

Jackson Prairie Gas Storage Facility Probable Violations
Docket PG-040210

History

The Jackson Prairie natural gas storage project was developed in August 1965 and at that time, was owned jointly by Puget Sound Energy (PSE), Avista Utilities, and Williams Gas Pipeline - West. PSE was and still is the operator of the Jackson Prairie Storage facility. PSE's Operator responsibilities for the Jackson Prairie Storage Facility end at the Williams Pipeline – West natural gas meter station located approximately five miles from the storage facility. As the operator of Jackson Prairie Storage facility, PSE is responsible for the storage facility and the four transmission pipelines that leave Jackson prairie storage facility and end at the Williams Gas Pipeline - West Metering station.

One of the transmission pipelines leaving the Jackson Prairie storage facility is a 14-inch transmission pipeline (MAOP 945 psig) that supplies the tap to PSE's Gate Station #1874, located on Zandecki Rd. approximately one mile from the Jackson Prairie Storage Facility. PSE is the operator of the pipeline from the Jackson Prairie Storage Facility as well as the operator for the distribution system feed from PSE Gate Station # 1874. From the tap on the 14-inch transmission pipeline is a short lateral that feeds PSE Gate Station #1874. The portion of pipeline and its components from the 14-inch transmission pipeline tap to the gate station is PSE's responsibility.

The Federal Office of Pipeline Safety (OPS) dealt with a similar matter in an OPS letter of interpretation dated November 10, 1998, for 49 CFR §192.195. The letter states, "Each distribution system to which 49 CFR §192.195 applies that is connected to a gas source that has higher pressure than the MAOP of the system must have certain overpressure protection devices. If an LDC (Local Distribution Company) seeks to satisfy this requirement by relying on overpressure protection devices operated by its gas supplier, the LDC is still responsible for compliance with 49 CFR §192.195." Therefore, PSE is responsible for compliance with 49 CFR §192.195 Protection against accidental overpressuring requirements. By being in compliance with 49 CFR §192.195, PSE would have known that the pipeline and its components upstream of PSE Gate Station #1874 were not being maintained.

Issue

At the time of the 2004 Thurston/Lewis inspection, PSE believed that Williams Pipeline –West was the operator of the pipeline and its components upstream of PSE’s Gate Station #1874. PSE did not have records for the pipeline and its components for the upstream side of PSE Gate Station #1874. PSE’s investigation showed that the pipeline and its components upstream of PSE Gate Station #1874 had not been maintained since 1992. After the field inspection, PSE did provide maintenance to the upstream side of the regulator station.

On 1/13/2005, Williams provided staff with documentation and verified that the last inspections were conducted in 1992. Crew notes on the William’s inspection/Failure Report states, “Removing regulator station from NWP service, Washington Natural Gas will maintain in the future. This regulator station is tapped into WNG pipeline and serves WNG residential customers, as per letter of 3/31/92 from S. E. Boudeyns.”

The following probable violations of Title 49 CFR § 192 and WAC 480-93 were noted as a result of the inspection of the Puget Sound Energy Thurston/Lewis County facilities.

1. **49 CFR §192.53 General**

Materials for pipe and components must be:

(a) Able to maintain the structural integrity of the pipeline under temperature and other environmental conditions that may be anticipated;

(b) Chemically compatible with any gas that they transport and with any other material in the pipeline with which they are in contact; and,

(a) Qualified in accordance with the applicable requirements of this subpart.

Finding:

PSE was unable to provide a materials list documenting that the pipeline is able to maintain its structural integrity under temperature and other environmental conditions that may be anticipated and qualified in accordance with 49 CFR §192 Subpart B Materials.

49 CFR §192.13 General

(c) Each operator shall maintain, modify as appropriate, and follow the plans, procedures, and programs that it is required to establish under this part.

Finding:

PSE has not followed its O&M Manual Section 2525.1100 pertaining to design criteria for pipe and components.

2. **49 CFR §192.143 General Requirements**

Each component of a pipeline must be able to withstand operating pressures and other anticipated loadings without impairment of its serviceability with unit stresses equivalent to those allowed for comparable material in pipe in the same location and kind of service. However, if design based upon unit stresses is impractical for a particular component, design may be based upon a pressure rating established by the manufacturer by pressure testing that component or a prototype of the component.

Finding:

PSE was unable to provide documentation that this pipeline and its components upstream of PSE's Gate Station #1874 was able to withstand operating pressures and other anticipated loadings without impairment of its serviceability in accordance with 49 CFR §192 Subpart D Design of Pipeline Components.

49 CFR §192.13 General

(c) Each operator shall maintain, modify as appropriate, and follow the plans, procedures, and programs that it is required to establish under this part.

Finding:

PSE did not follow its O&M Manual Section 2525.1100 3.3 stating, "Each component of a pipeline must be able to withstand operating pressures and other anticipated loadings without impairment of its serviceability with unit stresses equivalent to those allowed for comparable material in pipe in the same location and kind of service. However, if design based upon unit stresses is impractical for a particular component, design may be based upon a pressure rating established by the manufacturer by pressure testing that component or a prototype of the component."

3. **49 CFR §192.195 Protection Against Accidental Overpressuring.**

(a) General requirements. Except as provided in §192.197, each pipeline that is connected to a gas source so that the maximum allowable operating pressure could be exceeded as the result of pressure control failure or of some other type of failure, must have pressure relieving or pressure limiting devices that meet the requirements of §192.199 and §192.201.

(b) Additional requirements for distribution systems. Each distribution system that is supplied from a source of gas that is at a higher pressure than the maximum allowable operating pressure for the system must

(1) Have pressure regulation devices capable of meeting the pressure, load, and other service conditions that will be experienced in normal operation of the system, and that could be activated in the event of failure of some portion of the system; and

(2) Be designed so as to prevent accidental overpressuring.

Finding:

PSE was unable to provide documentation that the pipeline and its components upstream of PSE's Gate station #1874 had pressure regulation devices capable of meeting the pressure, load and other service conditions that would be experienced in normal operations of the system, and that could be activated in the event of failure of some portion of the system.

49 CFR §192.13 General

(c) Each operator shall maintain, modify as appropriate, and follow the plans, procedures, and programs that it is required to establish under this part.

Finding:

PSE did not follow its O&M Manual Section 2525.2900 5.1.1 stating, "Have pressure regulation devices capable of meeting the pressure, load, and other service conditions that will be experienced in normal operation of the system, and that could be activated in the event of failure of some portion of the system."

4. **49 CFR §192.225 Welding - General.**

(a) Welding must be performed by a qualified welder in accordance with welding procedures qualified to produce welds meeting the requirements of this subpart. The quality of the test welds used to qualify the procedures shall be determined by destructive testing.

(b) Each welding procedure must be recorded in detail, including the results of the qualifying tests. This record must be retained and followed whenever the procedure is used.

Finding:

PSE was unable provide documentation of welding procedures or qualification test for the welding procedures for the pipeline and its components upstream of PSE's Gate Station #1874.

49 CFR §192.13 General

(c) Each operator shall maintain, modify as appropriate, and follow the plans, procedures, and programs that it is required to establish under this part.

Finding:

PSE has not followed its O&M Manual Section 2700.1100 3.1 stating, “All welding on the gas pipe system, including steel casings, shall be done by qualified welders using previously qualified welding procedures. A qualified welder will be issued a Qualification Data Card (PSE form 1943) indicating the date of qualification for a particular welding procedure or group of procedures. Only those welders with active cards will be permitted to weld on Company piping.”

5. **49 CFR §192.227 Qualification of Welders.**

(a) Except as provided in paragraph (b) of this section, each welder must be qualified in accordance with section 6 of API 1104 (ibr, see §192.7) or section IX of the ASME Boiler and Pressure Vessel Code (ibr, see §192.7). However, a welder qualified under an earlier edition than listed in appendix A of this part may weld but may not requalify under that earlier edition.

Finding:

PSE did not provide documentation of welder qualifications for the pipeline and its components upstream of PSE’s Gate Station #1874.

49 CFR §192.13 (c) General

Each operator shall maintain, modify as appropriate, and follow the plans, procedures, and programs that it is required to establish under this part.

Finding

PSE did not follow its O&M Manual Section 2700.1100 5.5 stating, “Other welding processes may be approved for use provided qualified welding procedures are developed in accordance with API Standard 1104 and 49 CFR §192.”

6. **49 CFR §192.303 Compliance with Specifications or Standards.**

Each transmission line or main must be constructed in accordance with comprehensive written specifications or standards that are consistent with this part.

Finding:

PSE was unable to provide documentation that the lateral transmission pipeline coming off of the 14-inch transmission pipeline was constructed in accordance with 49 CFR §192 Subpart G General Construction.

49 CFR §192.13 General

(c) Each operator shall maintain, modify as appropriate, and follow the plans, procedures, and programs that it is required to establish under this part.

Finding:

PSE did not follow its O&M Manual Section 2525.2700 3.1 for steel pipe and fittings and 2525.1200 for polyethylene staving, "Construct each gas facility in accordance with comprehensive written specifications or standards", and 2525.1200 1.1 states, "This Operating Standard establishes design, construction and operating policies for polyethylene (PE) gas distribution mains and services."

7. **49 CFR §192.457 External Corrosion Control: Buried or Submerged Pipelines Installed Before August 1, 1971**

(a) Except for buried piping at compressor, regulator, and measuring stations, each buried or submerged transmission line installed before August 1, 1971, that has an effective external coating must be cathodically protected along the entire area that is effectively coated, in accordance with this subpart. For the purposes of this subpart, a pipeline does not have an effective external coating if its cathodic protection current requirements are substantially the same as if it were bare. The operator shall make tests to determine the cathodic protection current requirements.

(b) Except for cast iron or ductile iron, each of the following buried or submerged pipelines installed before August 1, 1971, must be cathodically protected in accordance with this subpart in areas in which active corrosion is found:

- (1) Bare or ineffectively coated transmission lines.*
- (2) Bare or coated pipes at compressor, regulator, and measuring stations.*
- (3) Bare or coated distribution line .*

Finding:

Post inspection, PSE investigation showed that Gate Station #1874 was installed in 1966. PSE did not have cathodic protection records for the pipeline and its components upstream of Gate Station #1874.

49 CFR §192.13 General

(c) Each operator shall maintain, modify as appropriate, and follow the plans, procedures, and programs that it is required to establish under this part.

Finding:

PSE did not follow its O&M Manual Section 2600.1000 3.4 stating, "Except for buried piping at compressor, regulator, and measuring stations, each buried or submerged transmission line installed before August 1, 1971, that has an effective external coating must be cathodically protected along the entire area that is effectively coated."

8. **49 CFR §192.465 External Corrosion Control: Monitoring**

(a) Each pipeline that is under cathodic protection must be tested at least once each calendar year, but with intervals not exceeding 15 months, to determine whether the cathodic protection meets the requirements of §192.463. However, if tests at those intervals are impractical for separately protected short sections of mains or transmission line, not in excess of 100 feet (30 meters), or separately protected service line, these pipelines may be surveyed on a sampling basis. At least 10 percent of these protected structures, distributed over the entire system must be surveyed each calendar year, with a different 10 percent checked each subsequent year, so that the entire system is tested in each 10-year period.

Finding:

PSE was unable to provide documentation that the cathodic protection on the pipeline and its components upstream of PSE's Gate Station #1874 had been tested. PSE personnel stated that they have never taken cathodic protection readings on the pipeline and its components upstream of PSE's Gate Station #1874.

49 CFR §192.13 General

(c) Each operator shall maintain, modify as appropriate, and follow the plans, procedures, and programs that it is required to establish under this part.

Finding:

PSE did not follow its O&M Manual Section 2600.1500 4.1.1 stating, "Cathodically protected pipelines greater than 100 feet in length shall be tested at least once each calendar year, but with intervals not exceeding 15 months."

9. **49 CFR §192.479 Atmospheric Corrosion Control; General**

- (a) *Each operator must clean and coat each pipeline or portion of pipeline that is exposed to the atmosphere, except pipelines under paragraph (c) of this section.*
- (b) *Coating material must be suitable for the prevention of atmospheric corrosion.*

Finding:

PSE had atmospheric corrosion in three areas on the regulator station upstream of PSE's gate station #1874. PSE had not cleaned and coated the pipeline and associated components exposed to the atmosphere.

49 CFR §192.13 General

- (c) *Each operator shall maintain, modify as appropriate, and follow the plans, procedures, and programs that it is required to establish under this part.*

Finding:

PSE did not follow its O&M Manual Section 2600.1800 1 stating, "This Operating Standard establishes requirements for monitoring pipelines or portions of pipelines that are exposed to the atmosphere for atmospheric corrosion."

10. **49 CFR §192.481 Atmospheric Corrosion Control: Monitoring**

- (a) *Each operator must inspect each pipeline or portion of pipeline that is exposed to the atmosphere for evidence of atmospheric corrosion, as follows:*
- If the pipeline is located onshore then the frequency of inspection is:*
- At least once every 3 calendar years, but with intervals not exceeding 39 months*
- (b) *During inspections the operator must give particular attention to pipe at soil-to-air interfaces, under thermal insulation, under disbonded coatings, at pipe supports, in splash zones, at deck penetrations, and in spans over water.*
- (c) *If atmospheric corrosion is found during an inspection, the operator must provide protection against the corrosion as required by Sec. 192.479.*

Finding:

PSE had not conducted inspections for atmospheric corrosion inspections.

49 CFR §192.13 General

- (c) *Each operator shall maintain, modify as appropriate, and follow the plans, procedures, and programs that it is required to establish under this part.*

Finding:

PSE did not follow its O&M Section 2600.2600.1800 4.1 stating, "Each pipeline exposed to the atmosphere, including service risers, meter sets, piping at district regulators, propane tank farms, and CNG injection sites, shall be inspected for evidence of atmospheric corrosion at least once every three years, but at intervals not exceeding 39 months, unless more frequent surveys are specifically requested."

11. **49 CFR §192.491 Corrosion Control Records**

(a) Each operator shall maintain records or maps to show the location of cathodically protected piping, cathodic protection facilities, galvanic anodes, and neighboring structures bonded to the cathodic protection system. Records or maps showing a stated number of anodes, installed in a stated manner or spacing, need not show specific distances to each buried anode.

(b) Each record or map required by paragraph (a) of this section must be retained for as long as the pipeline remains in service.

(c) Each operator shall maintain a record of each test, survey, or inspection required by this subpart in sufficient detail to demonstrate the adequacy of corrosion control measures or that a corrosive condition does not exist. These records must be retained for at least 5 years, except that records related to §§192.465(a) and (e) and 192.475(b) must be retained for as long as the pipeline remains in service.

Finding:

PSE was unable to provide records for the cathodic protection system on the pipeline and its components upstream of PSE's Gate Station #1874.

49 CFR §192.13 General

(c) Each operator shall maintain, modify as appropriate, and follow the plans, procedures, and programs that it is required to establish under this part.

Finding:

PSE did not follow its O&M Section 2600.2600.1800 5.1 stating, "Records of inspections shall be retained for at least 5 years."

12. **49 CFR §192.517 Records**

(a) Each operator shall make, and retain for the useful life of the pipeline, a record of each test performed under §§ 192.505 and 192.507. The record must contain at least the following information: . . .

Finding:

PSE was unable to provide pressure test records for the pipeline and its components up stream of PSE's Gate Station #1874.

49 CFR §192.13 General

(c) Each operator shall maintain, modify as appropriate, and follow the plans, procedures, and programs that it is required to establish under this part.

Finding:

PSE did not follow its O&M Manual Section 2525.3300 10.1 stating, "A record of each test performed shall be retained for the life of the pipeline. When a pipeline is installed and tested in segments, results of each test shall be recorded."

13. **49 CFR §192.619 Maximum Allowable Operating Pressure: Steel or Plastic Pipelines**

(a) Except as provided in paragraph (c) of this section, no person may operate a segment of steel or plastic pipeline at a pressure that exceeds the lowest of the following: . . .

Finding:

PSE was unable to provide records documenting that the MAOP of the pipeline and its components upstream of PSE's Gate Station #1874 had been established.

49 CFR §192.13 General

(c) Each operator shall maintain, modify as appropriate, and follow the plans, procedures, and programs that it is required to establish under this part.

Finding:

PSE did not follow its O&M Manual Section 2525.1400 4.1 stating, "Except as provided in Section 4.2, no segment of a steel or plastic pipeline may be operated at a pressure that exceeds the lowest of the following pressures."

14. **49 CFR §192.705 Transmission Lines: Patrolling**

(a) Each operator shall have a patrol program to observe surface conditions on and adjacent to the transmission line right-of-way for indications of leaks, construction activity, and other factors affecting safety and operation.

Finding:

PSE did not provide documentation that the pipeline and its components upstream of PSE's Gate Station #1874 had been patrolled.

49 CFR §192.13 General

(c) Each operator shall maintain, modify as appropriate, and follow the plans, procedures, and programs that it is required to establish under this part.

Finding:

PSE did not follow its O&M Manual Section 2625.1400 4.1 stating, "Transmission mains shall be patrolled to observe surface conditions on and adjacent to the transmission line right-of-way for indications of leaks, construction activity, and other factors affecting safety and operations."

15. **49 CFR §192.706 Transmission Lines: Leakage Surveys**

Leakage surveys of a transmission line must be conducted at intervals not exceeding 15 months, but at least once each calendar year. However, in the case of a transmission line, which transports gas in conformity with §192.625 without an odor or odorant, leakage surveys using leak detector equipment must be conducted-

Finding:

PSE was unable to provide records documenting that the pipeline and its components upstream of PSE Gate Station #1874 had been leak surveyed.

49 CFR §192.13 General

(c) Each operator shall maintain, modify as appropriate, and follow the plans, procedures, and programs that it is required to establish under this part.

Finding:

PSE did not follow its O&M Manual Section 2625.1100 4.1 stating, "The leakage survey program shall be conducted in accordance with the following schedule unless more frequent surveys are specifically requested:"

16. **49 CFR §192.707 Line Markers for Mains and Transmission Lines**

(a) Buried pipelines. Except as provided in paragraph (b) of this section, a line marker must be placed and maintained as close as practical over each buried main and transmission line:

(1) At each crossing of a public road and railroad; and

(2) Wherever necessary to identify the location of the transmission line or main to reduce the possibility of damage or interference.

Finding:

PSE did not have pipeline markers in this class 1 location and its components upstream of PSE's Gate Station #1874.

49 CFR §192.13 General

(c) Each operator shall maintain, modify as appropriate, and follow the plans, procedures, and programs that it is required to establish under this part.

Finding:

PSE did not follow its O&M Manual Section 2525.2500 4.1 stating, "Pipeline markers shall be placed and maintained as close as practical over each main in a rural area and over all transmission lines, regardless of whether they are in rural or urban areas, as follows:"

17. **49 CFR §192.709 Transmission Lines: Record Keeping**

Each operator shall maintain the following records for transmission line for the periods specified:

(c) A record of each patrol, survey, inspection, and test required by subparts L and M of this part must be retained for at least 5 years or until the next patrol, survey, inspection, or test is completed, whichever is longer.

Finding:

PSE was unable to provide transmission records for the pipeline and its associated components upstream of PSE Gate Station #1874.

49 CFR §192.13 General

(c) Each operator shall maintain, modify as appropriate, and follow the plans, procedures, and programs that it is required to establish under this part.

Finding:

PSE did not follow its O&M Manual Section 2525.2500 8.1 stating, "All pipeline markers shall be noted on the as built drawing or on other completion documents if no as built is prepared. The type and measured location of each marker and the reason for the installation shall be noted along with any special instruction that may assist in locating the marker in the future."

18. **49 CFR §192.739 Pressure Limiting and Regulating Stations: Inspection and Testing**

Each pressure limiting station, relief device (except rupture discs), and pressure regulating station and its equipment must be subjected at intervals not exceeding 15 months, but at least once each calendar year, to inspections and tests to determine that it is—

Finding:

PSE was unable to provide documentation that the pressure relief device was inspected.

49 CFR §192.13 General

(c) Each operator shall maintain, modify as appropriate, and follow the plans, procedures, and programs that it is required to establish under this part.

Finding:

PSE did not follow its O&M Manual Section 2575.1000 6.1 stating, “All pressure regulating stations and pressure relief devices (except rupture discs) shall be inspected and tested once each calendar year, not to exceed 15 months.”

19. **49 CFR §192.739 Pressure Limiting and Regulating Stations: Inspection and Testing**

Each pressure limiting station, relief device (except rupture discs), and Pressure regulating station and its equipment must be subjected at intervals not exceeding 15 months, but at least once each calendar year, to inspections and tests to determine that it is—

(a) In good mechanical condition;

Finding:

The vent flap on the regulator upstream of PSE’s Gate station #1874 was not in good mechanical condition. Staff observed heavy corrosion on the vent flap preventing it from opening freely.

49 CFR §192.13 General

(c) Each operator shall maintain, modify as appropriate, and follow the plans, procedures, and programs that it is required to establish under this part.

Finding:

PSE did not follow its O&M Manual Section 2575.1000 3.1.1 stating, "Inspection of pressure regulating stations and pressure relief devices (except rupture discs) shall be conducted to determine that they are: 3.1.1 Mechanically in good condition."

20. **49 CFR §192.743 Pressure Limiting and Regulating Stations: Capacity of Relief Devices**

(a) Pressure relief devices at pressure limiting stations and pressure regulating stations must have sufficient capacity to protect the facilities to which they are connected. Except as provided in §192.739(b), the capacity must be consistent with the pressure limits of §192.201(a). This capacity must be determined at intervals not exceeding 15 months, but at least once each calendar year, by testing the devices in place or by review and calculations.

Finding:

The pressure relief device was not tested for sufficient capacity in the required timeframe at the regulating station upstream of PSE's Gate Station #1874. The pressure relief device was last tested in 1992.

49 CFR §192.13 General

(c) Each operator shall maintain, modify as appropriate, and follow the plans, procedures, and programs that it is required to establish under this part.

Finding:

PSE did not follow its O&M Manual Section 2575.1000 4.1 stating, "Pressure relief devices at pressure regulating stations must have sufficient capacity to protect the facilities to which they are connected consistent with the pressure limits set forth in Operating Standard 2525.2900. This capacity must be determined by testing the device in place or by review and calculations."

21. **49 CFR §192.745 Valve Maintenance: Transmission Lines**

(a) Each transmission line valve that might be required during any emergency must be inspected and partially operated at intervals not exceeding 15 months, but at least once each calendar year.

Finding:

PSE did not conduct inspections on the transmission line valve between the 14-inch transmission line and the regulating equipment upstream of

PSE's Gate Station #1874. The last inspection date is not known but the last maintenance performed on the pipeline and its components was in 1992. This valve should be on PSE's Emergency Operating Valve list.

49 CFR §192.13 General

(c) Each operator shall maintain, modify as appropriate, and follow the plans, procedures, and programs that it is required to establish under this part.

Finding:

PSE did not follow its O&M Manual Section 2575.1200 3.1 stating, "Each valve, the use of which may be necessary for the safe operation of the system, shall be inspected to determine that the valve can be operated and is in good mechanical conditions."