problematic.

6 Furthermore, determining what level of pension expense the  
7 Commission might have included in rates had the Company not waited so  
8 long to file a request for a general rate revision and how that would have  
9 changed the accumulated PBA balance is purely speculative.

10

**ISSUE 2. STAFF RESPONSE TO REBUTTAL TESTIMONY OF AWEC AND CUB****Q. What do AWEC and CUB recommend regarding the PBA?**

A. AWEC raises several concerns regarding the PBA and recommends that the Commission not allow NWN to amortize any excess pension expenses incurred with respect to the PBA.<sup>8</sup> AWEC states that if the Commission concludes Customers should bear share some of the costs of the PBA, the Commission allow amortization of only a portion of the PBA balances after taking into account the adjustments described in AWEC's testimony, including the impact of reduced contributions to the pension plan, NW Natural's decision to de-risk the pension plan, and the double counting of interest expenses.<sup>9</sup> AWEC asserts that in no circumstance should the Commission allow NW Natural to amortize the interest earned on the PBA.<sup>10</sup>

CUB does not make any recommendation regarding disallowance of the PBA balance. However, CUB recommends that the Commission reduce the rate of interest accruing on the balance from NW Natural's authorized rate of return to the modified blended treasury rate.<sup>11</sup>

**Q. Is Staff responding to everything discussed in CUB and AWEC's recently filed rebuttal testimony?**

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<sup>8</sup> AWEC/700, Mullins/32.

<sup>9</sup> AWEC/700, Mullins/32.

<sup>10</sup> AWEC/700, Mullins/31-32.

<sup>11</sup> CUB/500, Gehrke-Jenks/13-15.

1 A. No, Staff agrees with portions of the testimony. Staff will respond only to those  
2 portions to which Staff substantively disagrees or desires to further inform the  
3 record.

4 **Q. Does Staff agree with CUB's assertion that the ultimate PBA balance**  
5 **has more to do with investment returns than the size of the Company's**  
6 **contributions?<sup>12</sup>**

7 A. In the context of the PBA, no. The conclusion that the PBA would ultimately  
8 reverse was predicated on the assumption the Company would make large  
9 cash contributions in the early years, 2011 in particular. These cash  
10 contributions were expected to have been invested and to have produced  
11 investment income sufficient to cause negative FAS 87 expense in future  
12 years, thereby reversing the balancing account.

13 **Q. Does Staff agree that the pension fund is an asset of the utility?<sup>13</sup>**

14 A. No. As discussed above, pension funds are held in a separate trust and are not  
15 an asset of the utility.

16 **Q. Does Staff agree that PBA was a mistake and/or fundamentally**  
17 **flawed?<sup>14</sup>**

18 A. Yes, in addition to the points discussed by CUB, Staff has previously testified  
19 that the underlying PBA projections were fundamentally flawed from a  
20 conceptual perspective.<sup>15</sup>

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<sup>12</sup> CUB/500, Gehrke-Jenks/7.

<sup>13</sup> CUB/500, Gehrke-Jenks/9.

<sup>14</sup> CUB/500, Gehrke-Jenks/10-11.

<sup>15</sup> Staff/1500, Fox/2-3.

1 **Q. Does Staff agree that the interest rate on the PBA should be reduced to**  
2 **the Modified Blended Treasury (MBT) rate?<sup>16</sup>**

3 A. Not necessarily. Staff agrees with CUB's assertion that if the Commission  
4 authorizes NW Natural to recover a portion of the PBA, the circumstances are  
5 similar to a deferred account that has been approved for amortization. In this  
6 circumstance, the appropriate interest rate is the MBT rate. However, the MBT  
7 rate was adopted for deferred accounts approved for amortization with the  
8 following exception:

9 Staff proposes that a utility be allowed to request the application  
10 of an interest rate different than the rate adopted in this order in  
11 the event that an amortization period for a deferral will exceed  
12 three years. We adopt this recommendation, but expand upon it.  
13 Staff, or any utility, may argue that any circumstances or evidence  
14 warrant the application of a different interest rate to the  
15 amortization of a deferred account.<sup>17</sup>  
16

17 CUB proposes an amortization period of ten years. Staff has  
18 previously discussed the interest rate trade off inherent in the Second Partial  
19 Stipulation.<sup>18</sup> Although this aspect Second Partial Stipulation has been  
20 rejected, due to the magnitude of the PBA Staff recommends that if the  
21 Commission authorizes NW Natural to amortize the PBA, or a portion of it, the  
22 Commission consider a rate between the MBT rate and NW Natural's AROR.

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<sup>16</sup> CUB/500, Gehrke-Jenks/13-15.

<sup>17</sup> See *In the Matter of PUBLIC UTILITY COMMISSION OF OREGON, Staff Request to Open an Investigation Related to Deferred Accounting*, Docket No. UM-1147, Order No. 08-263, page 14.

<sup>18</sup> Staff/1700, Fox/28-30.

1 **Q. Does Staff agree with AWEC that the UM 1475 stipulation bars**  
2 **amortization and rate recovery under the current circumstances?**<sup>19</sup>

3 A. No, AWEC is advancing the narrowest possible interpretation of the  
4 Commission order underlying creation of the PBA.<sup>20</sup> Staff's position is the  
5 current circumstances were simply not anticipated at the time the order was  
6 issued and Commission consideration of the Company's request to grant  
7 amortization of the unrecovered balance at this time is reasonable.

8 **Q. Does Staff believe that the accounting requirements for recognition of**  
9 **a regulatory asset and periodic impairment testing are relevant to the**  
10 **Commission's decision regarding resolution of the PBA?**<sup>21</sup>

11 A. No, regulatory assets are established pursuant to Commission order. The PBA  
12 was authorized in Order No. 11-051. Staff's believes the Company's decisions  
13 regarding valuation and continuing accrual of interest for financial statement  
14 purposes during the pendency of this proceeding are irrelevant to the  
15 Commission's disposition of the PBA. Interestingly, AWEC's testimony doesn't  
16 address how this is relevant either other than implying something is amiss.

17 **Q. Does Staff agree that the analysis for deferred accounting is the proper**  
18 **regulatory framework for considering amortization of the PBA?**<sup>22</sup>

19 A. To a large extent. However, AWEC's contention that the recovery of the PBA  
20 should be denied because the Company did not provide annual financial

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<sup>19</sup> AWEC/700, Mullins/5-6 and AWEC/700, Mullins/8-11.

<sup>20</sup> See *In the Matter of NORTHWEST NATURAL GAS COMPANY, dba NW NATURAL, Application to Defer Pension Costs*, Docket No. UM-1475, Order No. 11-051.

<sup>21</sup> AWEC/700, Mullins/7-8.

<sup>22</sup> AWEC/700, Mullins/11-13.

1 results nor annual reauthorization requests is, again, the narrowest possible  
2 application to the facts particular to the PBA. The Commission has broad  
3 authority and the resolution of the PBA ought to be based on what is fair, just,  
4 and reasonable for all parties.

5 **Q. Does Staff agree that the general principle historically applied in**  
6 **Oregon is that excess pension expenses are not recoverable through**  
7 **deferrals?**<sup>23</sup>

8 A. Yes, in the context of requests to recover over and under of FAS 87 amounts  
9 included in rates previously approved by the Commission. However, the  
10 FAS 87 expenses added to the PBA were explicitly NOT included in rates by  
11 Commission order. Accordingly, Staff believes the outcome and rationale cited  
12 by AWEC with reference to Docket No. UM 1633 docket is, again, the  
13 narrowest possible application to the facts particular to the PBA and should be  
14 rejected.

15 **Q. Does Staff agree with AWEC's conclusions regarding de-risking of the**  
16 **Pension Plan?**

17 A. No, this conclusion ignores the time lag inherent in determining actuarial  
18 assumptions and also is not consistent with Staff's review of the  
19 reasonableness of the Company's actuarial assumptions.  
20 Exhibit 1801 shows assumed rates of return reported by the Company from  
21 2009 through 2017. This shows the expected long-term rate of return changed  
22 from 8.25 percent to 7.5 percent in 2012. This is only three years after the low

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<sup>23</sup> AWEC/700, Mullins/2 and AWEC/700, Mullins/14-15.



1 point of the recession. During this time the government response to the  
2 economic downturn was evolving and the eventual outcome of an extended  
3 low rate environment wasn't known. Accordingly, Staff considers the timing of  
4 the 2012 rate change to be a reasonable adjustment for changing market  
5 conditions and not indicative of an intent to de-risk the plan.

6 Furthermore, my previous testimony in this case compared NW  
7 Natural's current assumed rates of return with NW Natural's self-identified  
8 peer companies.<sup>24</sup> The results of this review show the Company's expected  
9 long-term rate of return is on the high end of the range of rates being used by  
10 peer companies and the Company's asset allocation is in the middle of the  
11 pack for domestic equity, significantly higher than average international  
12 equity, and lower than average fixed income. These findings are inconsistent  
13 with the proposition a de-risking of the investment portfolio has occurred.

14 **Q. Does Staff agree with AWEC's assertion that interest expense is being**  
15 **double counted?**<sup>25</sup>

16 A. No. AWEC asserts that the interest component of FAS 87 expense is a return  
17 to the Company and is duplicative of the interest charges accruing on the PBA.  
18 AWEC correctly describes the interest as being related to the pension benefit

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<sup>24</sup> Staff/300, Fox/36-42.

<sup>25</sup> AWEC/700, Mullins/29-32.

1 obligation,<sup>26 27</sup> but incorrectly asserts that the “the PBA already accounts for  
2 the time value of money, without the need for an addition interest accrual, as  
3 NW Natural has done.”<sup>28</sup>

4 This assertion is incorrect and misleading for several reasons and  
5 must be rejected.

6 First, the interest component of FAS 87 expense is unrelated to any  
7 investment asset that actually earns a return. As discussed above, the  
8 pension fund investments are held by a separate entity, the Pension Trust,  
9 and assumed to earn the long-term rate of return. The pension fund is not an  
10 asset on the Company’s books. The PBA, a regulatory asset on the  
11 Company’s books, is an investment in the sense that the Company has under  
12 recovered FAS 87 in rates and, has had to borrow funds to finance this under  
13 recovery with the expectation that the amounts will be recoverable in the  
14 future.

15 Second, the interest component of the FAS 87 expense arises only  
16 within the actuarial determination of the pension benefit obligation. It can only  
17 be thought of as a return for the Plan Participants to whom the amount due

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<sup>26</sup> Financial Standards Accounting Board (FASB) Accounting Standards Codification (ASC) 715-30-35-8 “The interest cost component of net periodic pension cost is interest on the projected benefit obligation, which is a discounted amount. Measuring the projected benefit obligation as a present value requires accrual of an interest cost at rates equal to the assumed discount rates.” <https://asc.fasb.org/section&trid=2235091#d3e11467-114930>, accessed 12/20/18.

<sup>27</sup> FASB ASC 715-30-20 Interest Cost (Component of Net Periodic Pension Cost) “The amount recognized in a period determined as the increase in the projected benefit obligation due to the passage of time.” <https://asc.fasb.org/glossarysection&trid=2235085>, accessed 12/20/18.

<sup>28</sup> AWEC/700, Mullins/30.

1 grows due to the passage of time. This does not represent a return to the  
2 Company in any sense.

3 Third, interest accruing on the PBA is by Commission order and  
4 represents a return to the Company for the amounts invested to fund the PBA  
5 regulatory mechanism. The PBA is a regulatory construct and entirely unrelated  
6 to how the interest component of FAS 87 expense is determined. In other  
7 words, the pension benefit obligation is driven by employee service, terms of  
8 the plan, and the discount rate. The interest component of FAS 87 expense  
9 would have been the same if the PBA had never existed.

10 **Q. Are Staff and AWEC's conclusions regarding the timing of Company**  
11 **contributions the same?**

12 A. Yes, they are substantially the same. The failure of the Company to adhere to  
13 the contribution schedule contemplated in the UM 1475 stipulation is the  
14 primary reason the PBA failed to reverse. Viewed in light of this significant shift  
15 in contribution timing the Company's claim that the PBA failed to reverse  
16 due to circumstances beyond its control is unpersuasive and its reliance on the  
17 fact it made \$124 million of its planned \$128 million in cash contributions  
18 misplaced.

19 **Q. Does this conclude your testimony?**

20 A. Yes.

**Assumed Rates of Return Reported by the Company**

<b>Line</b>	<b>(a)</b>	<b>(b)</b>	<b>(c)</b>	<b>(d)</b>	<b>(e)</b>	<b>(f)</b>	<b>(g)</b>	<b>(h)</b>	<b>(i)</b>	
	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	
	Assumptions for net periodic benefit cost:									
<b>1</b>	Weighted-average discount rate	6.60%	6.01%	5.49%	4.51%	3.84%	4.71%	3.82%	4.17%	3.99%
	Rate of increase in compensation									
<b>2</b>	Low range	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%
<b>3</b>	High range	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	4.50%	4.50%
<b>4</b>	Expected long-term rate of return	8.25%	8.25%	8.25%	8.00%	7.50%	7.50%	7.50%	7.50%	7.50%
	Assumptions for funded status:									
<b>5</b>	Weighted-average discount rate	6.01%	5.49%	4.51%	3.85%	4.73%	3.85%	4.21%	4.00%	3.52%
	Rate of increase in compensation									
<b>6</b>	Low range	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%	3.25%
<b>7</b>	High range	5.00%	5.00%	5.00%	5.00%	5.00%	5.00%	4.50%	4.50%	4.50%
<b>8</b>	Expected long-term rate of return	8.25%	8.25%	8.25%	7.50%	7.50%	7.50%	7.50%	7.50%	7.50%

Source: Footnotes to NW Natural Annual Financial Reports