Washington Utilities and Transportation Commission
Intrastate Propane/Air Peak Shaving System
Inspection Guide and Report – Form E

Inspection ID: 8292

Operator Name: **Puget Sound Energy (PSE) Op ID 22189**

Company Official Name: **Ms. Booga Gilbertson (VP Operations)**

Address: **355 110th Ave. NE, M/S EST 11W**

City: **Bellevue WA 98004**

Telephone: **(425)462-3696**

FAX: _____ **Emergency:** **(800) 552-7171**

District or Division Office Inspected

Name: **D.W. Swarr Propane-Air Plant**

Address: **2100 Benson Drive South**

City: **Renton WA 98055**

Telephone: **(253)395-6995**

Operator Representative

Name and Title: **Danielle Troupe, PSE, Senior Regulatory Compliance Analyst**

Name and Title: **Vidushi Raina, PSE, Compliance Program Manager**

Name and Title: **Morna Tupua, PSE, Asset Maintenance Planner – Alt. Fuels**

Name and Title: **Greg Lillehaug, PSE, Peak Shaving Plant Operator**

Name and Title: **David Wooten, PSE, Supervisor Alt. Fuels**

WUTC Representative

Name and Title: **Darren Tinnerstet, WUTC, Pipeline Safety Engineer**

Name and Title: _____

Inspection Dates **June 14-16 2021**

Date of Last Inspection **April 2018**

Amendments 192-87, 192-82, 192-88

PROPANE SYSTEM HISTORY

Age (Range): 1965, 1974, 1996 Size (Range): 2-inch to 10-inch

Material Type: Steel A-106B Specifications: A-106B Seamless

Miles of Main: 0 Number of Services: 0

Number of Leaks (Main): N/A (Service): N/A

Leaks Scheduled for Repair: 2 existing grade 3 leaks (Above Ground Piping Only)

Unaccounted for Gas: negligible

Period Ending: Monthly Inventory Reports

Pipeline Class locations: Class 3

Number of Gas Department employees: Four (4) total

Propane Supply Company: Suburban and Ferrell Gas

REPORTING REQUIREMENTS

1. Telephonic notice of incidents and written reports filed with WUTC as required? (191.5, 192.615 & WAC 480-93-200 & 210)
   PSE GOS 2650.1000, Section 3.1. No incidents since last inspection.

2. Annual Gas Distribution reports filed with WUTC as required? (WAC 480-93-010 & 200 & 191.11)
   N/A – The Propane Air Plant is not part of the distribution system.

3. Safety-related conditions reports filed with WUTC as required? (191.11, 480-93-010, & 200)
   N/A – No Safety Related Conditions since last inspection.

4. Pipeline and system pressure reports filed with WUTC as required? (WAC 480-93-183 200
   N/A – No pressures above MAOP 250.

   a. Which exceed the established MAOP?
      No - None
   b. When raising pressure above 250 psig?
      No - None
   c. When raising pressure above 500 psig?
      No - None
   d. When pressure drops below a safe operating condition?
      No - None

e. When a pipeline (250 psig or more) is taken out of service?
No - None. Note plant is currently not online. All glycol was removed in 2009 and cooling system cannot function and therefore engines cannot run air compressors or generators.

Liquefied Petroleum Distribution Systems
PART 192 & NFPA 59

National Fire Protection Association (NFPA) applies to utility Liquefied Petroleum (LP) gas systems to the point where LP-Gas or a mixture of LP-Gas is introduced into the utility distribution system as required by NFPA 59. Title 49 CFR 192 and WAC 193 cover those portions of the LP Gas systems downstream of the unloading equipment, containers, vaporizer, and interconnecting piping.

Installations that have storage containers with an equivalent water capacity of 4000 gal or less will conform to NFPA 58 Standard.(PSE Sumner Only)

GENERAL PROVISIONS

5. Are employees trained annually in handling, (transferring is not in 4.1), and operating procedures for LP Gas and are training documents available? (NFPA 59 2004 4.1)
Yes, reviewed training records for 2018 to 2020, Properties and Safe Handling of LPG. Requires annual training and test (80% pass requirement). 2020 training was conducted virtually and all employees returned test and signed form electronically (due to Covid restrictions).

LP-GAS ODORIZATION

6. Is the gas odorized to 1/5 LEL? (NFPA 59 2004 4.1)
PSE GOS 2650.1000, Section 3.1.2; GFP 4675.2000

Yes, Heath Odorator (vapor space 1/5 LEL all tanks once per year) ISMELL 1000 (liquid space) is used to confirm odorant is present and in the correct quantity. 22 ppm equates to 1lb per 10,000 gal (ethyl mercaptan) industry standard. Test 6 tanks per year for ISMELL.

7. Are procedures available for odorization? (192.625)
Yes, GOS 2650.1000; GFP 4675.1000(Heath Odorator)/2000 (ISMELL).

8. Chemical properties or brand name?
Ethyl Mercaptan - MSDS Chevron Phillips-trade name Scentinal

9. Odorization method?
N/A – They buy product (propane) already odorized.

10. Operator conducted periodic sampling?
Yes, monthly three tanks are tested from vapor space. ISMELL 1000 on 6 tanks per year (see #6 above). Reviewed 2018-2020 records.

Note: Gas must be odorized by the addition of a warning agent of such character that they are detectable, by a distinct odor, down to a concentration in air of the lower limit of flammability. Propane has a flammability range of 2.2 to 9.5% gas in air.

11. Are containers and equipment protected from damage from vehicles by posting warning signs, devices, barricades, or other means? (NFPA 59 2004 4.4)
Yes, bollards, barricades, and steel crash gates at both entries.

12. Is there adequate lighting that will provide illumination to the operating facilities for walkways, essential control valves, and loading and unloading facilities? (NFPA 59 2004 4.6)
Yes, Area is well lit with yard lights

13. Is smoking and non-process ignition sources within the protective enclosure prohibited? (NFPA 59 2004 4.8.1)
Yes, PSE Safety & Informational Handout, Appendix C - Section 4; SWARR O&M, Section 25.7.

14. Is smoking permitted only in designated and properly signposted areas? (NFPA 59 2004 4.8.2)
Yes smoking only permitted outside SW of engine building. Appendix C – Safety and Informational Handout; SWARR O&M, Section 25.7.

15. Are vehicles and other mobile equipment that constitute potential ignition sources prohibited within diked areas or within in 50 ft (15 m) of containers of LP-Gas? (NFPA 59 2004 4.8.4)
Yes, SWARR O&M, Section 25.5.1.

Note: An exception for vehicles specifically authorized and under constant supervision or where loading or unloading at facilities specifically designed for that purpose.

16. Is fixed electrical equipment and wiring installed in accordance with NFPA 70: (NFPA 59 2004 4.5.2.2*, 4.5.2.4)
Yes, Installation in 1996 per code. Reviewed electrical permits E960972 / E951182.

TRAINING

17. Has annual training for persons that are responsible for the LP systems on:

(NFPA 59 2004 4.1, 13.1.4, 13.7.1, 13.1.1.8*):

SWARR O&M Appendix B, Training Modules

☒ The safe handling of LP
☒ Properties of LP
☒ Operating LP equipment
☒ Emergency procedures
☒ Records maintained
☒ Use of personal protective gear

18. Is there suitable protective clothing and equipment available that would protect against the effects of frostbite and cold refrigerants? (NFPA 59 2004 10.8.1, 13.7.4, 13.7.5, 13.7.6, 13.7.7)
SWARR EOP, Section 5.7.1. Yes, visually inspected PPE.

19. Are self-contained breathing apparatus provided for those employees who may be required to enter an atmosphere that could be injurious during an emergency? (NFPA 59 2004 13.7.8, 13.7.9)
No – Plant personnel will isolate but PSE Emergency Response Truck and Renton Fire Department would perform any firefighting function.

CONTAINERS

20. Are containers located outside of buildings? (NFPA 59 2004 5.4)
Yes. 5.4 refers to aboveground containers. Swarr has only buried containers per NFPA definition 3.3.2. All containers for LPG are outside any buildings and underground. 5.4.2 refers to non-refrigerated underground tanks (N/A).

21. Are containers designed, constructed, and tested in accordance with ASME Boiler and Pressure Vessel Code Section VIII "Rules for Construction of Unfired Pressure Vessels"? (NFPA 2004 5.1.1)
Yes. Reviewed "birth certificates" (ASME U1A form for all 33 tanks. 1965 west bank of tanks, 1974 east bank of tanks. There are 33 U1A forms and 33 tanks. Tanks 7 though 39.

22. Are Data Report Forms U or Form U-1A available (ASME Section VIII) (NFPA 2004 5.3)
Yes, Verified name plates to U1A Board Numbers.

23. Do containers have an accessible nameplate? (NFPA 59 2004 5.3)
Yes. Verified that the Name Plates were visible or transferred to above ground plates, tanks 1-6 are really rusty and hard to read (these tanks are also not active, filled with N2). Tanks 11-20, are replicated from actual name plate on tank.

24. Are containers marked for use: Check data plate for "underground use?"

X BELOW GROUND CONTAINER ☐ Aboveground

25. Water capacity in gallon U.S. Standard___4@28350 (Tanks 7-10), 9@86600 (tanks 11-19), 20@30000 (Tanks 20-39)--Total 1,492,800 Gal

Pressure in psig _____MAOP 250 PSIG.

With the outside surface area in square feet

Tanks 7-10 SA 2050, Tanks 11-19, SA 4408, Tanks 20-39 SA 1685.

Wording "This container shall not contain a product having a vapor pressure in excess of_Tanks 11-19 215 PSIG, Tanks 20-39 175 PSIG, (Tanks 7-10 do not list this information on data plate, board number matches U1A) PSIG at 100 degree F.

Maximum level to which the container may be filled at temperatures between 20 degrees F and 130 degrees F_At 20 F fill the tanks to 85%, at 130 F they can be filled to 103 %

Aboveground

26. Are horizontal aboveground containers supported on solid masonry, concrete, or steel supports? (NFPA 59 2004 5.5.1.2)
N/A – all below ground containers.

27. Are horizontal aboveground containers mounted on two saddles only and allow for expansion and contraction? (NFPA 59 2004 5.5.1.3)
N/A – No horizontal aboveground containers.

28. Are containers in contact with the saddles protected from corrosion? (NFPA 59 2004 2-5.1.4)
N/A – No horizontal aboveground containers.

29. Are containers properly painted and protected from the elements? (NFPA 59 2004 2-5.1.5s)
Yes, all above ground facilities that carry LPG are painted and below ground facilities are protected by Cathodic Protection.

30. Are containers located a minimum distance away from buildings, not associate with the gas plant, as follows: (NFPA 59 2004 Table 5-4.1.2)
N/A – no above ground containers.

Container Size	Minimum Distance	Between Containers
2,001 to 30,000 gal	50 feet	5 feet (NFPA 59 Table 5-4.1.2)
30,001 to 70,000 gal	75 feet	1/4 of the sum of diameters of adjacent containers.

31. Are there multiple aboveground containers in a single location? (NFPA 59 2004 table 5-4.1.3)
N/A – no above ground containers

32. How many containers are in a single group? (NFPA 59 2-4.1.3)
N/A – no above ground containers
Note: see Table 2-4.1.3 for separation of groups of 6 and 9 containers

33. Are there groups of containers? (NFPA 59 2-4.1.3)
N/A – no above ground containers

34. What type of fire protection is provided?
N/A – no above ground containers
Note: See Table 2-4.1.3 for distance and fire protection

☐ Hose Streams 3 hydrants ☐ Fixed Monitor Nozzles
☐ Fixed Water Spray ☐ Insulation per 10-5.4.1

35. Are there more than 6 containers in one group? If there are more than 6 containers in one group, what is the fire protection (NFPA 59 2004 5-4.1.3):
N/A – no above ground containers

36. Are there more than 9 containers in one group? (NFPA 59 2004 5-4.1.3)
N/A – no above ground containers
Note: Containers shall be limited to 9 containers at a single location.

37. Does the relief vent extend upward at least 7 feet above the top of the above ground container? (NFPA 59 6-3.1)
N/A – no above ground containers

Underground

38. Are there loose or piled combustible material or weeds within 25 feet of any container? (NFPA 59 2004 5.4.2.6);
SWARR O&M, Section 22.2.4. No loose or piled combustible materials around tank.

39. Are containers located less than 50 feet from the nearest important building or group of building or line of adjacent property that can be built upon? (NFPA 59 2004 5.4.2.4 (1), (2))
No buildings within the restricted area.

40. Has the container relief valve been sized to meet the requirements of Annex D Table D-1 or other standard? (NFPA 59 2004 6.8.2, 10.2.3, 10.2.5)
Yes, reviewed formula and manufacturers CFM ratings. See attached relief calculations sheet provided by PSE.

PIPING, VALVES, AND EQUIPMENT

41. Pipe specification -
SWARR Plant Maintenance Manuals, Volumes 3A and 3B. ASTM A106 Grade B Schedule 40 and 80 seamless pipe.

42. Valve specification -
ANSI 300 flanges and Jamesbury ball valves confirmed.

43. Hose connection specification -
N/A – Tanker trucks bring their own hoses for transfer/offload. They do a visual check per SWARR O&M, Section 4.3; SWARR O&M, Section 18.1.5, Truck Loading and Unloading Procedure Checklist.

44. Does all piping conform to NFPA 59? (NFPA 59 2004 7.1.1.1) List the pipe standards to which it was manufactured.
In 1996 valves and piping were brought up to standards of ASME B31.3. Pressure testing reconducted in 2001 per UTC inspection (Kuang C). Records were incomplete per inspection notes.

45. Are pipeline installed to provide for expansion, contraction, jarring, vibration, and settling without damage?(NFPA 59 2004 7.1.8*)
Yes, Field verified that the Drawing #5161 s2, s4, “Tank Piping Anchor Supports” Drawing (AS-Built) is accurate.

46. Are pipe and connections leak tight and have they been leak tested? (NFPA 59 2004 7.1.7)
Yes. In 2001 pressure tests were performed on all piping systems. All piping is the same as when the pressure test was performed in 2001. Test records were reviewed and verified 2001 (Kuang C).

47. Is the piping connection to the container for sizes over 2 inches made by welding or with welded flanges? (NFPA 59 2004 7.1.2)
Yes. Everything above 2-inch is welded. Field verified the area around the vaporizer and header piping and branch piping to the tanks.

48. Are cast-iron valves in use that carry LP gas? (NFPA 59 2004 7.1.3)
N/A No cast-iron onsite.

49. Are gaskets used to retain LP-Gas in flanged connection in piping made of metal or other suitable material with melting point over 1500 degrees F? Are the gaskets replaced whenever the flange is opened? (NFPA 59 2004 6.3.3.5, 7.1.6) SWARR O&M, Section 24.1.2. Yes, Metal gaskets, every gasket is a metal gasket designed to withstand 1500 degrees F. Gaskets are replaced every time the flange is opened per procedure requirements.

VAPORIZERS, HEAT EXCHANGERS, AND GAS-AIR MIXING

50. Are vaporizers designed and constructed in accordance with the ASME Code and marked as follows: (NFPA 59 2004 9.3.3) 9.3.7.1 through 9.3.7.10 applies to water vaporizers.

    a. Outside surface area in square feet
    1748 square feet (Unit is 16 ft long.)

    b. Area of the heat exchange surface in square feet
    1748 square feet

    c. Maximum vaporizing capacity in gallons per hour
    9200 gallons per hour (water bath vaporizer)

    d. Rated heat input in Btu/h
    10.5 mmbtu/hour 10.5 million-btu/hour

    e. Name or symbol of the manufacturer
    Sam Dick Industries

51. Is the vaporizer:

☐ Indirect vaporizer

☐ Direct-fired vaporizer

☒ Water bath

52. Is there a manual gas burner valve? (NFPA 59 2004 9.5.2.3)
Yes, There is a main valve that shuts off the gas supply to the burners.
(note: NFPA code applies to indirect vaporizer)

53. Is there a limit control to prevent the heater from raising the product pressure above the design pressure of the direct-fired vaporizer or container? (NFPA 59 2004 9.3.6)
N/A – Vaporizers are not direct-fired, however thermal limits are employed.

54. Is there a relief valve installed to prevent raising the product pressure above the design pressure of the direct-fired vaporizer OR INDIRECT OR WATER BATH VAPORIZER (NFPA 59 2004 10.9.1)?
Yes, three relief valves set at 375 PSIG; MAOP of vaporizers is 400 PSIG.

RELIEF DEVICES

55. Is the relief device marked with (NFPA 59 2004 10.1.3):

a. pressure (in psig) at which the device is set to start to discharge
250 PSIG FOR THE TANK RELIEF VALVES.

b. Actual rate of discharge in cu ft per min of air at 60ºF and 14.7 psia
Each relief valve rating is 9,250 CF/M. Rego Multiport A8570 rating of 27,750 CFM. Tanks 15-19 MEC mev250vm rated at 10,333

c. Manufacturer's name
Rego and MEC

d. Catalog number
3149MG (REGO)

56. Is the relief device connected to the vapor space of the container? (NFPA 59 2004 10.2.10(3))
Yes, multi-port manifold to the vapor space nozzle of the tank.

57. Are there any restrictions or valves in the relief device discharge vents? (NFPA 59 2004 10.3.2, 10.6.2)
No, weather caps are installed on all reliefs.

58. Are discharge vents from the relief valves installed in such a manner: (NFPA 59 2004 10.6.1)
Visually inspected operation of rain caps.

☒ lead to the open air

☒ Be protected against mechanical damage

☒ Have rain caps or other devise to exclude moisture

59. Are discharge vents from the relief valves or common discharge headers shall be installed in such a manner as to discharge in an area that will: (NFPA 59 2004 10.6.2 (1), (2), (3))
Have one relief valve manifold with 3 individual reliefs.

☒ Prevent possible flame impingement on containers, piping, equipment, and structures.

☒ Prevent possible vapor entry into enclose spaces

☒ Be above the heads of personnel who can be n the container or adjacent containers, stairs, platforms, or ground

☒ Be above the possible water levels, if from underground containers where there is a possibility of flooding.

60. Have relief devices been tested for proper operation at intervals not exceeding five years? (NFPA 59 2004 10.1.4)
SWARR O&M, Section 35. Valves are replaced every 5 years. Old ones are sent out for rebuild and put on the shelf. Reviewed records for 2018-2020; 42 relief valves replaced. 17 due in 2022, 16 in 2023.

HANDLING

Transfer Of Liquids Within A Utility Plant

61. Are transfer personnel familiar with the properties of the material and instructed in transfer and emergency procedures? (NFPA 29 2004 11.2.1.3)
SWARR O&M, Sections 22, 23, 18 Appendix B Training. Also reviewed 2018-2020 training records (See question #5).

62. Is at least one competent person in attendance during the entire period of transfer is from the time connections are made until the transfer is completed, shutoff valves are closed, and lines are disconnected? (NFPA 59 7-1.3) (NFPA 59 2004 11.2.1.3)
SWARR O&M, Sections 4.3, 18.1.6, 18.2, 18.3.
Note: Define competent person

Transfer Procedures

63. Does the operator have for each facility procedures for:
SWARR O&M, Section 18 - Truck Loading and Unloading Procedures

☒ Verification of connections to ensure proper delivery of gas – 18.1.5

☒ Tightness of connections – 18.2.13

☒ Hoses and fittings inspection – 18.1.1.5

☒ Valve sequencing – 18.3.11 ☒ Disconnection procedures – 18.2.19

☒ Purging procedures – 18.2.19 (NFPA 59 2004 12.4)

☒ Normal transfer operations – 18 ☒ Emergency transfer operation – 18.6

64. Are provisions implemented to prevent moving of tank vehicles during transfer? (NFPA 2004 11.2.4.3)
SWARR O&M, Section 18.1.2.

OPERATIONS (CP NFPA 59 5.4.3)

65. Does each facility have a written operating procedures manual covering (NFPA 59 2004 11.1.1)
SWARR O&M, Sections noted below.

☒ Startup - 19

☒ Shut down – 20

☒ Operations – Section 1 Operations Overview

☒ Actions to be taken if flammable concentrations of liquids or gases are detected using fixed detectors, portable detectors, operating malfunctions, and human senses. (NFPA 59 2004 11.1.2)
Section 17 - Emergency Shut Down (ESD).

☒ Purging and inerting equipment
Sections 40(Tanks) & 34(equipment)

☒ Vaporizers
Section 9 (overview), 19.4 startup, 20.2 Shutdown

☐ Refrigerated liquid (if applicable) N/A

66. Does each utility gas plant have first-aid materials on hand in sufficient quantity to handle a reasonably anticipated emergency? (NFPA 59 2004 13.7.2)
SWARR EOP, Section 20 – Emergency Supplies and Equipment (Table 20-1).
Yes, First Aid kits including Burn materials in appropriate locations.

67. Are records of all operating log sheets and recorded data retained for at least 5 years? (NFPA 59 2004 11.3.2)
SWARR O&M, Section 24.1.3. No propane air injection into 192 side of system since 2009, Reviewed 2007-2009 (last time fired up system) – last records available.

MAINTENANCE

68. Are maintenance manuals for all equipment available to maintenance personnel? (NFPA 59 2004 11.3.2)
Yes, Maintenance manuals are available in office at SWARR.
Note: Unattended facilities shall be permitted to be stored at a location where they will be accessible for maintenance personnel servicing the unattended location.

69. Do the maintenance manuals include the following: (NFPA 59 2004 12.1.3, 1-4)
Yes, reviewed maintenance manuals.

☒ Drawings, procedures, and parts lists

☒ Preventative maintenance procedures and schedules (NFPA 59 2004 12.2)
SWARR O&M, Section 31

☒ Routine inspections to be performed
SWARR O&M, Section 31. PSE SAP system generates work orders.

☒ Corrosion inspection and corrosion control procedures
SWARR O&M, Section 30. CP is GOS 2600.1000. Looked at all tanks and piping. No atmospheric corrosion issues

☒ Maintenance of fire protection equipment (NFPA 59 2004 12.2)
Maintenance Section 31 OM. SWARR is now part of SAP program. Extinguishers 31.2 and 31.3. CVD (combustible vapor detectors) 31.4, UVIR (flame) 31.5.

70. Is each auxiliary power source tested at least monthly to verify its operational capacity? (NFPA 59 2004 12.3)
SWARR O&M, Section 31.8.2.2. Checked 2018-2020 Genset1 records (load bank tests included). Tested Auxiliary Generator Hours 309.8 during the test on 6/16/21.

71. Is all equipment containing flammable or hazardous materials purged in accordance with NFPA 59 2004 prior to beginning maintenance procedures? (NFPA 59 2004 11.1.4*, 12.4)
SWARR O&M, Sections 34.2 and 40. Yes, Reviewed Purging Procedure.

72. Are records of all maintenance log sheets of process equipment maintained for the life of the equipment, while in use, and for 3 years thereafter? (NFPA 59 2004 12.5.1, 12.5.2)
YES. All records of maintenance are in the SAP maintenance database (lifetime). Also reviewed maintenance records for 2018-2020. SWARR has not actually run since 2009. Facility is off-line.

FIRE PROTECTION, SAFETY, AND SECURITY

73. Has a plan for fire fighting been developed?
Yes, SWARR EOP, Section 4.3.2 (2020) plan reviewed, and City of Renton Fire Department annually.

a. Does it address: (NFPA 59 2004 13.1.1*)
Yes, SWARR EOP, Section 2.0 Basic Plan.

b. Does it address water supply per (NFPA 59 2004 13.4.1) and Portable or wheeled extinguishers available at strategic locations (NFPA 59 2004 13.5.1)
Yes, SWARR O&M, Sections 27.6, 31.1.2, 31.3, SWARR EOP 4.3.3.2
Nearest FD station is within a mile.

Note: The evaluation must be based on the type, quantity, and size of storage containers; an analysis of local conditions; hazards within the facility; and exposure to and from other property. The evaluation shall consider: local agency response times; type, quantity, and location of equipment needed for the detection and control of potential nonprocess and electrical fire; protection of equipment and structures; fire protection water systems; fire extinguishers; automatic shutdown equipment; availability of plant personnel; and protective equipment and special training by individuals for emergencies. See NFPA 59 2004 13.1.1 for details requirements.*

74. Has a detailed emergency procedures manual been prepared and include (NFPA 59 2004 13.1.3(A)):
SWARR EOP, Section 2.6

☒ Shutdown or isolation of equipment to ensure that the escape of gas or liquid is promptly cut off or reduced as much as possible EOP 3.6.1 (ESD System)

☒ Use of fire protection EOP 4.3.2

☒ Notification of public authorities EOP 16 (Everbridge notification system)

☒ First aid EOP 6.3.6.

☒ Duties of personnel EOP 17

75. Has the emergency procedures manual been reviewed and updated at least annually? (NFPA 59 2004 13.1.3(C)
Yes, manual is updated annually. November 1, 2020 was last update.

76. Is the manual kept readily available in the operating control room or at a constantly attended location (if the plant site is not continually manned)? (NFPA 59 2004 13.1.3(B)
Yes, Emergency Operating Plan is kept in the plant control room. Gas Control also has manual due to station being not continually manned.

77. Has firefighting plan been reviewed with the local emergency response personnel (Fire & Police)?
Yes, EOP sent to City of Renton Fire Department 3/7/2021. Last time RFD was onsite for training was 2019 (Not conducted in 2020 due to Covid restrictions).

<u>Fire and leak detection</u>

78. Are flammable gas detections systems used at a constantly attended location?

If not continuously monitored, will the alarm detect at not more than 25% LEL (0.525% gas in air) in accordance with (NFPA 59 2004 6.5.9.2, 13.2.2, 13.2.3, 13.2.4)*
SWARR is monitored 24/7 by third party vendor, Fire Protection, Inc, in conjunction with gas control.

79. Do fire detectors alarm at the plant site and at a constantly attended location if the plant site is not manned continuously? (NFPA 59 2004 13.2.2, 13.2.3, 13.2.4*)
Yes, tested three fire eyes and three gas detectors inside building and within the plant. All alarmed and were reported back from a remote location (Fire Protection, Inc.)

80. Is there a maintenance program for all plant fire protection equipment? (NFPA 59 2004 12.2, 13.6)

☒ Fire detectors alarm (NFPA 59 2004 13.2.4*) SWARR O&M, Section 31.4

☒ Flammable gas detections Combustible Gas Detector (CGD's) & Ultraviolet-Infrared (UVIR's) (NFPA 59 2004 13.2.3) SWARR O&M, Section 31.5

☒ Water supply equipment three (3) hydrants (NFPA 59 2004 13.1.1, 13.4.) Renton Fire Department tests the equipment and three hydrants annually.

Personnel Safety

81. Is there suitable protective clothing and equipment available that would protect against the effects of frostbite and cold refrigerants? (NFPA 59 2004 13.7.4)
Yes, inspected PPE (fire suits and cryogenic apron, gloves and face shields just inside big roller door.

Repeat of question #18

82. Are self-contained breathing apparatus provided for those employees who may be required to enter an atmosphere that could be injurious during an emergency? (NFPA 59 2004 13.7.8)
No – Plant personnel will isolate but PSE Emergency Response Truck and Renton Fire Department would perform any firefighting function.

Repeat of Question #19.

83. Are portable flammable gas detectors readily available? (NFPA 59 2004 13.7.10)
Yes, east side of main building (GMI Gasurveyor 542 calibration due 6/25/21). SWARR EOP, Table 20-1

Security

84. Is there a security system in place with controlled access to unauthorized personnel? (NFPA 59 2004 13.8.1)
Yes, 6' chainlink fence with barbed wire, automatic gates usually closed and locked gates surround facility, also have cameras and motion detectors inside the fence.

85. Are the containers and LP equipment enclosed by a protective fence, wall, or barrier? (NFPA 59 2004 13.8.2)
Not a separate enclosure, see 84.

86. Are there at least two exit gates provided for rapid escape? (NFPA 59 2004 13.8.4)
Yes, Two (2) man gates are positioned at major exits.

87. Is there lighting in the vicinity of protective enclosures to promote security? (NFPA 59 2004 4.6, 13.8.6)
Yes, lighting appears to be adequate.

Operation and Maintenance 49 CFR 192 & WAC 480-93

88. Procedures available for Valve maintenance? (192.747)
SWARR O&M, Section 32

89. Have valves which might be required during an emergency been checked and serviced at intervals not exceeding 15 months, but at least once each calendar year?
Yes, reviewed random records for 2018-2020. Field verified valve operations.

90. Procedures for Leakage Surveys? (192.723 WAC 480-93-186, WAC 480-93-187 & WAC 480-93-188)
GOS 2675.1200. GFP 4625.1130(mobile),1140(walking).Hydromax performed 2018-2020 surveys. Checked OQ's of tech's Randy Knoll, Jackye Jimenez, and Kyle Drews. Knoll only performed 2018 survey, his OQ expired in 2019.

    a. Have business district been identified?
    N/A – no business districts in plant site.

    b. Have gas detector surveys been conducted in the business districts at intervals not exceeding 15 months, but at least once each calendar year?
    N/A – no business districts in plant site.

c. Have leakage surveys of the distribution system outside of the principal business areas been conducted as frequently as necessary, but at intervals not exceeding 5 years?
N/A – no business districts in plant site.

d. Has the operator provided for calibration (propane) and maintenance of leak detection instruments?
Yes, Reviewed Hydromax instrument calibrations; Hydromax Heath GMI 3-500. OK

e. Have leakage surveys of cast iron, wrought iron, ductile iron, or non-cathodically protected steel pipe been conducted at intervals not exceeding eight months, but at least twice each calendar year?
N/A – All pipeline and tanks are cathodically protected (CP) and reviewed records. Took field reads—see Form R.

91. Procedures for Leak Repairs? (192.703 & WAC 480-93-18601)
GOS 2625.1200; GFP 4625.1300 through 1650.

a. Have leaks been classified Grade 1, Grade 2 or Grade 3?
Yes, PSE uses a Grade A-C classification that parallels Grades 1-3. Reviewed 2625.1300, Leakage Action Program

b. Have Grade 1 leaks been repaired or eliminated or continuous action taken as required? (Class A)
N/A – No class A leaks at plant site.

c. Have Grade 2 leaks been repaired or cleared within 15 or 21 months?
N/A No Grade 2 (B) leaks.

d. Have Grade 2 leaks been reevaluated at least once every 6 months?
N/A. No Grade 2 (B2) leaks

e. Have Grade 3 leaks been reevaluated within 15 months?
Yes, two Grade 3 (tank #27 3% LEL) (tank #39 14% LEL) (C) leaks evaluated within 12 months.

92. Has the Maximum Allowable Operating Pressure (MAOP) been established for the 49 CFR 192 defined pipeline? (192.619, 192.621, 192.623 & WAC 480-93-183)
MAOP is 250 downstream of station exit valve. Per NFPA 59: tanks are rated at 250, piping is rated at 350 with hydrostatic set at 450.

93. Procedures for Inspecting and Testing Regulating Stations? (192.739 - .743)
N/A This does not apply to Propane Air Plants.

a. Have regulating stations been inspected at intervals not exceeding 15 months, but at least once each calendar year?
N/A - This does not apply to Propane Air Plants.

b. In good mechanical condition?
N/A This does not apply to Propane Air Plants.

c. Adequate from the standpoint of capacity and reliability of operation?
N/A This does not apply to Propane Air Plants.

d. Set to function at the correct pressure?
N/A This does not apply to Propane Air Plants.

e. Properly installed and protected from dirt, liquids or other conditions that might prevent proper operation?
N/A This does not apply to Propane Air Plants.

94. Procedures for Testing Relief Valves? (192.743)
N/A - This does not apply SWARR. They send all tank reliefs out for replacement every 5 years (send core out and get rebuilt back).

a. Have relief devices (RV) been tested at intervals not exceeding 15 months, but at least once each calendar year?
N/A This does not apply to Propane Air Plants.

b. Have RV sufficient capacity?
N/A This does not apply to Propane Air Plants.

c. Have RV been set at the proper set point?
N/A This does not apply to Propane Air Plants.

95. Telemetering or Recording Gauges (192.741)
N/A This does not apply to Propane Air Plants.

a. Is there a pipeline system supplied by more than one district regulating station?
N/A - This does not apply to Propane Air Plants.

b. Are there telemetering or recording gauges installed?
N/A - This does not apply to Propane Air Plants.

c. Are there any indications of abnormally high or low pressure?
N/A - This does not apply to Propane Air Plants.

d. Are unsatisfactory operating conditions being corrected?
N/A - This does not apply to Propane Air Plants.

96. Procedures for Damage Prevention (192.614, WAC 480-93-190 & RCW Title 19.122)
SWARR is part of PSE Damage Prevention Program. Send out Propane specific flyers to affected properties adjacent to plant.

a. Written damage prevention program available?
Yes, PSE Damage prevention Program, Section 1

b. Member of a one-call system?
Yes, Damage prevention Program, Section 3.1

c. Does the operator have available a current list of Excavators?
Yes, Damage prevention Program, Section 3.3

d. Provide notification concerning the program to the public and excavators?
Yes, Damage prevention Program, Section 2.4

e. Provide means for receiving and recording notification of pending excavations?
Yes, Damage Prevention Program, Section 3

f. Provide for markings within two business days?
Yes, Damage Prevention Program, Section 4.3.1

g. Provide for follow up inspections of the pipeline where there is reason to believe the pipeline could be damaged?
Yes, Damage Prevention Program, Section 2.1

97. Does the operator have a comprehensive public education program, that includes customers, the public, appropriate government and excavators, that teaches them how to recognize and report a gas pipeline emergency? (192.616)

Yes, PSE Natural Gas Public Awareness Program Plan.

Reviewed SWARR Station specific PA materials for 2018-2020 including:

- Excavator email
- Public Officials email (Mayor of Renton) – Propane Specific
- Public Works Email (City of Renton) – Propane Specific
- General Public Proximity Notice – Propane Specific (mailer)
- Emergency Officials Email – Propane Specific
- Distribution list for Public Awareness plan (PAPA)
- Customer Newsletter (annually)