

**BEFORE THE WASHINGTON
UTILITIES AND TRANSPORTATION COMMISSION**

In the Matter of

PUGET SOUND ENERGY’S

Request for Exemption from Title 49
C.F.R. § 193.2167 to Construct a Buried
Liquefied Natural Gas Transfer System

DOCKET PG-151949

ORDER 01

ORDER GRANTING EXEMPTION
SUBJECT TO CONDITIONS

BACKGROUND

- 1 On October 5, 2015, Puget Sound Energy (PSE or Company) filed with the Washington Utilities and Transportation Commission (Commission) a request for exemption from Title 49 C.F.R. § 193.2167 – adopted by reference in Washington Administrative Code (WAC) 480-93-999 – which prohibits covered impounding systems except in limited circumstances. PSE proposes to construct a buried Liquefied Natural Gas (LNG) transfer pipeline to deliver LNG product from PSE’s Tacoma, Washington facility for use as transportation fuel.¹
- 2 The proposed LNG facility will connect to PSE’s intrastate natural gas distribution system and produce LNG to supply fuel to TOTE Maritime Alaska (TOTE) shipping vessels and store LNG for use during times of peak demands. Approximately 800 feet of pipeline will be buried at a depth of 11 feet beneath the Port of Tacoma properties, which are leased and operated by TOTE and PSE, and beneath a public right-of-way and railroad tracks owned by the City of Tacoma.
- 3 The United States Department of Transportation/Pipeline and Hazardous Materials Safety (PHMSA) verbally approved the exemption on February 22, 2016, by accepting the concept of the enclosed transfer line and drainage channel to the TOTE terminal and delegating approval of design elements of the facility consistent with Federal standards to

¹ PSE requires an exemption from 49 C.F.R. § 193.2167 to construct the pipeline because buried pipeline is a “covered impounding system” that could produce an explosive area by confining air and CH₄-methane vapor in a flammable or explosive mixture in a closed container, or a container that is not properly vented to prevent an overpressure event.

the Commission.² This delegation grants the Commission safety authority over the intrastate gas and hazardous liquid pipelines through certifications and agreements with PHMSA under 49 U.S.C. § 60105- 60106.³ Pursuant to 49 U.S.C § 60118(d), the Commission must notify the U.S. Secretary of Transportation 60 days prior to the effective date of the waiver.⁴

4 The buried pipeline will be composed of two vacuum-jacketed LNG lines and a vacuum-jacketed vapor return line installed on a pipe rack inserted into a buried, enclosed drainage channel. The safety relief valves for the proposed drainage channel will prevent pressure build up in the casing that could be detrimental to the integrity of the casing or other equipment in case of an LNG spill.⁵ The valves will comply with NFPA 59A 2.2.2.3, which provides that “[e]nclosed drainage channels for LNG shall be prohibited except where they are used to rapidly conduct spilled LNG away from critical areas and they are sized for the anticipated liquid flow and vapor formation rates.” The enclosed drainage channel will be continually purged with nitrogen, and monitored for hydrocarbons at the nitrogen vent and cold temperature detection in the base of the channel.

² In addition, The Coast Guard provided written approval on February 5, 2016, for the use of an “enclosed drainage channel” per Section 5.3.2.3 of NFPA 59A-2013 to protect the LNG transfer pipeline from vehicle traffic in and around TOTE terminal. City of Tacoma staff and Tacoma Fire Department have no objection to the waiver request.

³ The Facility is not subject to regulation by the Federal Energy Regulatory Commission (FERC) because FERC is responsible for authorizing the siting and construction of onshore and near-shore LNG facilities engaged in import/export activities. The Facility would not engage in import/export facilities.

⁴ 49 U.S.C. § 60118(d) provides that, “If a certification under section 60105 of this title or under section 60106 of this title is in effect, the State authority may waive compliance with a safety standard to which the certification or agreement applies in the same way and to the same extent the Secretary may waive compliance under subsection (c) of this section. However, the authority must give the Secretary written notice of the waiver at least 60 days before its effective date. If the Secretary makes a written objection before the effective date of the waiver, the waiver is stayed. After notifying the authority of the objection, the Secretary shall provide a prompt opportunity for a hearing. The Secretary shall make the final decision on granting the waiver.”

⁵ Safety relief valves for the proposed “enclosed drainage channel” will be sized for the anticipated liquid flow and vapor formation rates per NFPA 59A-2006 Section 5.2.2.3 to prevent pressure build up in the casing that would be detrimental to the integrity of the casing or other equipment in the case of a LNG spill.

5 PSE claims that the buried pipeline is safer than an above ground pipe rack for a number of reasons. First, the shipping terminal where the fueling will occur has heavy traffic, and above ground pipes would create a hazard. Second, above ground pipe racks do not have direct thermal monitoring under the length of pipe, nor do they have immediate detection of methane release. The buried pipeline will be monitored 24 hours per day, seven days per week by a local control room, which will detect a breach of any of the three vacuum lines. The vacuum jacket also provides two additional layers of protection. PSE's design removes the threat of flammable/explosive mixture by replacing the oxygen in the air with nitrogen gas and constantly purging with nitrogen so no flammable/explosive mixture can occur in the drainage channel.

6 In addition, the bottom of the casing will have temperature sensors to detect the presence of LNG. The nitrogen purge will be monitored for the presence of organics (CH₄-methane) and the casing will have a relief system to prevent any overpressure from the buildup of methane vapor. Any of the above conditions will result in the manual shutdown of the transfer system to minimize the amount of LNG spilled.

7 Commission staff (Staff) reviewed the Company's request and finds that PSE's proposal to construct the LNG transfer pipeline will provide a higher level of safety than any other alternative.⁶ Accordingly, Staff recommends granting PSE's request for exemption subject to the following conditions:

- a) The enclosed drainage channel must be made of steel 48 inches in diameter and one-inch thick, and bored at least 11 feet below grade to provide a conservative level of clearance beneath the roadway, rail road tracks, and existing underground utilities.
- b) The LNG transfer system must be composed of two vacuum-jacketed LNG lines and one vacuum-jacketed vapor return line installed on a movable pipe rack that will be inserted into the buried enclosed drainage channel.
- c) The moving pipe rack must be inserted into the completed enclosed drainage channel and sealed.
- d) During operation and LNG transfer, the vacuum jacketing of the liquid and vent lines must be constantly monitored for loss of vacuum.

⁶ PSE considered several alternatives to the proposed project that would not require a waiver of 49 C.F.R. § 193.2167, including: LNG resupply trucks, standard pipe rack, preformed concrete trench, preformed concrete trench with gate covering, direct bury of the lines, and pipe rack in casing. See Staff's memo for the April 28, 2016, open meeting for a complete description of each alternative and its safety concerns.

- e) The enclosed drainage channel must be filled with nitrogen gas and constantly purged with a monitor for hydrocarbons at the nitrogen vent.
- f) The bottom of the enclosed drainage channel must be instrumented with cryogenic temperature monitors that will detect any liquid release and will also act as a secondary containment vessel.
- g) The entire pipeline must be continuously monitored from the Tacoma LNG Facility Control Room, which will be staffed 24 hours a day, year round.
- h) The casing must be cathodically protected.
- i) Commission Staff will secure an independent geotechnical engineering consultant to assist in ensuring that PSE's design of this pipeline meets federal code requirements as it relates to forces applied by a seismic event. In this regard, PSE will comply with all sections of module 5 of PHMSA Form 18, Evaluation of LNG Facility Siting, Design, Construction, and Equipment (Rev 03/18/11).

8 Once PSE submits its design plans and supporting documentation, Staff will review the materials and complete modules for the PHMSA Form 18, Evaluation of LNG Facility Siting, Design, Construction, and Equipment (PHMSA Form 18). Staff will brief the Commission after completion of each of the PHMSA Form 18 modules and at any other critical points in the project.

DISCUSSION

9 The Commission grants PSE's request for an exemption from 49 C.F.R. § 193.2167 subject to the conditions proposed by Staff in paragraph seven of this Order.

10 The Commission has enforcement responsibility for intrastate pipelines that are located in Washington and has adopted by reference parts 191, 192, 193, and 199 of Title 49 of the Code of Federal Regulations. While the Commission does not have siting authority for pipelines, it does have the ability to grant an exemption to its rules so long as the proposed alternative is as safe as or safer than the stipulations the applicable safety rule prescribes.⁷

⁷ Under WAC 480-07-110, the Commission may exempt an entity from Commission rules where doing so is consistent with the public interest, the purposes underlying the regulation, and applicable statutes.

- 11 The Commission finds that the proposed pipeline design will be as safe as or safer than an open pipe rack due to a number of factors. First, the buried pipe will reduce the risk of collision during periods of heavy vehicular traffic when the vessel is being offloaded and onloaded. Second, the nitrogen purge and vent will reduce the risk of explosion. Finally, constant monitoring by a local control room using temperature sensors and hydrocarbon monitoring ensure that any leaks will be immediately detected and addressed. Each of these factors is addressed to our satisfaction by the conditions Staff proposes, and we adopt those conditions without modification.
- 12 Our approval of the exemption does not, however, release PSE from providing documents, plans, procedures, and drawings to the Commission for review in sufficient detail for Staff to determine compliance with all applicable requirements of 49 CFR 193, National Fire Protection Association (NFPA) 59A, and PHMSA Form 18. Moreover, this Order does not pre-approve plans or drawings required for compliance with PHMSA Form 18.

FINDINGS AND CONCLUSIONS

- 13 (1) The Washington Utilities and Transportation Commission is an agency of the state of Washington vested by statute with the authority to regulate the rates, rules, regulations, and practices of public service companies, including natural gas companies.
- 14 (2) PSE is a natural gas company and a public service company subject to Commission jurisdiction.
- 15 (3) This matter came before the Commission at its regularly scheduled meeting on April 28, 2016.
- 16 (4) WAC 480-93-999 expressly adopts by reference Parts 191, 192, 193, and 199 of Title 49 of the Code of Federal Regulations. As such, the standards in 49 C.F.R. § 193.2167 regarding “Covered Systems” is adopted as a Commission rule.
- 17 (5) Under WAC 480-07-110, the Commission may exempt an entity from the application of Commission rules where doing so is consistent with the public interest, the purposes underlying the regulation, and applicable statutes.

- 18 (6) PHMSA gave verbal approval of the waiver and accepted the enclosed transfer line on February 22, 2016. PHMSA also delegated to the Commission approval of design elements of the proposed facility consistent with Federal standards.
- 19 (7) The Coast Guard provided written approval on February 5, 2016, for the use of an enclosed drainage channel per Section 5.3.2.3 of NFPA 59A-2013 to protect the LNG transfer pipeline from vehicle traffic in the TOTE terminal.
- 20 (8) Neither the City of Tacoma staff nor the Tacoma Fire Department objects to the exemption.
- 21 (9) Staff has reviewed the available options for the pipeline and agrees with PSE that the proposed enclosed drainage channel will provide a higher level of safety than the alternatives. Staff recommends the Commission grant PSE's request for exemption subject to the conditions set forth in paragraph seven of this Order.
- 22 (10) After reviewing PSE's request for exemption from 49 C.F.R. § 193.2167 and giving due consideration to all relevant matters and for good cause shown, the Commission finds that the requested exemption should be granted subject to the conditions set forth in paragraph seven of this Order.
- 23 (11) Under 49 U.S.C. § 60118(d), the Commission is required to notify the U.S. Secretary of Transportation 60 days prior to the effective date of the waiver. Accordingly, this order will become effective 60 days after the date the U.S. Secretary of Transportation is notified that the Commission has granted PSE's request for exemption subject to conditions.

ORDER

THE COMMISSION ORDERS:

- 24 (1) Puget Sound Energy's request for an exemption from 49 C.F.R. § 193.2167 is granted, subject to the conditions set forth in paragraph seven of this Order.
- 25 (2) Pursuant to 49 U.S.C. § 60118(d), this Order will become effective 60 days after the date the U.S. Secretary of Transportation is notified that the Commission has granted Puget Sound Energy's request for an exemption from 49 C.F.R. § 193.2167 subject to conditions.

- 26 (3) The Commission retains jurisdiction over the subject matter and Puget Sound Energy to effectuate the terms of this Order.

DATED at Olympia, Washington, and effective April 28, 2016.

WASHINGTON UTILITIES AND TRANSPORTATION COMMISSION

DAVID W. DANNER, Chairman

PHILIP B. JONES, Commissioner