

**EXH. WFD-5T
DOCKET UG-230393
WITNESS: WILLIAM F. DONAHUE**

**BEFORE THE
WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION**

**WASHINGTON UTILITIES AND
TRANSPORTATION COMMISSION,**

Complainant,

v.

PUGET SOUND ENERGY,

Respondent.

Docket UG-230393

PREFILED REBUTTAL TESTIMONY (NONCONFIDENTIAL) OF

WILLIAM F. DONAHUE

ON BEHALF OF PUGET SOUND ENERGY

OCTOBER 6, 2023

PUGET SOUND ENERGY
PREFILED REBUTTAL TESTIMONY (NONCONFIDENTIAL) OF
WILLIAM F. DONAHUE

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PUGET SOUND ENERGY

**PREFILED REBUTTAL TESTIMONY (NONCONFIDENTIAL) OF
WILLIAM F. DONAHUE**

LIST OF EXHIBITS

Exh. WFD-6 Comparison of Cost Allocation Methods (after
Functionalization) for Four Mile Pipeline Segment related to
providing service to/from Tacoma LNG

1 **PUGET SOUND ENERGY**

2 **PREFILED REBUTTAL TESTIMONY (NONCONFIDENTIAL) OF**
3 **WILLIAM F. DONAHUE**

4 **I. INTRODUCTION**

5 **Q. Are you the same William F. Donahue who submitted Prefiled Direct**
6 **Testimony on May 25, 2023 on behalf of Puget Sound Energy in this**
7 **proceeding?**

8 A. Yes, on May 25, 2023, I filed the Prefiled Direct Testimony of William F. Donahue,
9 Exhibit WFD-1T and three supporting exhibits (Exh. WFD-2 through
10 Exh. WFD-4).

11 **Q. What is the purpose of your rebuttal testimony?**

12 A. The purpose of my rebuttal testimony is to respond to the testimony of Washington
13 Utilities and Transportation Commission (“Commission”) Staff witness,
14 Ms. Erdahl, and the Public Counsel Unit of the Office of the Attorney General
15 (“Public Counsel”) witness, Mr. Earle, regarding the allocation of costs on the four-
16 mile pipeline segment and the calculation of the rate for Puget LNG’s transport
17 service.

18 **II. PSE’S ALLOCATION OF COSTS OF THE FOUR-MILE**
19 **PIPELINE SEGMENT WAS APPROPRIATE**

20 **Q Witnesses Ms. Erdahl for Staff and Mr. Earle for Public Counsel take issue**
21 **with your method of allocating costs of the four-mile pipeline segment that**

1 **moves gas to and from the Tacoma LNG plant. Why did PSE allocate the**
2 **cost of the four-mile pipeline segment as it did?**

3 A To understand PSE's allocation, some background information is needed. PSE
4 considered that for the Tacoma LNG plant to function as a dual-use facility, it
5 would need facilities to deliver feed gas **to** the plant and facilities to deliver
6 vaporized peak-shaving gas and boil-off gas **from** the plant.

7 PSE could have considered separate facilities for delivering gas to and from the
8 plant. That would have allowed the continued production of LNG for transportation
9 fuel even while PSE was utilizing its LNG inventory to provide peak-shaving
10 service. Depending on hydraulic location within PSE's distribution system, this
11 could have resulted in two separate pipelines, possibly of unequal lengths (and
12 costs), with one pipeline being allocated entirely to serve PSE's peak shaving and
13 boil-off gas needs **from** the plant and the other being allocated entirely to serve
14 PSE and Puget LNG needs to bring feed gas **to** the Tacoma LNG plant. However,
15 PSE determined that the pipeline needed to deliver PSE's large volume of
16 vaporized peaking gas could, with appropriate upgrades and service limitations,
17 also deliver the PSE and Puget LNG volumes of feed gas. This meant that one
18 pipeline facility, the bidirectional four-mile pipeline segment, could be used.

19 Therefore, the four-mile pipeline segment was designed and built to be operated as
20 a bidirectional pipeline, effectively getting two pipelines for only slightly more than
21 the cost of one.

1 **Q. What are the unique characteristics of a bidirectional pipeline, as you use the**
2 **term?**

3 A. As I use the term, a bidirectional pipeline is a pipeline with separate commitments
4 to deliver gas in opposite directions, and where compression exists on each end of
5 the pipe to facilitate flow only in one direction at a time. Bidirectional pipelines are
6 a rare occurrence on most local distribution companies' ("LDC") systems. PSE is
7 not aware of any similar pipe segment on its own distribution system that has these
8 unique characteristics.

9 **Q. Could you contrast the four-mile bidirectional pipeline with the typical single**
10 **directional flow pipeline?**

11 A. For most main extensions on PSE's system (and most LDC's systems), the new
12 pipe is designed to flow gas from a higher pressure main or pipeline gate station to
13 a lower pressure customer load, and there is no commitment or expectation that gas
14 would flow in the opposite direction. The single directional flow pipeline results
15 from the fact that compression needed to flow the gas is available (from the high-
16 pressure interstate pipeline or a higher pressure main) only on one end of the pipe.
17 Allocation of costs of the entire single directional pipeline would be based on the
18 cost causer, namely the commitment to flow gas to the customer. This is how
19 functionalization and cost allocation are done for all pipeline segments on PSE's
20 system.

1 In the case of the four-mile pipeline segment, there are commitments to flow gas in
2 both directions, for different functions needed by the customers, PSE and Puget
3 LNG. This bidirectional functionality is afforded by compression on both ends of
4 the four-mile pipeline segment. When operated in the “**from the plant**” (or
5 outbound) mode, compression is provided by the liquefaction equipment and
6 pressure at the east end of the four-mile line segment is reduced to allow gas to
7 flow. When operated in the “**to the plant**” (or inbound) mode, the liquefaction
8 equipment is off, and pressure originating from the pipeline is increased to make
9 the gas flow west to the plant. The pipeline design and cost allocation for the four-
10 mile pipeline segment specifically recognize the commitments to flow gas in both
11 directions on different days/hours in the year. It was reasonable and appropriate for
12 PSE to adopt the functionalization and cost-allocation methods that recognize the
13 bidirectional nature of the four-mile pipeline segment.

14 **Q. Given the bi-directional function of the four-mile pipeline segment, how did**
15 **PSE allocate its costs?**

16 A. As further explained by PSE witness John D. Taylor, the four-mile pipeline
17 segment must first be functionalized, meaning the use of the pipeline segment must
18 be categorized. In this case, since there were commitments to flow gas in both
19 directions, I functionalized the four-mile pipeline segment into two uses, inbound
20 and outbound. The inbound commitments had no need for a pipe larger than 12-inch
21 and the outbound commitments needed a 16-inch pipe. Thus, it was reasonable for
22 the cost difference (15 percent) between the smaller 12-inch pipe and the larger

1 16-inch pipe to be attributed only to the outflow use, in this case PSE peak shaving
2 use. I then split the remaining pipe cost (85 percent) in half to reflect the cost of
3 serving the two separate functions, delivering gas **to the plant** and delivering gas
4 **from the plant**.

5 **Q. Once the four-mile pipeline segment was functionalized, how did you allocate**
6 **its costs?**

7 A. I considered the needs served by each function to be the cost-causers, namely the
8 PSE and Puget LNG individual shares of feed gas supply for liquefaction on the
9 inbound function, and PSE's firm right to call on outbound capacity for peak-
10 shaving or boil-off gas delivery on the outbound function. The functionalization
11 and cost allocation percentages were documented on Exh. WFD-3, the second
12 exhibit to my prefiled direct testimony. The allocation of 38.3 percent of the costs
13 of the four-mile pipeline segment was then used by PSE witness Mr. Taylor, to
14 allocate revenue requirements to Rate Schedule 88T. For the reasons stated above,
15 this cost allocation methodology should be approved by the Commission.

16 **III. THE COST ALLOCATION METHODS FOR THE**
17 **FOUR-MILE PIPELINE SEGMENT PROPOSED BY STAFF AND**
18 **PUBLIC COUNSEL ARE UNREASONABLE**

19 **Q. Why is Staff's method of cost allocation unreasonable and inappropriate?**

20 A. Staff witness Erdahl's method of allocating cost simply skips the functionalization
21 step and goes directly to cost allocation. This method fails to recognize the

1 bidirectional nature of the four-mile pipeline segment and PSE's right to sole use
2 of the pipeline during peak-shaving¹ which could occur at any time.

3 **Q. How do you respond to Staff witness Erdahl's claim² that PSE's cost**
4 **allocation method is inconsistent with cost-causation principles?**

5 A. As explained earlier in my testimony, PSE's method of functionalization and
6 allocation of the cost of the four-mile pipeline segment is based on cost causation
7 principles, not maximum annual use limited by unrelated criteria. Both "delivery
8 from" and "delivery to" users already benefit significantly by a 50/50 sharing of the
9 cost of the bidirectional pipeline, rather than the cost of separate pipelines. The
10 needs of both directional functions equally drive the need for a sufficiently sized
11 pipe. In contrast, Staff witness Erdahl's method ignores the actual cost-drivers and
12 seeks to rationalize as low a cost as possible for PSE.

13 Size, and thus cost, of a pipeline segment is based on the need to deliver the
14 contractual maximum volume, which could occur any day or hour. The design
15 basis of the four-mile pipeline segment was for PSE to have a guaranteed firm right
16 to call on outbound capacity of up to 66,000 dekatherms ("Dth") per day for
17 peak-shaving use, at its sole discretion at any time, and preempt usage by either
18 PSE or Puget LNG in an inbound direction. In addition, PSE has the right to send
19 a quantity of boil-off gas into the outbound pipe every day of the year when

¹ PSE retained the right to sole-use of outbound flow on the four-mile pipeline segment in the Gas Supply Services Agreement between PSE and Puget LNG which was filed with the Commission as an affiliated interests agreement in Docket UG-210111.

² See Erdahl, Exh. BAE-1CT, at 23:2-5.

1 liquefaction is not occurring. (This volume is far less than the maximum
2 peak-shaving volume, so it is not a cost driver, but it does identify boil-off gas
3 volumes ignored by Staff witness Erdahl). These are cost-causers that both Staff
4 witness Erdahl and Public Counsel witness Earle ignore.

5 **Q. Please address the Staff and Public Counsel claims³ that the Puget Sound**
6 **Clean Air Agency (“PSCAA”) air permit limit on vaporizer use to 240 hours**
7 **per year serves as a limitation on PSE’s peak-shaving use.**

8 A. I strongly disagree with these claims. The need for a pipeline that would transport
9 up to 66,000 Dth per day and have preemptive rights to use that capacity is the cost
10 “causer.” The air permit issued by PSCAA, while important to the Tacoma LNG
11 Facility, does not limit the use of the four-mile pipeline segment; in fact, the four-
12 mile pipeline segment is used to deliver boil-off gas to customers every day that
13 liquefaction does not occur. Under current operating conditions, that use is more
14 than 120 days per year. This design for the four-mile pipeline segment was
15 contemplated long before there was an air-permit limitation on the number of hours
16 of vaporization per year, and more importantly, the air permit limitation did not
17 change the size or cost of the pipeline segment that was needed.

18 Using the theory advanced by Staff and Public Counsel, if a new industrial
19 customer needed a main extension costing \$11.65 million, but there was a local
20 noise ordinance that prevented the industrial customer from operating on weekends,

³ See Erdahl, Exh. BAE-1CT, at 7:9-20; Earle, Exh. RLE-1CT, at 29:6-12.

1 PSE would allocate only 72 percent (5/7) of the cost of the main to that customer.
2 This is obviously not a reasonable method of cost allocation. PSE witness John D.
3 Taylor provides additional discussion of cost allocation methodologies in his
4 rebuttal testimony.

5 **Q. Is the limitation in the air permit relevant to the functionalization and**
6 **allocation of the costs of the four-mile pipeline segment?**

7 A. No. The functionalization and allocation of the bidirectional four-mile pipeline
8 segment reflects that PSE has a preemptive right to use the full outbound capacity
9 of the four-mile pipeline segment at any time of day on any day of the year. That
10 PSE could only use that capacity for 240 hours per year for peak-shaving and for
11 many other hours every year for delivery of boil-off gas is interesting, but not
12 relevant to the cost of the pipe. PSE recognized that unique preemptive right by
13 functionalizing the pipeline into two uses, inbound and outbound, and then
14 allocating the cost of the outbound function entirely to PSE based on cost-causation
15 principles.

16 **Q. Do the theories put forth by Commission Staff and Public Counsel prompt**
17 **PSE to propose any change to its methodology of functionalizing and**
18 **allocating the costs of the four-mile pipeline segment?**

19 A. No. PSE stands by its functionalization and then allocation of capital costs of the
20 four-mile pipeline segment, its determination that a contribution in aid of
21 construction (“CIAC”) was not required from Puget LNG, and its use of this same

1 metric for allocating revenue requirement to PSE peak-shaving and Rate Schedule
2 88T.

3 First, functionalization into inbound and outbound uses and second, allocation of
4 the cost of the four-mile pipeline segment should be based on need and use, not
5 limited by external factors, especially factors that do not alter the design or cost of
6 the pipeline. PSE understands that peak (need) and average (usage) methodology is
7 Commission policy for allocating distribution pipe costs. This appears to be a
8 reasonable compromise reached by the Commission in its generic cost of service
9 studies docket⁴ and relates to the allocation of joint, multi-user facilities, such as a
10 single flow direction distribution pipeline. Peak and average is a proper method
11 when direct assignment or functionalization is not available. Peak and average is
12 entirely inadequate to allocate costs of a bidirectional pipeline unless first there is
13 a functionalization to each flow direction, in this case, inbound to the LNG plant
14 and outbound from the LNG plant.

15 **Q. Do you have any other comments regarding the analyses done by Staff**
16 **witness Erdahl and Public Counsel witness Earle?**

17 A. If usage volumes are to be considered, inbound volumes and outbound volumes
18 should be considered separately to reflect the bidirectional functionality and gas
19 flow commitments of the four-mile pipeline segment. When all usage is considered,

⁴ *In the Matter of Amending WAC 480-07-510 and Adopting Chapter 480-85 WAC Relating to Cost of Service Studies for Electric and Natural Gas Investor-Owned Utilities, Order Amending and Adopting Rules Permanently, Dockets UE-170002 and UG-170003, (July 7, 2020).*

1 including the outbound flow of boil-off gas on every day that Tacoma LNG is not
2 liquefying, and the need to replace and liquefy that boil-off gas, PSE's use of the
3 four-mile pipeline segment is far greater and occurs on far more days than
4 hypothesized by Staff and Public Counsel.

5 **IV. PSE'S CALCULATION OF THE RATE FOR PUGET LNG'S**
6 **SERVICE WAS REASONABLE AND APPROPRIATE**

7 **Q. Staff witness Erdahl has taken the position that PSE should recalculate**
8 **whether Puget LNG should have made a contribution in aid of construction**
9 **pursuant to Rule 6, using Staff's cost allocation method.⁵ How do you**
10 **respond?**

11 A. As further explained by PSE witness Mr. Taylor, the CIAC calculation is not
12 necessarily the same calculation as one would use for functionalization and cost
13 allocation. In determining the cost causation for incremental facilities, such as the
14 four-mile pipeline segment, frequency of use and annual volumes should not be
15 considered, because they do not drive the cost of the facilities. The method used by
16 PSE to allocate the cost of the four-mile pipeline segment is the same methodology
17 PSE would use for sizing pipe and determining whether a CIAC is required from
18 any other firm customer; no consideration is given to how often the capacity will
19 be used. The Staff proposed methodology is not reflective of cost-causation and is
20 not an appropriate methodology for the CIAC determination.

⁵ See Erdahl, Exh. BAE-1CT, at 26:11-28:3.

1 **Q. Staff witness Erdahl believes that her cost allocation methodology should be**
2 **used for both the CIAC calculation and the annual allocation of revenue**
3 **requirement. Is this appropriate?**

4 A. No. As described by PSE witness Mr. Taylor, under Commission policy, costs are
5 directly assigned, if possible, functionalized, as appropriate, and then allocated
6 based on a peak and average methodology. The methodology espoused by Staff
7 witness Erdahl is neither correct for CIAC determination, nor for revenue
8 requirement allocation. The Staff proposed method does not properly functionalize
9 the bidirectional pipeline and does not reflect cost-causation for determining CIAC.
10 For revenue requirement allocation, the Staff method does not reflect the
11 bidirectional pipeline, considers only some of the annual usage of the four-mile
12 pipeline segment (but at an unexplained 100 percent load factor), ignores other
13 usage altogether, and fails to consider peak usage at all. If the proper
14 functionalization of the bidirectional four-mile pipeline segment and the
15 appropriate usage volumes are reflected in the calculation, I believe the allocation
16 of revenue requirement using the peak and average methodology after
17 functionalization would spread costs very similar to the needs-based analysis PSE
18 used to determine the CIAC.

19 **Q. Do you have any analysis to support that belief?**

20 A. Yes, Exh. WFD-6 provides a comparison of the peak allocation methodology
21 previously demonstrated in Exh. WFD-3 for allocation of costs to sales customers
22 and Rate Schedule 88T, and to determine whether Puget LNG was required to make

1 a CIAC for the new service PSE would provide to Puget LNG. Exhibit WFD-6 also
2 shows the functionalization and allocation methodology that is suitable for
3 allocating annual revenue requirement of a built and in-service bidirectional
4 pipeline on the PSE distribution system. Exh. WFD-6 demonstrates the proper
5 functionalization and the appropriate peak and average allocation methodology
6 applied to seven scenarios of annual usage at the Tacoma LNG facility:

- 7 (1) typical annual volumes of both PSE and Puget LNG (using volumes
8 as included in Rate Schedule 88T in this case);
- 9 (2) typical annual volumes for PSE and maximum annual volumes for
10 Puget LNG;
- 11 (3) typical annual volumes for PSE and minimum annual volumes for
12 Puget LNG;
- 13 (4) minimum annual volumes for PSE and maximum annual volumes
14 for Puget LNG;
- 15 (5) minimum annual volumes for both PSE and Puget LNG;
- 16 (6) maximum annual volumes for PSE and minimum annual volumes
17 for Puget LNG; and
- 18 (7) maximum annual volumes for both PSE and Puget LNG.

19 When considering actual volumes under these scenarios as weighted by the peak
20 and average factors from PSE's last rate case, the 38.3 percent allocation to Puget
21 LNG (as determined in the CIAC calculation and used by PSE witness Mr. Taylor
22 for developing the cost of service for Rate Schedule 88T) is validated. As shown
23 on Exh. WFD-6, the resulting hypothetical allocation factors are packed tightly in
24 a range from 37.1 percent to 39 percent, with an average of 38.1 percent. This
25 demonstrates consistent results between the basic design peak needs analysis for

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the CIAC determination and annual revenue requirement allocation from a range
of annual usage scenarios.

2

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V. CONCLUSION

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Q. Does that conclude your prefiled rebuttal testimony?

5

A. Yes, it does.