STATE OF RHODE ISLAND
ENERGY FACILITY SITING BOARD

IN RE: SEA 3 PROVIDENCE, LLC PETITION FOR DECLARATORY ORDER REGARDING THE RAIL SERVICE INCORPORATION PROJECT (PROVIDENCE, RI)

DOCKET SB-2021-03

PRE-FILED TESTIMONY OF AMY AUSTIN

November 12, 2021

Amy Austin – Executive Summary

BACKGROUND

Amy Austin, a Senior Air Quality Engineer with the Environmental Division at POWER Engineers, Inc., is responsible for duties such as air permitting and compliance, air emission inventories and reporting, chemical use inventories and reporting, hazardous waste compliance, and preparation of oil spill control plans and stormwater plans for commercial, institutional, and industrial facilities. Prior to POWER's acquisition of MacMillan & Donnelly Inc. Environmental Engineering and Consulting nine and a half years ago, Austin worked there as an Environmental Engineer, with duties similar to those she currently has at POWER. Before her role at MacMillan & Donnelly, Austin had yet another similar role at Berkshire Environmental from September 1993 through 2006, on both a full time and contractual basis.

Before entering the work force, Austin received her Bachelor of Science degree in Chemical Engineering from the University of New Hampshire in addition to being Visible Emission Certified in accordance with EPA Method 9.

Austin has been retained by Sea-3 Providence/Blackline Midstream to provide environmental consulting services primarily related to air emission permitting and compliance, which she has previously done for both Sea-3 LLC in Newington, New Hampshire, and Sea-3 Providence. Austin has since been involved with Sea-3 Providence Blackline/Midstream since 2017, when they purchased the Sea-3 LLC facility in New Hampshire.

THE INSTANT MATTER

Austin is familiar with the Property from not only her site visit on September 30, 2019, but from her study of the site from an aerial perspective using Google Earth and site plans obtained from Sea-3 and David Halliwell from POWER. Based on this familiarity, Austin describes the natural environment surrounding the Property as industrialized and primarily paved and/or covered in gravel in the areas without buildings or tanks. Austin further describes the area as being bordered by the Providence River on the North and Northeast portions of the ProvPort and Property, with little vegetation or natural environment in ProvPort.

Austin's involvement in the modernization process of the current Sea 3 Providence terminal is limited to assisting the facility with obtaining air permits for the two heaters and emergency generator, which included air emission calculations and best available control technology analysis for the heaters and air emission calculators for the generator. Additionally, Austin provided a line of communication with the DEM to coordinate and expedite the process.

In preparation for the instant Petition for Declaratory Order, Austin contributed to Sections 5.8 and 7.6 of the Site Report dated March 15, 2021, and prepared the emissions analysis that was provided to the Board prior to the last hearing. In relation to the Rail Incorporation Project, Austin will be assisting Sea-3 in obtaining an amended flare permit and potentially eliminating an existing one.

I. *Current Air Quality Permit*

Currently, there are four minor source air permits in place for the terminal Property, all of which are issued by the Rhode Island Department of Environmental Management (RIDEM). Such permits are required because each heater unit has a maximum heat input capacity of 10 MMBtu/hr or greater. Permit 1869 is for the flare that is required to control emissions from the LPG storage tank during standing storage and loading. Permit 1506 is required for control of emissions from the truck loading rack by flare, which allows for up to 18 trucks per hour to be loaded at the loading rack, an amount that will not be increased by the Rai Incorporation Project. A fourth permit is in place for the emergency generator and is required since the generator is greater than 50 HP. In granting these permits, the RIDEM and applicant consider the Best Available Control Technology and the source is required to comply with all applicable state or federal air pollution regulations in place at the time of permitting. However, air quality is not measured relative to the Property's air permits.

All permits require Sea-3 to report emissions to the RIDEM from its permitted sources on an annual basis, which are the flares associated with the LPG tank and truck unloading, two heaters, and emergency generator. The facility tracks fuel usage, operating hours, and amount of LPG sent to the flares. The data is used along with the emission factors to estimate emissions, and equipment and stack date are reported in addition to these estimations.

When characterizing the environmental impact based on air emissions from the stationary sources at the facility, the impact is relatively minimal compared to other industrial or institutional facilities including state universities and a natural gas fired electric utility.

Pollutant	**Sea-3 Providence[1]**	**State University[2]**	**NG fired EG Facility[2]**
Carbon monoxide	0.54	18.16	166.98
Nitrogen oxides	0.19	48.80	62.18
Sulfur dioxide	0.002	22.73	2.01
Particulate matter	0.01	2.38	4.67
Volatile organic cmpds	0.20	1.51	1.70
Carbon dioxide	260.70	32,744.30	359,787.86

[1]Sea-3 annual air emissions report 2020
[2]ME DEP MAIRIS inventory data 2019

The air emissions that will result from the installation necessary for the Rail Incorporation Project do not have the potential to result in a significant impact to the air quality in the surrounding area, rather, the air emissions may decrease as a result of the projected reduction in the use of heaters. Once the Project is complete, with Sea-3 meeting its strategic plan to have 60% of the truck rack volume fed by rail, the firing of the heaters is expected to be reduced by approximately 50%, due to the fact that LPG received by rail is already warmed and will be transferred directly to the loading rack without the need for heating. As a result, CO_2 emissions would also be reduced by approximately 50%.

From an environmental standpoint, LPG is the next best choice to residents who cannot retain natural gas. Based on a study entitled *Heating Sector Transformation in Rhode Island* (dated April 2020) conducted by the Brattle Group and prepared for the RI Office of Energy

Resources, 32.4% of residential dwellings in RI are heated by fuel oil and only 2% are heated by LPG, while fuel oil produces the highest amount of carbon emissions. Conversion of heating systems from fuel oil to LPG would assist RI in incrementally reducing carbon emissions to zero by 2050.

Through Sea-3 Providence's permit compliance, maintaining a facility that is designed and operated in accordance with National Fire Protection Association (NFPA) 58 – Liquefied Petroleum Gas Code, adhering to equipment maintenance and inspection schedules, and operator training, air emissions are minimized and will continue to remain constant as long as Sea-3 continues to follow these procedures and best management practices while carrying out the Project.

As part of the Project, Sea-3 is proposing to eliminate the flare that controls LPG emissions from the loading rack, based on its design contractor's determination that the flare for the bulk LPG storage tank can handle all sources of LPG emissions from the Property before and after the Project, including emissions from the truck loading rack. Based on Austin's expertise, this would not increase carbon emissions from the Property and therefore not have a significant impact on the surrounding environment.

II. *Potential Environment Impact from the Completion of the Project*

Based on Austin's experience with air permitting of industrial facilities, she concluded that an electric generation facility would have a significant environmental impact, while Sea-3's current LPG terminal would be considered a minor environmental impact by comparison when considering air emissions. Air emissions during the construction phase of the Rail Incorporation Project would be minimal and limited to fugitive dust and combustion emissions from mobile source construction vehicles. Following completion of the Project, there will not be an increase in the permitted air emissions. Although two truck loading racks will be added, the use of rail deliveries would decrease the emissions from the heaters and LPG would not need to be trucked into RI from out of state if demand for LPG outpaces the ability to bring in product via vessel.

III. *Rhode Island 2021 Act on Climate*

Based on Austin's general understanding of the Act, Rhode Island's climate emission reduction goals are updated, and the state is required to develop a plan to incrementally reduce climate emissions to net zero by 2050. Once the Rail Incorporation Project is complete and in compliance with Sea-3's strategic plan to have 60% of the truck rack volume fed by rail, the firing of the heaters is expected to be reduced by approximately 50%. This is because LPG received by rail is warm and will be transferred directly to the loading rack without the need for heating, which will reduce CO_2 emissions from the heaters by approximately 50%. Further, Air emissions from the equipment to be installed in association with the Project do not have the potential to result in a significant impact to the air quality in the surrounding community as compared to air emissions from the equipment associated with the current operation. If anything, air emissions may decrease due to the projected reduction in use of the current heaters.

Sea 3 Providence, LLC
Petition for Declaratory Order
Rail Service Incorporation Project
EFSB Docket SB-2021-03
Witness: Amy Austin

TESTIMONY OF AMY AUSTIN – POWER ENGINEERS

1. **Please state your name, business address, current employer and your position with that employer?**

A. My name is Amy T. Austin and I am a Senior Air Quality Engineer with the Environmental Division at POWER Engineers, Inc. (POWER) located at 303 US Route One, Freeport, Maine 04032.

2. **What are your current job duties?**

A. My current job duties include air permitting and compliance, air emission inventories and reporting, chemical use inventories and reporting, hazardous waste compliance, and preparation of oil spill control plans and stormwater plans for commercial, institutional, and industrial facilities.

3. **How long have you been with your current employer?**

A. I have been employed at POWER for 9.5 years.

4. **Prior to your current employer, have you worked for other entities in a similar capacity? If yes, please provide the name of your prior employers, the dates at which you worked there, your title at each place of employment and a brief description of your job duties.**

A. Prior to working at POWER, I worked at MacMillan & Donnelly Inc. Environmental Engineering and Consulting from December 2005 through April 2012. My title was Environmental Engineer and my duties were similar to my current duties at POWER. POWER acquired MacMillan & Donnelly in 2012. I worked for Berkshire Environmental Consultants as an Environmental Engineer full time from September 1993 through March 1997 and on a limited/contractual basis from April 1997 through 2006.

5. **Please provide your educational background and attach a copy of your CV to your testimony.**

A. I hold a Bachelor of Science degree in Chemical Engineering from the University of New Hampshire. My CV is attached as Exhibit 1.

6. **Do you hold any professional licenses or certifications? If so, please detail those licenses or certification and provide a description of any specialized training or education associated with obtaining and/or maintain those licenses.**

A. I am Visible Emission Certified in accordance with EPA Method 9. Training and recertification are required every six months.

7. **What professional experience do you have that is specific to the environmental impacts, risks, benefits, concerns, issue etc. with specific regard to the operation of an LPG terminal the nature of the Sea 3 Providence terminal?**

A. I have provided environmental consulting services for Sea-3 LLC in Newington, New Hampshire. The environmental consulting services have been focused on air emission permitting and compliance, chemical inventory reporting, and assistance with development of a Stormwater Pollution Prevention Plan and an Oil Spill Prevention Control and Countermeasure Plan. For Sea-3 Providence I have assisted with air emission permitting and compliance and chemical inventory reporting.

8. **What is your relationship with Sea 3 Providence and/or the large Blackline family of companies?**

A. I have been retained by Sea-3 Providence/Blackline Midstream to provide environmental consulting services primarily related to air emission permitting and compliance.

9. **How long have you worked with Sea 3 Providence and/or Blackline?**

A. I have worked with Blackline Midstream since 2017 when they purchased the Sea-3 LLC facility in New Hampshire.

10. **Are you familiar with the Property at issue in this matter and the surrounding area?**

A. I am familiar with the Property as I visited it on September 30, 2019. I am familiar with the site from an aerial perspective from Google Earth and from pictures and site plans obtained from Sea-3 and David Halliwell from POWER.

11. **Can you describe the natural environment surrounding this Property?**

A. The Property itself along with the area of the ProvPort surrounding the Property is industrialized and primarily paved or covered in gravel in areas where there are no buildings or tanks. The Providence River borders North and Northeast portions of the ProvPort and Property. There is very little vegetation or natural environment in the ProvPort.

12. Were you involved in the modernization process of the current Sea 3 Providence terminal when they took over the Property?

A. My involvement with the modernization of the current Sea-3 Providence terminal was limited to assisting the facility with obtaining air permits for the two heaters and emergency generator.

13. Have you been involved with the application for and receipt of any of the permits currently held by Sea 3 Providence? If yes, please state what permits you have been involved with and the nature of the work conducted.

A. I assisted Sea-3 in obtaining the air permits for the heaters and the emergency generator. I prepared the air permit applications for the heaters and emergency generator which included air emission calculations and Best Available Control Technology (BACT) analyses for the heaters and air emission calculations for the generator. In addition, I provided a line of communication with the Rhode Island Department of Environmental Management (RIDEM) to coordinate and expedite the process.

14. What was your role in preparing the Site Report that was submitted in connection with this Petition for Declaratory Order?

A. I contributed to Sections 5.8 and 7.6 of the Site Report dated March 15, 2021. I also prepared the emissions analysis that was provided to the Board prior to the last hearing.

15. What will your role be with relation to the Rail Incorporation Project?

A. My role in relation to the Rail Incorporation Project will be to assist Sea-3 in obtaining an amended flare permit and potentially eliminating one of the flare permits.

16. Please discuss the Air Quality Permit currently in place at the Property associated with the terminal operation?

A. There are currently four minor source air permits in place for the terminal Property.

a. Who issues the permit?

A. The RIDEM issued the permits.

b. Why is it required?

A. The permit for the heaters is required because each unit has a maximum heat input capacity of 10 MMBtu/hr or greater. Permit 1869 is for the flare that is required to

control emissions from the LPG storage tank during standing storage and loading. Permit 1506 is required for control of emissions from the truck loading rack by flare. A fourth permit is in place for the emergency generator and is required since the generator is greater than 50 HP.

c. What factors are considered in connection with the permit?

A. For minor source air permits, the RIDEM and applicant take into consideration BACT and the source is required to be in compliance with all applicable state or federal air pollution control regulations in place at the time of permitting.

d. How many trucks are permitted to enter onto the Property on a daily basis for purposes of taking LPG off the site?

A. Permit 1506 allows for up to 18 trucks per hour to be loaded at the loading rack.

e. How is air quality measured?

A. Air quality is not measured relative to the Property's air permits.

f. What information is required to be provided in connection with the permit?

A. Sea-3 is required to report emissions to the RIDEM from its permitted sources on an annual basis. The permitted sources are the flares associated with the LPG tank and truck unloading, two heaters, and emergency generator. The facility tracks fuel usage, operating hours, and amount of LPG sent to the flares. This data is used along with emission factors to estimate emissions. Equipment and stack data are reported in addition to estimated emissions.

g. Will there be a request for expansion of the number of trucks allowed under the current permit if the Rail Incorporation Project is completed? Why or why not?

A. According to Sea-3, the Rail Incorporation Project is designed such that the number of trucks loaded per hour will not exceed 18, therefore a request will not be made for an increase.

17. How would you characterize the current environmental impact of the existing operation on the surrounding area?

A. When characterizing the environmental impact based on air emissions from the stationary sources at the facility, the impact is relatively minimal compared to other industrial or institutional facilities. Below is a table comparing actual emissions from Sea-3 Providence to actual emissions from a state university and a natural gas fired electric utility.

Pollutant	Sea-3 Providence[1]	State University[2]	NG fired EG Facility[2]
Carbon monoxide	0.54	18.16	166.98
Nitrogen oxides	0.19	48.80	62.18
Sulfur dioxide	0.002	22.73	2.01
Particulate matter	0.01	2.38	4.67
Volatile organic cmpds	0.20	1.51	1.70

Pollutant	Sea-3 Providence[1]	State University[2]	NG fired EG Facility[2]
Carbon dioxide	260.70	32,744.30	359,787.86

[1]Sea-3 annual air emissions report 2020
[2]ME DEP MAIRIS inventory data 2019

18. Will the Rail Incorporation Project have a significant impact on the health, safety or welfare of the surrounding area?

a. Why not?

b. What do you consider in formulating that opinion?

A. Air emissions from the equipment to be installed on the Property associated with the Rail Incorporation Project do not have the potential to result in a significant impact to the air quality in the surrounding area. If anything, air emissions may decrease due to the projected reduction in use of the current heaters.

19. What impact will the Rail Incorporation Project have on the carbon emissions from the site after the completion of the project?

A. Once the Rail Incorporation Project is complete and Sea-3 meets its strategic plan to have 60% of the truck rack volume fed by rail, the firing of the heaters is expected to be reduced by approximately 50%. This is due to the fact that LPG received by rail is warm and will be transferred directly to the loading rack without the need for heating. Therefore, CO_2 emissions from the site from the heaters would be reduced by approximately 50%.

20. How does LPG compare with other sources of fuel from an environmental impact standpoint?

A. RI residents heat their dwellings and water primarily with distillate fuel oil (home heating oil), LPG, natural gas, and electricity. When comparing carbon emissions from the combustion of these various fuels in residential boilers/furnaces, they can be ranked as follows: natural gas, LPG, and fuel oil, where natural gas produces the lowest amount of carbon emissions and fuel oil produces the highest amount of carbon emissions. Since natural gas is not available to all residence, LPG is the next best choice. Based on a study entitled *Heating Sector Transformation in Rhode Island* (dated April 2020) conducted by The Brattle Group and prepared for the RI Office of Energy Resources, 32.4% of residential dwellings in RI are heated by fuel oil and only 2% are heated by LPG. Conversion of heating systems from fuel oil to LPG would assist RI in incrementally reducing carbon emissions to zero by 2050. It is difficult to compare carbon emissions from the use of electricity for heating since emissions depend on the type of fuel burned, different technologies, and efficiency losses in the transmission and distribution of the electricity.

21. How does the existing operation manage air quality and other environmental impacts? What mitigation and protections are in place? Will that change in any significant way as a result of the Rail Incorporation Project?

A. Air emissions are minimized by Sea-3 Providence by compliance with its air permits, maintaining a facility that is designed and operated in accordance with National Fire Protection Association (NFPA) 58 – Liquefied Petroleum Gas Code, adhering to equipment maintenance and inspection schedules, and operator training. If Sea-3 continues to follow these requirements and best management practices, there will be no significant change in air emissions as a result of the Rail Incorporation Project.

22. Can you discuss the possibility of the elimination of one of the flares from the Property as a result of the Rail Incorporation Project?

a. Why are flares required and by what regulations?
b. Why would the Rail Incorporation Project allow Sea 3 Providence to eliminate one of the flares?
c. Would this have a significant impact on the surrounding environment?
d. Would this have a positive impact on the carbon emissions emanating from the site?

A. Sea-3 Providence is proposing to eliminate the flare that controls LPG emissions from the loading rack. Sea-3's design contractor has determined that the flare for the bulk LPG storage tank can handle all sources of LPG emissions from the Property before and after the Rail Incorporation Project, including emissions from the truck loading rack. In my opinion this would not increase carbon emissions from the Property and therefore not have a significant impact on the surrounding environment.

23. Is there a significant environmental impact on the surrounding area as a result from the current daily operation of the Sea 3 Providence terminal?

a. How does one measure that impact?
b. What data do you consider in formulating that opinion?
c. Will there be any significant change to your opinion in that regard during the construction phase of the Rail Incorporation Project?
d. Will there be any significant change to your opinion in that regard following the completion of the Rail Incorporation Project?

A. In my experience with air permitting of industrial facilities, an electric generation facility would have a significant environmental impact and in comparison, in my opinion, Sea-3's current LPG terminal would be considered a minor environmental impact as a starting

point. In this case I am measuring environmental impact based on air emissions. Air emissions during the construction phase of the Rail Incorporation Project would be minimal and limited to fugitive dust and combustion emissions from mobile source construction vehicles. Following completion of the Rail Incorporation Project, there will not be an increase in the permitted air emissions from the Project. Two truck loading racks will be added which means the potential for additional trucks transporting LPG from the facility to local customers. However, by incorporating rail deliveries the emissions from the heaters would decrease and LPG would not need to be trucked into RI from out of state if demand for LPG outpaces the ability to bring in product via vessel.

24. Are you familiar with the Rhode Island Act on Climate that was passed and signed into law while this Petition has been pending?

a. Would the Rail Incorporation Project aid the state in accomplishing that goal as compared to the status quo operation of the terminal?
b. How about in comparison to the alternatives to meeting demand over the years without use of rail?
c. Why do you believe that to be true?

A. I am aware that the Rhode Island 2021 Act on Climate was signed in April 2021. My general understanding is that it updates Rhode Island's climate emission reduction goals and requires the state to develop a plan to incrementally reduce climate emissions to net-zero by 2050. Once the Rail Incorporation Project is complete and if Sea-3 can meet its strategic plan to have 60% of the truck rack volume fed by rail, the firing of the heaters is expected to be reduced by approximately 50%. This is because LPG received by rail is warm and will be transferred directly to the loading rack without the need for heating. Therefore, CO_2 emissions from the heaters would be reduced by approximately 50%.

25. Does any of the equipment to be placed on the Property associated with the Rail Incorporation Project have the potential to result in a significant impact on the health, safety and welfare of the surrounding community as compared to the current operation?

A. Air emissions from the equipment to be installed on the Property associated with the Rail Incorporation Project do not have the potential to result in a significant impact to the air quality in the surrounding community as compared to air emissions from the equipment associated with the current operation. If anything, air emissions may decrease due to the projected reduction in use of the current heaters.

Exhibit 1

AMY AUSTIN, EIT

SENIOR ENVIRONMENTAL ENGINEER

YEARS OF EXPERIENCE

26

EDUCATION

- B.S., Chemical Engineering, University of New Hampshire, 1990

AREAS OF EXPERTISE

- Air permitting and compliance
- Air emission inventories
- Chemical use inventories
- Hazardous waste compliance
- Air dispersion modeling
- Stormwater planning and best management practices
- Recordkeeping and reporting

LICENSING

- Engineer in Training: Massachusetts

CERTIFICATION

- Certified Hazardous Waste Coordinator, State of New Hampshire
- Certified Opacity Reader, EPA Method 9

SEMINARS

- Presenter, "Surviving the Compliance Visit," Maine Marine Trades Association Annual Conference & Business Meeting, Owls Head, ME, 2017.

EXPERIENCE SUMMARY

Ms. Austin specializes in environmental regulatory compliance and air quality permitting. She has assisted clients with various environmental challenges, including federal and state air regulations, best available control technologies, toxic substance and hazardous waste reduction, hazardous waste regulations, community right-to-know laws, oil spill prevention, industrial stormwater permitting, and recordkeeping and reporting.

Multinational Automotive Parts Manufacturer, Automotive Parts Manufacturing Environmental Permitting and Compliance, New Hampshire

Environmental Specialist for a program at five facilities of a multinational automotive parts manufacturer to comply with complex environmental regulations. Conducted environmental compliance audits, assisted with permitting and compliance, prepared regulatory reports including emergency response planning. Prepared Oil Spill Prevention, Control and Countermeasure (SPCC) plans and maintained the environmental tracking database.

B&G Foods, B&G Foods Environmental Permitting and Compliance, Multiple States including New Jersey

Engineer supporting an effective program to comply with complex environmental regulations at seven food processing plants and three warehouses located in six states. Responsible for reports on emergency planning and community right to know about hazardous chemicals stored on-site. Also prepared permits for air, water and wastewater discharges as well as Spill Prevention, Control and Countermeasure Plans and Stormwater Pollution Prevention Plans. Conducted compliance audits and prepared air emissions reports and other reports for environmental regulatory agencies.

PREVIOUS WORK HISTORY

Beaver Wood Energy, NSR/PSD Permitting, Vermont

Environmental Specialist responsible for preparing the New Source Review air permit application for a 34 MW biomass fuel electric generating facility and integrated wood pellet manufacturing facility. Ms. Austin prepared Most Stringent Emission Rate (MSER) analyses for NOx, CO, SO2, VOC, PM and beryllium. She represented the project on air permitting issues in meetings with the Vermont Department of Environmental Conservation.

Phillips Exeter Academy, Sustainability and Stewardship Assessment, New Hampshire

Environmental Specialist responsible for assisting Phillips Exeter Academy (PEA) in assessing its environmental impact, sustainable performance. The assessment was used in the development of PEA's environmental master plan. Ms. Austin conducted an environmental sustainability and stewardship baseline assessment. The objective of the assessment was to analyze, document and quantify PEA's current environmental impact to air, water and land. Current practices, initiative and programs were assessed. Results of the assessment were used to assist PEA in benchmarking institutional performance in the area of environmental sustainability and stewardship and identify areas of opportunity for continued progress. This sustainability assessment took into account many facets of the school in order to provide a broad overview of the current status of PEA's impact on the environment.

General Electric Plastics, Title V Air Permit Application, Massachusetts

Environmental Specialist responsible for preparing all aspects of the Title V air permit application. The Title V application process consisted of completing a vent and emission unit inventory, calculating emissions for significant and insignificant sources, conducting a review of air pollution regulations and identifying applicable requirements, meeting with the regulatory agency, and completing the application.

MaineGeneral Medical Center, Environmental Consulting, Maine

Project Engineer responsible for assisting MaineGeneral Medical Center hospitals in complying with air quality regulations, EPCRA regulations, toxics use reduction, oil spill prevention, and control planning and hazardous waste reduction. MaineGeneral Medical Center has five hospitals and several auxiliary facilities. Projects include preparation of chemical storage inventories and reports, air permit applications, oil SPCC plans, Toxic Use Reduction Plans, and Hazardous Waste Closure.

University of New Hampshire, Landfill Gas to Energy (LFGTE) Project, New Hampshire

Project Engineer responsible for preparing an air permit application and BACT analysis for the University of New Hampshire's landfill gas to energy project (LFGTE). The University of New Hampshire (UNH) constructed and operates a LFGTE facility at the Turnkey Landfill. Landfill gas is treated and transferred by pipeline to the UNH cogeneration facility. The pollutant emitting equipment which required permitting were one 4,600 kW (43.6 MMBtu/hr) combustion turbine, one 36 MMBtu/hr thermal oxidizer, two flares rated at 125 MMBtu/hr and 105 MMBtu/hr and two internal combustion engines each rated at 16 MMBtu/hr.

SWPPP, SPCC, Hazardous Waste Contingency and Facility Response Plans, Various Clients, Multiple States

Environmental Specialist responsible for preparing numerous SWPPP, Oil SPCC, Hazardous Waste Contingency and Facility Response Plans for various industrial, manufacturing, and institutional clients in Massachusetts and Maine. Ms. Austin prepared the SPCC and Facility Response Plans in

accordance with USEPA regulation 40CFR112 and conducted on-site inspections of each facility's oil storage and handling areas. She prepared the SWPPP plans in accordance with the federal or state Multi-Sector General Permit requirements and conducted on-site inspections to determine potential pollutant sources and best management practices. She assisted facilities in developing training material, inspection forms and compliance schedules to maintain compliance with the regulations. Ms. Austin stays up to date with the latest changes to the regulations.

Various Boat Manufacturers, Chemical Use and Air Emissions Tracking, Rhode Island and Maine

Project Engineer responsible for tracking chemical usage and air emissions for several fiberglass boat manufacturers. The project included managing and designing and updating chemical use/air emissions databases. Databases are structured with numerous tables, queries and forms that allows for easy input of data and a generation of reports necessary for regulatory compliance. Database calculations are compliant with the National Emission Standard (Maximum Achievable Control Technology (MACT)) for boat manufacturers in addition to incorporating Unified Emission Factors. Generated monthly, quarterly, semi-annual and annual reports for regulatory agencies.

EPCRA Tier II and TRI Reporting, Various Clients, Multiple States

Engineer responsible for preparing Tier II chemical inventory reports and Toxic Release Inventory forms for various industrial and institutional clients in various states. Ms. Austin conducted on-site inventories, collected usage data, and calculated air and waste emissions for completing the reports. She submitted the reports to the various regulatory and emergency planning agencies via online reporting systems as required.

Renovo Energy Center, Air Permitting, Pennsylvania

Project Engineer responsible for preparing Plan Approval application for a 1,000 MW dual-fuel combined-cycle power plant in Pennsylvania. Completed a Best Available Control Technology (BACT) and Lowest Achievable Emission Rate (LAER) analyses for the two combustion turbines and auxiliary equipment. Obtained technical information from equipment vendors and communicated with State agency. Reviewed draft Plan Approval and worked with State agency to negotiate permit conditions.

STATE OF RHODE ISLAND
ENERGY FACILITY SITING BOARD

IN RE: SEA 3 PROVIDENCE, LLC PETITION FOR DECLARATORY ORDER REGARDING THE RAIL SERVICE INCORPORATION PROJECT (PROVIDENCE, RI)

DOCKET SB-2021-03

PRE-FILED TESTIMONY OF BRIAN STEVENS

November 12, 2021

Brian Stevens – Executive Summary

Brian Stevens is the office manager/project lead at S&B Engineers and Constructors, Ltd., in Canonsburg, Pennsylvania. His job duties include office management, staffing, project management, project engineering, proposal development, client communications, reporting, cost control, scheduling, technical design review, design input, and ensuring adherence to company policies. He has worked for his current employer since June 2020. He has worked for other entities in a similar capacity in the past. He received his B.S. in mechanical engineering from the University of Missouri-Columbia. He is a professional engineer. Mr. Stevens has experience constructing several large industrial projects which required environmental controls to be put in place and maintained to protect the surrounding environment from pollution and/or disturbance.

Brian Stevens has worked with Sea 3 Providence/Blackline for about six months as the engineering project manager for S&B. He assisted in preparing the site report by providing conceptual engineering documents. He testified that there is no storm water management plan in pace in connection with the terminal because Rhode Island DEM had determined that Sea-3 is a "non-contributor" and, therefore, is not required to have a storm water management plan during operation. He testified that there will be a soil management or soil erosion plan in place to prevent pollutants/contaminants from entering adjacent properties. He testified that the property is not in a wetlands area.

Mr. Stevens testified to the differences between the new equipment that will be brought onto the facility versus the equipment already on site. He said that the existing equipment handles the same material—LPG. The new equipment will be used to unload and store LPG. He testified that, as a result of the changes, Sea-3 will be able to remove a flare because vent piping will be reworked which will eliminate the need for two flares. He testified that the process of loading LPG from the new bullet tanks onto transport trucks will be less complex than the system currently in place. He also stated that the proposed operations will have a positive environmental impact because less emissions would be emitted because the LPG will not need to be heated when sending LPG from the bullet storage tanks into trucks. He also described the extensive safety measures in place at the facility.

Sea 3 Providence, LLC
Petition for Declaratory Order
Rail Service Incorporation Project
EFSB Docket SB-2021-03
Witness: Brian Stevens

PRE-FILED TESTIMONY OF BRIAN STEVENS – S&B ENGINEERS AND CONSTRUCTORS, LTD.

Please state your name, business address, current employer and your position with that employer?

a. **Name: Brian Stephens**
b. **Work Address:**
   1000 Town Center Way #200
   Canonsburg, PA 15317
c. **Current Employer: S&B Engineers and Constructors, Ltd.**
d. **Current Position: Office Manager / Project Lead**

2. What are your current job duties?
   a. **Office Management**
   b. **Staffing/Resource Allocation**
   c. **Project Management**
   d. **Project Engineering**
   e. **Proposal Development**
   f. **Client Communications / Client Relations**
   g. **Reporting**
   h. **Cost Control**
   i. **Scheduling**
   j. **Technical Document/Design Reviews**
   k. **Design Input**
   l. **Ensuring adherence to company work processes, policies, and procedures**
3. How long have you been with your current employer?
   a. **June 2020 – Present**
4. Prior to your current employer, have you worked for other entities in a similar capacity? If yes, please provide the name of your prior employers, the dates at which you worked there, your title at each place of employment and a brief description of your job duties.
   a. **Yes. See Resume attached as Exhibit 5.**
   b. **Previous Employer: Kiewit**
   c. **January 2009 – June 2020 (Full Time)**
   d. **Previous Position with Kiewit: Project Manager**
   e. **Previous Job Duties: Similar job duties to #2**
5. Please provide your educational background and attach a copy of your CV to your testimony.

   a. **Bachelor of Science in Mechanical Engineering – December 2008, University of Missouri-Columbia**
   b. **Provided**
6. Do you hold any professional licenses or certifications? If so, please detail those licenses or certification and provide a description of any specialized training or education associated with obtaining and/or maintain those licenses.
   a. **Yes – Professional Engineer (Mechanical) – Pennsylvania**
7. Are you required to participate in any continuing education as part of your profession? If yes, please describe what you are required to do to maintain compliance.
   a. **Yes; P.E. License; Professional Development credits (Trainings, Webinars, etc.) must be completed annually to keep P.E. License in good standing.**
8. What professional experience do you have that is specific to the environmental impacts, risks, benefits, concerns, issue etc. with construction activities at a site with an environmental land use restriction in place?
   a. **I have experience constructing several large industrial projects which required environmental controls to be put in place and maintained to protect the surrounding environment from pollution and/or disturbance. However, while my personal experience does not include engineering or designing environmental controls, S&B has several professionals in our company who do have experience in these areas such as designing or engineering stormwater management, soil erosion, soil management and dust mitigation plans. Our involvement in this project includes development of conceptual/technical engineering documents and plans which will be utilized by POWER Engineers in preparing these plans on behalf of Sea 3 Providence in connection with the submission of the applications to RIDEM. All of the work performed by S&B is done in accordance with existing law, regulations and industry best practices.**
9. What is your relationship with Sea 3 Providence and/or the large Blackline family of companies?
   a. **I work for S&B Engineers and Constructors, Ltd, who has been contracted to perform engineering & design services for the SEA-3 Providence LPG Terminal Expansion project.**
10. How long have you worked with Sea 3 Providence and/or Blackline? **About 6 months.**
   a. In what capacity? **As the Engineering Project Manager for S&B.**
11. Are you familiar with the Property at issue in this matter and the surrounding area? **Yes**
12. What was your role in preparing the Site Report that was submitted in connection with this Petition for Declaratory Order? **Providing conceptual Engineering documents to the client which were utilized by others on the team in preparing the Site Report.**
13. What will your role be with relation to the Rail Incorporation Project? **Engineering Project Manager for S&B**
14. What is the Process Basis of Design which is attached as an Exhibit to the Site Report?
   a. Did you prepare it? **No I did not personally prepare the Process Basis of Design. This was prepared by an S&B licensed Process Engineer.**

b. Can you describe the Process Basis of Design? **I would refer you to the Process Basis of Design attached as an Exhibit to the Site Report and attached hereto as Exhibit 6.**

15. Is there a current storm water management plan in place in connection with the operation of the terminal? **No** Why or why not? **Rhode Island DEM has determined that Sea 3 is a "non-contributor" and therefore is not required to have a storm water management plan during operation.**
    a. Will that change upon completion of the Rail Incorporation Project? **S&B will provide POWER Engineers with support in the form of detailed engineering and design at the appropriate time for POWER Engineers to utilize in the preparation of a stormwater management plan for the construction phase of the project. At this stage in the design process, this SWMP has not yet been prepared/finalized.**
    b. What goes into preparation of such a plan? **S&B would produce the engineering deliverables (Storm Water System Design) required to support POWER Engineers in the SWMP and RIPDES permit application process.**
    c. What risks are you controlling for on a site like this? **Risk mitigation by implementing engineered control measures to prevent pollutants and/or contaminants to enter adjacent properties and/or waterways.**
    d. What governmental agency regulates the stormwater management plan?
        i. **City of Providence (ProvPort), State of Rhode Island (RIPDES)**
16. Will there be a soil management or soil erosion plan in place associated with this project during construction? **Yes**
    a. Why or why not? **To prevent pollutants/contaminants from entering adjacent properties and/or waterways.**
    b. What risks do you control for with each type of plan? **Mitigating risks of polluting adjacent properties and/or waterways.**
    c. Has that plan been prepared yet? If not when? **No. After Detailed Engineering & Design commences.**
    d. Are you involved in the preparation of these plans? **Preparation of these plans will be by POWER Engineers. S&B will provide POWER Engineers with the necessary engineering deliverables to support development of these plans.**
    e. What do these plans entail for a site like this? **Installation, maintenance, and routine inspection details for site perimeter controls during construction; parameters for sampling/testing soils; guidelines for handling contaminated soils**
    f. What governmental agency regulates the soil erosion or soil management plan? **City of Providence (ProvPort), State of Rhode Island (RIPDES)**
17. Is this Property in a wetlands area? **No**
18. Are there any concerns related to groundwater or surface water contamination which would result from this proposed project? **As I stated Sea 3 Providence is recognized as a non-contributor. However, as is the case throughout much of ProvPort the soils below grade are likely contaminated and thus need to be adequately managed**

during the construction phase of the project. The existing ProvPort SWMP addresses these concerns with contaminated soils below grade and will need to be followed and adhered to during below grade construction until the soil is capped and backfilled to finish grade. Sea 3 Providence has engaged a local contractor familiar with the area who will perform that work.

19. Please describe the new equipment to be located on the option parcel associated with the Rail Incorporation Project? **New LPG Storage Tanks, New Rail Spur, New Railcar unloading station/system, New LPG Pumps, New LPG Refrigeration System, New LPG Dehydration System, New Electrical Equipment (Transformer / MCC Enclosure)**
20. How does the new equipment compare with the presently existing equipment on the site? **The new equipment will consist of process equipment used to unload/store/transfer/cool LPG product. Existing equipment handles the same LPG product as the new equipment.**
21. Please describe the process for bringing in LPG via rail as compared to how you bring it via vessel? **The main difference is the temperature of the imported LPG. Rail import is warm (ambient) LPG, vessel import is refrigerated LPG. Thus, when the LPG is loaded to the truck rack from the bullet tanks servicing the railcars, it does not have to be heated as compared to taking LPG from the existing tank which needs to be warmed prior to being loaded into the trucks.**
22. As a result of storing the LPG in the six bullets versus solely utilizing the existing 19,000,000 gallon tank, will Sea 3 Providence increase its storage capacity? **Yes, there will be a small increase in overall storage capacity of approximately 2.8 percent once all six bullets are installed totaling an additional 540,000 gallons.**
23. As a result of storing the LPG in the six bullets versus the existing 19,000,000 tank, will Sea 3 Providence be able to remove any of the existing equipment on the Property, including without limitation one of the flares? **Yes. The Truck Rack Flare will be eliminated as a result of the expansion project.**
24. What is the function of the flares? **Venting LPG in emergency and/or relief scenarios. Flaring during normal operation is not expected.**
25. Why will incorporation of rail transport and use of the bullet tanks allow you to remove one of the flares? **A Flare Study was performed by an S&B Process Engineer, and report issued with complete details. In summary, the vent/relief piping will be re-worked which will eliminate the need for 2 Flares. In addition, the Flare Tip on the Emergency Flare will be replaced with a larger flare tip.**
26. Did you prepare the proposed site plan for the Rail Incorporation Project? **S&B's engineering team developed the current proposed site plan, for which I assisted and provided input.**
    a. Please describe your methodology **Optimized the layout based on equipment size, accessibility, and existing site constraints.**
    b. What safety regulations or considerations do you consider in putting together the Site Plan and planned positioning of the equipment placed on the site plan? **MPE performed a facility siting study and generated a Fire Safety Analysis (FSA)**

report, which outlined requirements for safe distances from LPG storage equipment, based on NFPA 58.

c. What risks do you control for on the site plan? **Fire, Truck Traffic, Personnel Access, Maintenance**

27. Does the new site plan constitute a significant increase in any safety or environmental risks in comparison to the existing operation? **Unknown; not in S&B's scope of services or knowledge base.** Why or why not? **Unknown; not in S&B's scope of services or knowledge base.**

28. How does the process for offloading LPG from the railcars into the bullets compare with the existing process for offloading LPH from the vessel to the large storage tank compare from a safety perspective? **Although the equipment utilized for offloading vessels vs. railcars is different, both current and future offloading processes require proper procedures to be followed so that the process can be completed safely.**

    a. What are the risks you control for? **Risk of not following proper operating procedures can lead to serious injury.**

29. How does the process of taking LPG from the existing large 19,000,000 tank and getting it to the trucks at the truck racks compare with the process for doing so from the six bullet tanks to the trucks at the truck racks from a safety perspective? **The process for filling trucks straight from the warm LPG bullet storage tanks is actually less complex, as the LPG does not have to be heated. With the existing terminal, the product being stored in the existing tank is refrigerated LPG, so it must be heated utilizing boilers before getting sent to truck loading.**

    a. What are the risks you control for? **Similar risks for both cases. Safe operating procedures must be followed in either case.**

    b. Is there a significant detrimental impact from an environmental perspective between the two? **By utilizing boilers to heat the refrigerated LPG product (current equipment), you are generating exhaust gases. With the new warm LPG storage, the boilers will not need to be utilized when sending product from the warm LPG bullet storage tanks to truck loading.**

    c. How about a positive impact? **This would equate to less emissions after the new equipment is installed and operational.**

30. Is the conceptual engineering and design work performed by S&B for Sea 3 Providence on this project done in a manner to prevent any significant impact on the health, safety and welfare of the surrounding environment? **S&B designs in accordance with all codes, industry standards, and regulations. This includes controlled safety systems to safely operate and/or safely shut down the facility in the event of an emergency. This includes, but is not limited to, over-pressure protection of process piping systems and process equipment. Fire & Gas detection systems, fire protection/suppression systems, and an alarm system will all be implemented into the facility design, which will be a joint effort between S&B, MPE, and other project stakeholders.**

Exhibit 5

ENGINEERS AND CONSTRUCTORS

Brian Stephens
Project Manager

OVERVIEW

Brian brings over 13 years of experience working on six combined-cycle natural gas power plant projects, a coal-fired power plant project, an LPG Terminal Expansion project, and two green hydrogen projects. Throughout his career, Brian has supported these projects in various stages, including estimating, prime contract negotiations, baseline schedule development, FEL engineering, detailed design engineering, procurement, subcontract & material contract negotiations, constructability, pre-construction planning, field construction execution, labor relations, commissioning, and client relations. This long-time experience enables Brian to envision, organize and execute projects per our client's project goals and in-line with company best practices and expectations. With an aptitude for critical thinking and problem solving, Brian is able to quickly and transparently address project challenges; communicating the required details to all stakeholders.

As a leader, Brian enforces accountability to company expectations and best practices amongst project teams he manages. He also offers coaching and mentoring opportunities to assure the entire team is performing as efficiently and effectively as possible. By taking the time to review and understand his teams' strengths, Brian excels at putting together the strongest team possible with employees performing in the areas they excel. Using his long term understanding of the project's vision, Brian assures consistent operation across the entire team; translating into smoother project execution from start to finish.

SUMMARY OF EXPERIENCE

Projects:

- Power Generation
- LPG Import/Export Terminal
- Green Hydrogen
- Brownfield Facilities
- Grassroots Facilities

Competencies:

- Operations Management
- Project Management
- Project Engineering
- Engineering Management
- Constructability/Construction Coordination
- Project Controls
- Scheduling
- Cost Control
- Team Leadership
- Project Execution

S & B PROJECT EXPERIENCE

2020 – Present S & B Engineers and Constructors, Ltd.
Project Manager

Project Manager (2021-Present)
Peachtree Green Hydrogen Production Facility, Plug Power, Kingsland, GA

FEL & Detailed Design Engineering to support construction of a liquid hydrogen production facility, which is utilizing electrolysis equipment, electrical equipment, compressors, a dryer system, cooling towers, and several other various pieces of process equipment. The new facility is being constructed on a green field site in Southeast Georgia. Duties include responsibility for the overall quality and timeliness of the work of all engineering personnel assigned to the project, including the coordination of the Engineering Discipline Leads, Support Departments, and Estimating. Responsibilities includes daily/weekly coordination, client communications, action items, cost tracking, document control, schedule development/updates, technical drawing reviews, resource planning, vendor coordination, and adherence to internal work processes and procedures.

Project Manager (2021-Present)
Pathfinder Green Hydrogen Test Facility, Plug Power, Kingsland, GA

FEL & Detailed Design Engineering to support construction of a gaseous hydrogen test facility, which is utilizing electrolysis equipment, electrical equipment, gas compressors, a dryer system, cooling tower, and several other various pieces of process equipment. The new facility is being constructed on a green field site in Southeast Georgia. Duties include responsibility for the overall quality and timeliness of the work of all engineering personnel assigned to the project, including the coordination of the Engineering Discipline Leads, Support Departments, and Estimating. Responsibilities includes daily/weekly coordination, client communications, action items, cost tracking, document control, schedule development/updates, technical drawing reviews, resource planning, vendor coordination, and adherence to internal work processes and procedures.

Project Manager (2020-2021)
LPG Terminal Expansion, Blackline SEA-3 Providence, LLC, Providence, RI

FEL Engineering to support feasibility/capability studies and initial project development for an LPG (Propane) terminal expansion from current ship import/refrigerated storage/heating/truck export to add rail import/refrigeration/dehydration/expanded truck export. Responsible for the overall quality and timeliness of the work of all engineering personnel assigned to the project, including the coordination of the Engineering Discipline Leads, Support Departments, and Estimating. Responsibilities includes daily/weekly coordination, client communications, action items, cost tracking, document control, schedule development/updates, technical drawing reviews, resource planning, vendor coordination, and adherence to internal work processes and procedures.

PREVIOUS EMPLOYMENT

2007 - 2020 Kiewit

EPC Project Manager (2019 – 2020)
Three Rivers Energy Center, Competitive Power Ventures Inc. Limited Liability Company, Morris, IL

Kiewit was selected to engineer, procure, construct and start-up a new 1200 MW natural gas-fueled, 2x1x1 combined-cycle power plant located in Morris, IL. Installations included two GE HA.07

combustion turbine generators and a GE steam turbine generator, two heat recovery steam generators and two Air Cooled Condensers.
Planned Peak Direct/Indirect Reports: Approx. 135-140 Staff, 600-700 Craft

Operations Manager (2017 – 2019)
Hickory Run Energy Station 2x1 H CC, TYR Energy Incorporated, North Beaver Township, PA
Kiewit was selected to engineer, procure, construct and start-up a new 1000 MW natural gas-fueled, 2x1 combined-cycle power plant located in New Castle, PA. Installations included two Siemens H class combustion turbine generators and a Siemens steam turbine generator, two heat recovery steam generators and a wet cooling tower.
Peak Direct/Indirect Reports: 80 Staff, 600 Craft

Operations Manager, Construction Manager (2015 – 2017)
St. Joseph Energy Center, Development Partners, South Bend, IN
The team comprising Kiewit Power Constructors Co. and Kiewit Engineering & Design Co. was awarded the EPC contract to engineer, procure and construct the 2x1 combined cycle project. Major equipment included a Siemens F-Class combustion turbine generator with wet-cooling for this facility, which connects to American Electric Power's Dumont-Olive 345 kV line in Indiana.
Peak Direct/Indirect Reports: 60 Staff, 550 Craft

Construction Manager, HRSG General Superintendent (2013 – 2015)
Woodbridge Energy Center, Competitive Power Ventures Inc. Limited Liability Company, Woodbridge, NJ
Kiewit was selected to engineer, procure, construct and start-up a new 700 MW natural gas-fueled, 2x1 combined-cycle power plant located in Woodbridge, New Jersey. Installations included two GE F Class .05 turbines, a GE steam turbine generator, two heat recovery steam generators and a wet cooling tower.
Peak Direct/Indirect Reports: 14 Staff, 150 Craft

HRSG General Superintendent, HRSG Piping Lead Superintendent (2011 – 2013)
Shepard Energy Centre, ENMAX Corporation, Calgary, AB
Shepard Energy Centre was an 800 MW EPC 2x1 combined cycle power plant consisting of the installation of two Mitsubishi M501G1 240MW combustion turbines, two Vogt triple-wide heat recovery steam generators, one Mitsubishi 300 MW steam turbine and generator. The job included an auxiliary boiler, cooling tower and water treatment facility.
Peak Direct/Indirect Reports: 8 Staff, 120 Craft

HRSG Piping Superintendent (2010 – 2011)
John Sevier Combined Cycle Project, Tennessee Valley Authority, Rogersville, TN
A Kiewit team provided general construction services for this 880 MW 3x1 gas-fired combined-cycle power plant, a project that included three GE 7FA.04 combustion turbines, three Nooter/Eriksen triple-pressure heat recovery steam generators, a Toshiba steam turbine and four ABB generator step-up transformers.

Piping Superintendent, Piping Field Engineer, Intern (2008 – 2010)
Iatan Unit 2 Power Plant, Kansas City Power & Light Co. – Main St, Weston, MO
Kiewit was awarded the contract to construct a portion of the new 900 MW coal-fired power plant and a portion of upgrades to the existing Unit 1. Upgrades consisted of a wet flue gas desulfurization, a pulse jet fabric filter baghouse and a selective catalytic reduction system for

nitrogen oxides. Unit 2 included a Toshiba steam turbine, a cooling tower, collector wells and a zero-liquid discharge system designed to treat scrubber blowdown.

Intern, Estimator (2007)
Lenexa, KS

Estimated the project piping cost for 2 power plant projects, including one Air-Quality Control System (AQCS) project, and one simple-cycle natural gas power plant project. Estimating responsibilities included quantity takeoffs, labor cost, material cost, tooling cost, equipment cost, etc., utilizing past project cost comparables and vendor solicitation for permanent material pricing and subcontract pricing.

Mechanic (2004 – 2005)
Harry S. Truman Dam & Reservoir, U.S. Army Corps of Engineers, Warsaw, MO

As a mechanic, Brian performed maintenance on the existing powerhouse within the hydroelectric dam.

Carpenter (2002 – 2004)
Various Projects, Bristow Residential Construction, Warsaw, MO

As a carpenter, Brian was responsible for framing and roofing residential homes.

EDUCATION

University of Missouri - Columbia
B.S., Mechanical & Aerospace Engineering

CERTIFICATIONS

Kiewit University - Learner:
Operations Management Level 1, 2 & 3

Kiewit University - Facilitator:
Kiewit Culture School – Fundamentals of Successful Contracting
Operations Management Level 2 – Labor Relations & Craft Development

Professional Engineer (Mechanical): Licensed in Pennsylvania

COMMITTEES

Lessons Learned Committee – 2021-Present (S&B)
Emerging Technology Committee – 2019 (Kiewit Power)
Design for Fall Prevention Committee – 2018-2019 (Kiewit Power)

Exhibit 6

S & B Engineers and Constructors, Ltd.

Northeast Operations

Blackline SEA-3 Providence

PROCESS BASIS OF DESIGN

Project # S0080

Revision	Date	Description	By	Checked	Approved
A	02/08/2021	Issued for Approval	MR	SP	BJS

Table of Contents

1. Introduction

The objective of the project is to provide the operational flexibility to move 600,000 gallons (with maximum of 1,200,000 gallons) of LPG product per day on to truck transports with maximum commercial flexibility on market source via refrigerated storage or rail to Blackline Midstream existing SEA-3 LPG terminal located in Providence, RI. Two cases are evaluated for this estimate as:

- Base Case: 16 Railcars, 4 Corken Miser Unloading Compressors, 6 Bullet Storage Tanks
- Alternate Case: 10 Railcars, 2 Corken Miser Unloading Compressors, 4 Bullet Storage Tanks

2. Executive Summary

The project scope of work is to provide a Conceptual Rail and Site Layout Design and FEED Study Proposal that will allow for the development and integration of new LPG rail offloading operations at the SEA-3 Providence, LLC Propane Terminal ("Sea-3") and ancillary operational improvements to the existing facility operations.

The project will be implemented in different FEL (Front End Loading) phases.

Completion of sufficient engineering and design in order to obtain Total Installed Cost (TIC) estimates for each of the three (3) Project Phases, as well as five (5) Optimization Options.

FEL Engineering Key Elements:

1. Determine site constraints and impact on throughput rates for finalization of a Design Basis.
    a. Initial basis:
        i. 20 to 28 MM gallons per six (6) month summer period from rail to truck
        ii. 16 MM gallons per six (6) month summer period from rail to refrigeration
        iii. 80 MM gallons per six (6) month winter period from rail and storage to truck
    b. Determine maximum rail off-loading spots possible within property constraints - anticipated ten (10) to sixteen (16) spots
    c. Determine new equipment minimum and maximum rates
2. Evaluate the following Optimization Options
    a. Determine cost/benefit of adding a fourth (4^{th}) lane to existing truck loading vs relocating truck loading and installing five (5) lanes
    b. Consider relocation or removal of LPG Overfill Tank (122V-0012)
    c. Determine feasibility of eliminating the existing truck rack flare and recycling vapors to Bullet tanks (considering return of odorized or non-odorized LPG), or sending to emergency flare (F-0001)
    d. Evaluate existing nitrogen system and identify opportunities for usage improvements
        i. Determine cost/benefit of adding on-site nitrogen generation in place of or in addition to existing purchasing from Praxair using current basis of use of 1 (one) load per month
    e. Evaluate the feasibility and flexibility of ethane railcar unloading for blending in new bullets, or in potential new day tank - blend must meet HD-5 specification

The above items were evaluated and the final conclusion for each phases of this project are listed below:

2.1 Phase 1

Completion of warm propane railcar unloading, metering (LACT skid), bullet storage and tie to existing truck loading.

1. Provide new railcar warm propane unloading and transfer to new bullet warm storage.
2. Provide existing (T-0001) cold storage to new bullet warm storage via existing glycol heating.
3. Implement nitrogen system improvements.
4. Provide for ability to blend ethane-rich import from railcars without flaring at boil-off gas compressors.

2.2 Phase 2

Completion of existing truck loading relocation and adding fourth (4^{th}) and fifth (5^{th}) lanes expansion.

1. Provide new bullet to existing and new truck loading via existing and new odorization and metering. Eliminate existing Mercaptan Storage Tank (122VE-OT-1) and locate a new tank in North plant. Include two (2) new YZ injection systems for new truck lanes, and one (1) new YZ injection for transferring from storage tank (T-0001) to bullets.
2. Provide existing (T-0001) storage to new truck loading via existing heating, odorization and metering.
3. Eliminate truck flare (F-0002) and send vent and blowdown from truck loading to emergency flare (F-0001).
4. Remove LPG Overflow Tank (122V-0012) and LPG Reloading Pump (122P-54) and provide new connection to send the truck overflow back to bullet tanks.

2.3 Phase 3

Completion of dehydration and refrigeration Additions.

Provide new bullet to existing storage tank (T-0001) via dehydration and refrigeration.

2.4 Phase 4

Provide a new LACT unit with 600 gpm capacity (with available connection for a second one in future), and piping for export from storage tank (T-0001) or from bullet tanks via railcars.

3. System Description

This design basis summarizes the main design parameters necessary to complete the design.

The project will make the following changes to the current configuration of Sea-3 LPG Terminal:

1. New Warm Railcar Unloading System: this includes additional new rail spurs, 16 or 10 railcar unloading stations with unloading arms at each station, four (4) or two (2) units of Corken Propane Miser Compressor.
2. The inlet and outlet headers to and from the bullet tanks are segregated for possibility of seasonal operation like summer and winter, by importing odorized or unodorized propane via railcars.

3. New on-site Nitrogen Generation Skid: the on-site nitrogen generation skid (provided by vendor) will supplement and back-up the nitrogen usage in the facility, with the major user being the annular space of storage tank (T-0001) cold propane storage tank.
4. New Flare KO Drum with a glycol coil for vaporizing the remaining liquids will be added to the emergency flare (F-0001).
5. New LPG Bullet Storage Tanks and LPG Transfer Pumps: this includes six (6) or four (4) bullet storage tanks and four (4) vertical can transfer pumps, each 750 gpm with VFD, to transfer propane from bullets to truck loading, and to cold propane storage tank (T-0001) via dehydration/refrigeration. Design rate for each truck lane is 600 gpm.
6. New Dehydration System: this includes two (2) new dehydrators, filtration, pumps, electric heater for regeneration, regeneration recirculation pumps and water KO drum. The dehydration system is needed to meet LPG water ppm level necessary for refrigeration and transfer to storage in (T-0001) tank.
7. New Refrigeration Skid: this will refrigerate dry LPG for transfer to storage tank (T-0001).
8. Relocate three (3) existing truck lanes and add two additional truck lanes: this includes new connections from the new LPG bullet storage tanks to the existing and new metering skids and existing flare.
9. Eliminate LPG Overflow Tank (122V-0012) and LPG Reloading Pump (122P-54) and provide new connection to send the truck overflow back to bullet tanks.
10. Utilities:

    The following utilities were evaluated for the new additional systems to the facility, considering the availability and capacity of the existing utilities:

    a. Instrument Air: 2 x 100% new instrument air compressor with 250 SCFM capacity each.
    b. Nitrogen: New Nitrogen Generation system with 74 SCFM capacity, utilizing Pressure Swing Adsorption (PSA) with air sourced from new Instrument Air system.
    c. Natural Gas: Available as is, no new usage.
    d. Lube Oil Storage: As required by new propane chiller compressor system.
    e. Condensate Collection: No condensate collection, only a water tote for dehydration unit.
    f. Closed Drain Collection: No new closed drain system.
    g. Wastewater System: No wastewater system.
    h. Stormwater: As required for the new expansion in South plant.
    i. Firewater: New firewater system for new expansion in South plant.
    j. Cooling Water: It's not required. Air cooling is used when needed.

4. Design Philosophy and Flow Rate Determination

The two main LPG (Propane specifications) handled in this facility currently and in the future of this project are HD-2 and HD-5 Propane.

4.1 HD-5 Propane Specification

All of the equipment will be designed to meet HD-5 Propane Specification. HD-5 grade propane is "consumer grade" propane and is the most widely sold and distributed grade of propane in the U.S. market. HD-5 is the highest-grade propane available to consumers in the United States and is what propane companies ordinarily sell to their customers. This propane is suitable and recommended for engine fuel use. HD-5 spec propane consists of:

- Minimum of 90% propane
- Maximum of 5% propylene
- Other gases constitute the remainder (ethane, iso-butane, butane, methane, etc.)

HD-5 Propane product quality must meet the specification outlined below: (See next page)

C3 As per GPA Standard 2140-97 HD-5 Spec			
Specification	**Min**	**Max**	**Test Method**
Vapor Pressure		208 psig at 100°F 1434 kPa at 37.8°C	ASTM D-1267
Propane	90.0 Liq. Vol.%		ASTM D-2163
Propylene		5.0 Liq. Vol.%	ASTM D-2163
Butanes & Heavier		2.5 Liq. Vol. %	ASTM D-2163
Corrosion		Copper Strip of lB	ASTM D-1838 (Note A)
Total Sulfer		123 ppmw	ASTM D-2784
Volatile Residue Max Temp. at 95% evaporation		-37.0°F -38.3°C	ASTM D-1837
Residual matter On evaporation of 100ml		0.05 ml	ASTM D-2158
Residual matter Oil stain observation		Pass	ASTM D-2158 (Note B)
Moisture content -Freeze valve test		Pass	GPA Propane Dryness Test (Cobalt Bromide) or D-2713

4.2 HD-2 Propane Specification

The other Propane specification used in this facility is HD-2 with the following details:

- Minimum of 90% propane
- Maximum of 5% propylene
- 2% ethane
- Other gases constitute the remainder (iso-butane, butane, methane, etc.)

HD-2 Propane product quality must meet the specification outlined below (next page):

C3 HD-2 Marine Propane (2.0% Ethane, 30 ppm Sulfur)			
Component	Min	Max	Test Method
Ethane		2.0 Liq. Vol.%	ASTM D-2163
Propylene		5.0 Liq. Vol.%	ASTM D-2163
Propane	90.0 Liq. Vol.%		ASTM D-2163
Butanes & Heavier		2.5 Liq. Vol.%	ASTM D-2163
Vapor Pressure @ 100° F		208 psig	ASTM D-1267 or D-2598
Residual Matter (residue)		0.05 ml. (Note C)	ASTM D-2158
Residual Matter (oil stain)		Pass (Note B)	ASTM D-2158
Copper Strip Corrosion		No. 1	ASTM D-1838
Volatile Sulfer		30 ppm wt.	ASTM D-5623 or D-6667
Water		30 ppm wt.	ASTM D-5454

4.3 Vapor Recovery / Compressor System

For unloading operation of rail cars and transferring the liquid to the bullet tanks, a liquid transfer and vapor recovery are required to collect the displaced vapors and help empty the rail car.

A cost benefit analysis was performed between application of Corken FD891 and Propane Miser T791. Application of Propane Miser T791 is selected for this project. For Base Case with 16 railcars, 4 Propane Miser units, and for Alternate Case with 10 railcars, 2 Propane Miser units are considered. Propane Miser T791 is a 2-stage unloading compressor system which can recover the remaining propane and its vapor from the railcars down to near zero psig pressure.

The Current requirement as a design point is to unload maximum of 16 railcars in 24 hours, assuming 22 working hours.

4.4 LPG Bullet Storage Tanks Volume

The LPG Bullet Storage tanks are horizontal bullet tanks. To determine the volume of the tanks the following are considered:

i. 20 to 28 MM gallons per six (6) month summer period from rail to truck
ii. 16 MM gallons per six (6) month summer period from rail to refrigeration
iii. 80 MM gallons per six (6) month winter period from rail and storage to truck

These volumes are based on addition of 16 or 10 railcar unloading spots, with capacity of each railcar about 30,000 gallons.

Each LPG Bullet Storage tank will be designed to have a nominal volume of 90,000 gallons, with effective volume of about 76,000 gallons.
Each LPG Bullet Storage tank will be equipped with a PSV venting to flare, sized for emergency relief in case of open pool fire.

4.5 LPG Dehydration & Refrigeration System

LPG rail off-loading to bullets and bullets to refrigerated storage will be designed for minimal capital investment constrained by minimum of (480,000 gallons per day) to transports. For this we will assume 16 MM gallons per six (6) month period in the summer to fill the storage tank (T-0001), which is equivalent of about 72 gpm continuous, with 125 gpm taken as the basis of design for dehydration and refrigeration system.
The dehydration system is utilizing two (2) mole sieve beds, with a pump and spare for regeneration loop, electric heater for regeneration gas, air cooler and water separator and tote.

5. Optimization Studies

The following optimization and feasibility studies are ongoing to determine the scope of this project:

5.1 Feasibility of Nitrogen Onsite Production

It was determined that onsite generation of nitrogen utilizing PSA method with air supplied to it by new instrument air compressor is a viable option for this facility expansion.

5.2 Alternatives to Flaring Disposal of Vapor During Truck Unloading

A flare study was perfumed for new equipment and any system impacted by this expansion. It was determined that the vent and blowdown from truck loading (and railcar unloading) be routed to the emergency flare F-0001. Existing flare F-0002 will be removed, with its loads tied into F-0001.

5.3 Feasibility of Ethane Railcar Unloading for Blending

For unloading and blending of the LPGs from the rail cars, the ethane content (or the RVP of LPGs) should be taken into account to avoid flaring from the Refrigerated Tank (T-0001) via boil-off gas compressor inlet. The phase envelope of the propane blends were developed and provided to Blackline. The phase envelope will help determine if flaring is expected at the boil-off compressors based on ethane content of the imported propane from railcars.

Given the design temperature of the Refrigerated Tank (T-0001) as -50 °F, high concentration of ethane should be avoided in imported propane from railcars in order not to exceed this minimum design temperature of the storage tank (T-0001) to lower values.

The inlet and outlet headers to and from the bullet storage tanks were split to 3+3 bullets for base case (or 2+2 for alternate case). This will provide flexibility to segregate odorized or unodorized propane (or other acceptable products) in seasonal operation of winter and summer.

It was determined that blending off-spec propane imported via railcar to make spec product is not an economically feasible option. It would require sampling and testing of each railcar content, measurement of flow for blending, and blending in a segregated bullet tank. Therefore the ethane blending as described above is not considered in the basis of this estimate.

5.4 Techno-Economic Evaluation of Railcar Unloading Systems

A cost benefit analysis was performed for application of Corken FD891 compressor and Propane Miser T791 compressor system. The Propane Miser T791 was recommended and selected for this project.

5.5 Optional LPG Vaporizer

Based on demand, frequency of operation and capacity of existing and new equipment, no additional LPG vaporizer is considered for this project.

5.6 Dehydration and Refrigeration Units – Liquid vs. Air Cooling Options

For dehydration and refrigeration of LPGs from bullet tanks to refrigerated tank (T-0001), it was determined that air cooler systems will be used.

6. Equipment List

There is an equipment list for the existing equipment on site which is now developed further for the required equipment for the scope of this project.

7. Operation Philosophy

An operation philosophy for the new systems will be developed in future phase of this project to address the key operational parameters and envelopes for each system. This operation philosophy can be used for developing detailed control narratives and procedures.

8. Appendices

Additional documents and references are available in project documentation to support the information in this basis of design.

STATE OF RHODE ISLAND
ENERGY FACILITY SITING BOARD

IN RE: SEA 3 PROVIDENCE, LLC PETITION FOR DECLARATORY ORDER REGARDING THE RAIL SERVICE INCORPORATION PROJECT (PROVIDENCE, RI)

DOCKET SB-2021-03

PRE-FILED TESTIMONY OF DAVID HALLIWELL

November 12, 2021

David Halliwell – Executive Summary

David Halliwell is a senior environmental project manager at POWER Engineers Consulting, PC. His job duties include assessing environmental permitting needs for various projects, filing permit applications, and ensuring compliance with permits. He has worked for his current employer since July 2018. Prior to his current employment, he has worked in a similar capacity at other firms. He has professional experience regarding utility related projects with environmental land use restrictions and with respect to environmental impacts on property such as the property in question. Mr. Halliwell has been involved in CRMC and DEM RIPDES permits.

Mr. Halliwell has worked with Sea-3 Providence, exclusively, for about one year. He testified that the existing property and adjacent areas are entirely impervious consisting of primarily asphalt pavement with the concrete floor of a former warehouse. His testimony described the area of the paved service on the property and where stormwater is collected. He testified that the proposed facility would have no significant impact to the Providence River or associated landing.

According to his testimony, Mr. Halliwell's role in relation to the Rail Incorporation project will be to draft and support the CRMC and RIPDES applications. He said that there is currently a stormwater management plan even though Sea-3 is, and will remain, a non-contributor.

Sea 3 Providence, LLC
Petition for Declaratory Order
Rail Service Incorporation Project
EFSB Docket SB-2021-03
Witness: David Halliwell

TESTIMONY OF DAVID HALLIWELL – POWER ENGINEERS CONSULTING, PC

1. Please state your name, business address, current employer and your position with that employer?

   David Halliwell
   POWER Engineers Consulting, PC
   2 Hampshire Street; Suite 301
   Foxborough, MA 02035

2. What are your current job duties?

   I am a Senior Environmental Project Manager. My role is to assess environmental permitting needs for various projects and work with the clients and my team to conduct the necessary field studies, file and obtain permit application and ensure compliance with permits through construction.

3. How long have you been with your current employer?

   I have been with POWER Engineers for approximately 3 and a half years July 2018-Present).

4. Prior to your current employer, have you worked for other entities in a similar capacity? If yes, please provide the name of your prior employers, the dates at which you worked there, your title at each place of employment and a brief description of your job duties.

   Prior to POWER Engineers:

   VHB (2010 – 2018)
   Senior Environmental Project Manger
   Duties:
   Managing projects and staff, environmental assessment, environmental permitting, erosion control specifications, design and monitoring, construction oversight and management of environmental inspectors, wetland delineation, replication /restoration design and monitoring, presenting projects at public hearings.

   Tilton & Associates, Inc. (Land Surveying and Civil Engineering)
   Environmental Scientist / Project Manager (1999-2010)
   Duties:

Environmental assessment, environmental permitting, erosion control specifications, design and monitoring, construction oversight and management of environmental inspectors, Wetland delineation, replication /restoration design and monitoring, presenting projects at public hearings, hydrologic analysis / compliance with stormwater standards, civil drafting.

5. Please provide your educational background and attach a copy of your CV to your testimony.

   See Resume attached hereto as Exhibit 8.

6. Do you hold any professional licenses or certifications? If so, please detail those licenses or certification and provide a description of any specialized training or education associated with obtaining and/or maintain those licenses.

   No Professional licenses. US Army Corps Certified Wetland Delineator Training and numerous trainings regarding wetland delineation and erosion controls.

7. What professional experience do you have that is specific to the environmental impacts, risks, benefits, concerns, issue etc. with construction activities at a site with an environmental land use restriction in place?

   Management of hazardous soils or ground water is not my area of expertise. However, I have work on utility related projects with environmental land use restrictions where I am typically working with someone who specializes in the management of hazardous soils. I will work with them and the construction contractor to ensure compliance. The same will be done in regard to this project.

8. What professional experience do you have that is specific to the environmental impacts, risks, benefits, concerns, issue etc. on a Property such as the one at issue in this Petition?

   My role is specific to natural resource related CRMC and DEM RIPDES Permits which I have competed for other utility related projects with similar environmental land use restrictions such as the Property at issue in this Petition.

9. How long have you worked with Sea 3 Providence and/or Blackline?
   a. In what capacity?

   I have work with Sea-3 Providence for approximately 1 year, my work has been solely on this project.

10. Are you familiar with the Property at issue in this matter and the surrounding area?

    Yes, I am familiar with the property and the area as it relates to this specific project.

11. Can you describe the natural affected environment surrounding this Property?

The existing property and adjacent areas are entirely impervious consisting of primarily asphalt pavement with the concrete floor of a former warehouse. The Providence River is located to the northeast of the site and consists of a wall channel/ship landing. The paved surface extends up to the walled channel. Stormwater is collected through existing catch basins in Harborside Boulevard and Sea View Drive.

The proposed facility will have no significant impact to the Providence River or associated landing. Although modified from the existing layout the proposed facilities would maintain the impervious surface. It is my understanding that the stormwater will continue to be collected and a design is being prepared. Since the surface and collection of stormwater will continue in a similar manner there will be little to no change in the surrounding environment as it pertains to the land use and function.

12. What was your role in preparing the Site Report that was submitted in connection with this Petition for Declaratory Order?

My role in the Petition for Declaratory Order was to support the preparation of the Modification Site Report, Sections 5-8, with a primary focus on the natural environment. The Transportation, Noise, Safety and Public Health portions of the report were provided by other members of the Sea-3 project team and Air Quality was prepared by POWER's Air Quality Specialist.

13. What will your role be with relation to the Rail Incorporation Project?

My role will be to draft and support the CRMC and RIPDES (Construction General Permit) applications.

14. Is there a current storm water management plan in place in connection with the operation of the terminal? Why or why not?

Yes, while Sea 3 is, and will remain a non-contributor, there is a Stormwater Management Plan for ProvPort, Inc. that pertains to all property within ProvPort.

a. Will that change upon completion of the Rail Incorporation Project?

No, proposed modification to this site will need to comply with ProvPort's current stormwater management plan and the plan will be updated to incorporate the modified site.

Exhibit 8

DAVID HALLIWELL

SENIOR ENVIRONMENTAL SPECIALIST / PROJECT MANAGER

YEARS OF EXPERIENCE
24

EDUCATION
- B.S., Environmental Management, University of Rhode Island.
- Graduate Studies, Environmental Planning, Environmental Law, University of Rhode Island.

AREAS OF EXPERTISE
- Environmental permitting project management and execution
- Business development
- Client relationship management
- Erosion control specifications, design and monitoring
- Construction oversight and management of Environmental Inspectors
- Wetland delineation, replication / restoration design and monitoring
- Presenting projects at public hearings
- Hydrologic analysis / compliance with stormwater standards

SPECIAL TRAINING
- U.S. Army Corp of Engineers Wetland Delineation Training - 38 hours
- OSHA 10-hr Construction
- OSHA 40-hr HAZWOPER

REGULATORY PRESENTATIONS
- Testimony before MA DPU.
- Presented aspects of projects during DPU Site Tours.
- Presented Project before RI EFSB.
- Represented numerous projects before Conservation Commissions at Public Hearings.

AFFILIATIONS
- Association of Massachusetts Wetland Scientists
- Massachusetts Association of Conservation Commissions
- Northeast Energy and Commerce Association

EXPERIENCE SUMMARY

Mr. Halliwell is an Environmental Specialist and Project Manager with a broad range of experience in environmental services. His responsibilities have included wetland delineation, assessment, mitigation, construction monitoring, and environmental permitting on projects involving local, state, and federal environmental review processes and regulatory permits. He has managed the environmental aspects of substation expansions, new transmission lines, gas distribution, electric distribution, and all manner of utility maintenance projects. Mr. Halliwell has expertise in all facets of project management including writing proposals, schedules, budgets, and identifying potential conflicts and risks. He has managed projects involving the permitting under local, state, and federal regulations in Rhode Island, Massachusetts, and Connecticut.

National Grid, J16S Thermal Upgrade Project; Cumberland, RI

Mr. Halliwell is serving as Project Manager and part of the project team the Narragansett Electric Company's (d/b/a/ National Grid) J16S Thermal Upgrade Project. The project focused on a double circuited portion of the J16S and R9 115kV transmission lines in Cumberland, RI. Due to the proposed increased thermal rating on the new conductor for the J16S the filing of a Siting Report with the RI EFSB was required. Along with the project team Mr. Halliwell helped develop the report and presented the environmental aspects of the project to the RI EFSB and Cumberland Town Council. Since the project crosses part of Cumberland's public water supply reservoir, it also involved coordination with the Cumberland DPW, Water Department and RIDEM. Additionally, the project included wetland delineation, cultural resource review, state listed rare plant surveys, federal rare species review, US Army Corps permitting, a municipal Sediment and Erosion Control Permit and a permit under the Rhode Island Pollution Discharge Elimination System (RIPDES), Construction General Permit. All permitting has been completed for the project and it is currently heading into construction.

Eversource, Cross Road to Fisher Road Reliability Project, MA

Project Manager for this project involving 5.1 miles of a new overhead transmission line within an existing Eversource ROW. The project required permits from various federal, state, and municipal agencies including a Section 72 Petition form the Massachusetts Department of Public Utilities (DPU), MEPA Expanded Environmental Notification Form (EENF), Single Environmental Impact Report (SEIR) and Notice of Project Change (NPC). Through the course of the project, Mr. Halliwell has been involved with the permitting strategy, wetland delineations, development of the petition, alternatives analysis, public open houses, meetings with federal, state, and municipal regulators, visual simulation, construction noise analysis, aeronautical obstruction analysis, and public outreach. Mr. Halliwell presented portions of the project during the DPU site tour and provided expert witness testimony during the proceeding with the DPU. Mr. Halliwell

has continued with the project through construction supporting MA Highway Access Permits, Municipal Grants of Locations and working with the project team to resolve construction related stormwater and erosion control issues.

National Grid, L14 & M13-Sakonnet River Remediation Project; Tiverton and Portsmouth, RI

Mr. Halliwell is serving as Project Manager for this project involving the replacement of structures on either side of the Sakonnet River in Tiverton and Portsmouth, RI. The project has unique access challenges due to the structures sitting on a narrow jetty that extends into the river and abandoned railroad tracks that share the jetty. Mr. Halliwell has been working with POWER's transmission engineering, the National Grid Project Team, geotechnical contractor, and civil construction contractor to determine the best means of access for geotechnical borings and into excavation of the structure replacement. The project involves coordination with the RI CRMC, RI DOT, RI Historical Preservation and Heritage Commission (RIHPHC), abutting property owners, businesses, and the Towns of Tiverton and Portsmouth.

Eversource, Kingston Reliability Project, MA

Mr. Halliwell served as the environmental and siting consultant for this project involving the of 8 miles of a new overhead transmission line within an existing Eversource ROW. This was one of the projects to come out of the ISO-NE SEMA RI Solutions Study and involved work within Towns of Carver, Kingston, and Plympton. The project required permits from various federal, state, and municipal agencies including a Section 72 Petition form the Massachusetts Department of Public Utilities and MEPA Environmental Notification Form. Mr. Halliwell recently worked with the Eversource drone team, the siting group and drone contractor to put together a virtual site tour for the DPU and interested members of the public. Mr. Halliwell presented a portion of the project during the DPU virtual Site Tour and provided testimony during the DPU Public Hearing. Mr. Halliwell has coordinated and lead project meetings with MEPA, MA Natural Heritage and Endangered Species staff, the Army Corps of Engineers, and each municipality as needed. The project is currently going through environmental permitting.

Eversource, Sudbury Substation Expansion Project, MA

Project manager and part of the project team for Eversource's Sudbury Substation 342 Expansion Project. The project's design included temporary and secondary wetland impacts, and required extensive coordination with the municipal, state, and federal regulators. Mr. Halliwell work with the Project Team to prepare and submit a MEPA Environmental Notification Form which included a mitigation package that would satisfy the requirements of the Sudbury Conservation Commission Wetlands Administrative Bylaw, MADEP Wetlands Protection Act, MADEP Water Quality Certification and the Army Corps of Engineers MA General Permit. Part of the mitigation included off-site preservation of a parcel abutting Sudbury Conservation Land. The other piece of the mitigation package included an on-site wetland replication for which Mr. Halliwell directed the design and construction. The wetland replication was required to be established with 90% wetland plants after three years of monitoring. The project was successfully completed and received a certificate of compliance from the Sudbury Conservation Commission.

Eversource, Access Road / DCR Rail Trail Project, MA

Project Manager for a transmission line which shares a corridor with an abandoned MBTA rail line and proposed MassDCR Greenway. This project included the development of the corridor with an access suitable for Eversource's transmission line maintenance vehicles, as well as pedestrian use. The project included the environmental permitting, hazardous soils analysis and mitigation, land survey, structural assessment of culverts and historic cattle passes, engineering design and construction oversight. Additionally, the project involved working with numerous stakeholders which Mr. Halliwell regularly needed to coordinate with, including DCR, MBTA, Conservation and Historic Commissions, town planners, DPW, Rail Trail Committees and town managers for both Wayland and Weston.

National Grid, B23 Project; Burrillville & North Smithfield RI

Mr. Halliwell served as Project Manager for this Project involving replacement of eighteen (18) single wood pole structures and replacement of wood cross arms and suspension insulators on six (6) structures as well as aerial signage and grounding improvements. The Project included measures to protect rare species, archeological and wetland resources. This required permitting with Towns of Burrilliville, North Smithfield, RIDEM (RIPDES), and the Army Corps of Engineers. The project also involved coordination with the USEPA for a regulated CERCLA site located within the ROW. The project has since been successfully completed and all permits have been closed-out.

Eversource Gas Distribution Projects, Massachusetts

David Halliwell served as Project Manager for numerous gas distribution and residential extension projects. These projects typically involved extending an existing gas distribution line to bring service to a new street or neighborhood where no service existed. Some included lateral connections to new customers, other involved the in-kind replacement of portions of the existing line. All these projects were within existing roadways and had some portion of work within a wetland resource area or buffer thereto. The projects typically included local wetlands permitting, and construction inspections.

Eversource Transmission Line Maintenance Projects, Massachusetts, Connecticut

Project Manager on numerous structure replacement and maintenance programs within Eversource's overhead transmission system. These projects have included the replacement of H-frame structures, three pole dead end and angle structures with steel structures on concrete foundations, re-conducting, OPGW and static line replacements, counterpoise replacements, insulator replacements and storm guy installations. These projects have occurred in Eastern Massachusetts (former NSTAR territory), Western Massachusetts (former WMECo territory) and Connecticut (former CL&P territory). Worked closely with the Eversource project teams on aspects of the projects including environmental, project management, engineering, survey, real estate, right-of-way, transmission siting, community outreach, and vegetation management.

Eversource, Right-of-Way Access Road Maintenance / Improvement Program

Project Manager responsible for working closely with Eversource to develop scope for the program, obtaining permits, completing notifications, and providing construction monitoring and program oversight services. Assigned and coordinated teams of wetland scientists, GPS operators, and GIS analysts for approximately 300 miles of wetland field delineation and access road assessments on all of NSTAR's electric transmission right-of-way (ROW). Completed wetland delineations, GPS location, field assessments, summary reports, and plan reviews for each ROW.

Transgas, Inc., Fleet Distribution Facility for Liquefied Natural Gas Administration Consent Order (ACO), Massachusetts

Project Manager and the central point of contact for this project working with Transgas, Inc. their parent company National Grid, DEP's NE Regional Office, the City of Lowell, and the construction contractor. Mr. Halliwell worked closely with client to understand site constraints while identifying the issues that lead to the ACO. The project team developed a solution that not only satisfied the requirements of the ACO but also provided a long-term solution to stormwater issues on the site. The project was successfully constructed, maintained, and monitored for four years as required in the ACO. The property ultimately received its "return to compliance" letter from DEP.

Eversource, Kingston Substation Rebuild Project, Massachusetts

Project Manager for this project involving the asset condition rebuild of Eversource's existing substation in Kingston, MA. The project included the analysis of alternative rebuild locations as well as design alternatives. The project was originally slated for a DPU Chapter 40A permit for Comprehensive Zoning Relief, however after design alternatives were explored, it was decided a gas insulated substation (GIS) could utilize the same footprint as the existing station. The project team decided to seek municipal approval for the project rather than DPU approval. The project included wetland delineation, property survey, alternative analysis, preliminary EMF analysis, community and municipal outreach, and review of local zoning/planning applications. The project has since received municipal approval and is moving into final design.

Eversource, Walpole to Holbrook Reliability Project, Massachusetts

David Halliwell served as an interim project manager for this project leading up to and during the construction phase of this project. The project included the installation of a new transmission line on primarily existing towers, and the development of a new switching station. Mr. Halliwell's role on the project was to develop and ensure compliance with all environmental conditions issued by the federal and state and municipal agencies. Responsibilities included weekly project meetings with the Eversource Project Team and construction contractors, managing environmental monitors, provide environmental compliance trainings, work with contractors to resolve erosion and sedimentation control issues, obtaining or amending permits as construction issues arose, represent the project in pre-construction meetings or permit modifications with Conservation Commissions, DEP, USACE and MEPA Notice of Project Change.

STATE OF RHODE ISLAND
ENERGY FACILITY SITING BOARD

IN RE: SEA 3 PROVIDENCE, LLC PETITION FOR DECLARATORY ORDER REGARDING THE RAIL SERVICE INCORPORATION PROJECT (PROVIDENCE, RI)

DOCKET SB-2021-03

PRE-FILED TESTIMONY OF DR. ROBERT S. PALERMO

Dr. Robert S. Palermo – Executive Summary

BACKGROUND

Dr. Robert S. Palermo is a principal engineer and consultant to MPE, Inc., which is located at 10 Pendleton Drive, Hebron, CT 06248. He has worked there for six years. He provides engineering consultation services involving the preparation of the following facility pans and client services: (1) OSHA Process Safety Management (PSM) Plans; (2) Process Hazard Analysis (PHA); (3) U.S. Environmental Protection Agency (EPA) Risk Management Plans (RMP); (4) EPA Spill Prevention, Control and Countermeasure (SPCC) Plans; (5) EPA Stormwater Pollution Prevention Plans (SPPP); (6) Hazardous Waste Contingency Plans (HWCP); (7) NFPA Fire Safety Analysis (FSA); (8) Facility Hazard Analysis (FHA); (9) Facility Noise Assessments; (10) Construction and remediation Dust Control Plans; (11) Facility Safety & Public Health Impact Assessments; (12) OSHA HAZWOPER Health & Safety Plans (HASP) and HAZWOPER Training; (13) Provide PSM/RMP Table Top and Mock Exercise Training for first responders involved with hazardous material spills and releases; (14) OSHA/EPA Emergency Preparedness Plans; and (15) OSHA Emergency Action Plans. He has also been employed by RSP Consulting since 2002, where he has provided similar consulting services. His employment history includes:

- U.S. EPA Region 1, Boston, MA, 1975-1979, Wastewater Engineering Specialist;
- Ecology & Environment, Inc. Woburn, MA, 1979-1982, EPA SUPERFUND Contractor, Environmental Scientist investigating hazardous waste sites throughout New England;
- NUS Corporation, Inc., Burlington, MA, 1982-1984, EPA SUPERFUND Contractor, 1984-1986, Environmental Scientist investigating hazardous waste sites throughout New England;
- Camp Dresser & Mckee, Inc., Boston, MA, 1984-1986, EPA SUPERFUND Contractor, 1984-1986, Environmental Scientist remediating hazardous waste sites throughout New England;
- Haley & Aldrich, Inc., Cambridge, MA, 1986-1992, Health & Safety Director and Senior Scientist managing an base wide environmental cleanup at Hanscom AFB, Bedford, MA;
- Raytheon Engineers & Constructors, Cambridge, MA,1992-1996, EPA SUPERFUND Contractor, Environmental Engineer remediating hazardous waste sites throughout New England;
- EA Engineering, Science & technology, Burlington, MA,1996-1999, New England Operations Manager, Principal Engineer;
- EMCON, Inc. Burlington, MA,1999-2002, Business Unit Leader/Principal Engineer, providing site investigation and remediation services;

- MPE, Inc., Hebron, CT, 2015 to present, Principal Engineer, providing consulting services;
- RSP Consulting LLC, Wakefield, MA, 2002 to 2021, Principal Engineer & Safety Professional, providing consulting services;

Dr. Palermo's educational background includes:

- B.A. with a focus in Natural/Environmental Science, Harvard University,1980;
- M.S. Environmental Science with a focus in Applied Geophysics, Lesley University, 1983;
- Sc.D. with a focus in Industrial Hygiene & Environmental Engineering University of Massachusetts, 2006;
- Graduate of the U.S. Naval War College, Command & Staff Program, 2007;

He has several professional licenses and certifications including:

- Professional Civil-Environmental (PE) Engineer; No. 47618; Commonwealth of Massachusetts;
- Professional Civil-Environmental (PE) Engineer; State of New Hampshire PE No. 12608;
- Professional Civil-Environmental (PE) Engineer; PE No. 12364 State of Maine;
- Professional Civil-Environmental (PE) Engineer; PE State of New Jersey PE No. 24GE04988600;
- Licensed Site Professional (LSP), Commonwealth of Massachusetts, in Inactive Status at this time (LSP No. 9004 since 1994);
- Certified Safety Professional in Comprehensive Practice (CSP); No. 21198, Board of Certified Safety Professionals;
- Certified Instructional Trainer (CIT); No. 2877; Board of Certified Safety Professionals;
- Registered Professional Industrial Hygienist (RPIH) in Comprehensive Practice; No. 12609, Association of Professional Industrial Hygienist (APIH);
- Certified Hazard Control Manager (CHCM), No. 2018, International Board of Hazard Control Management.

With respect environmental impact, Dr. Palermo has assisted with the preparation of several Activity and Use Limitations (AULs) under the Massachusetts Contingency Plan, 310 CMR 40.0000 which restrict and limit how the Site can be used. An AUL acts as a Deed Restriction to

restrict how a Site can be used when environmental contamination is present. He prepares EPA SWPPs, SPCC Plans, Dust Control Plans, and Dust Mitigation Plans for his clients.

Dr. Palermo's experience with respect to the operation of an LPG terminal is extensive. He inspected ten (10) LPG facilities in northeast Canada (i.e., Prince Edwards Island, Newfoundland, Novia Scotia and New Brunswick, etc.) and northeast New England (i.e., Maine, Vermont, New Hampshire, etc.) for Irving Energy (2010-2013). The inspections were conducted for compliance with NFPA 58 – Liquefied Petroleum Gas Code and the Canadian Provincial standards and codes (i.e., Propane Storage & Handling Code CSA B149.2-10 and the Canadian Center for Occupational Health & Safety). He was also involved with the fire protection approval with an Intermodal LPG Rail Transfers facility in Massachusetts that involved working with the local fire department and State Fire Marshal's office over a two-year period to address a number of environmental and local community concerns (2012-2016). He prepared the NFPA FSA for the facility and assisted Sea-3 with the preparation of their OSHA PSM Plan, EPA RMP and required OSHA programs. The facility was designed and constructed to be in compliance with NFPA 58 – Liquefied Petroleum Gas Code and the Massachusetts state fire code (527 CMR 1.00 and NFPA 1-2015 Edition).

RELATIONSHIP WITH SEA-3 PROVIDENCE AND THE FIRE SAFETY ANALYSIS

Dr. Palermo prepared the Fire Safety Analysis (FSA) for Sea-3 over a two-year period. He is familiar with the property at issue and the surrounding area, having prepared narratives for noise assessment, dust control, and safety and public health as part of the initial RI EFSB submittal Petition. Dr. Palermo explained that there are several bodies of laws and fire safety regulations that are incorporated into the FSA, including:

- NFPA 1 - Fire Code;
- NFPA 58 – Liquefied Petroleum Gas Code;
- NFPA 24 - Standard for Installation of Private Fire Service Mains;
- NFPA 70 - National Electric Code;
- Rhode Island Fire Protection Regulations, The Rhode Island Fire Safety regulations are described in 450-RICR-00-07, Part 7;
- Rhode Island Fire Code NFPA 1- Fire Code, 2015 Edition. NFPA 1, Chapter 69 – Liquefied Petroleum Gases & Liquefied Natural Gases outlines the requirements for LPG storage and handling;
- 2013 Rhode Island General Laws Title 23 - Health and Safety Chapter 23-28.20 - Storage and Handling of Liquefied Petroleum Gas addresses the registration, permitting, and expiration of permits for the storage and handling of LPG.

The following U.S. Occupational Safety & Health Administration (OSHA) and U.S. Environmental Protection Agency (EPA) regulations also pertain to the SEA-3 LPG facility operations:

- OSHA Process Safety Management (PSM) Plan;
- EPA Risk Management Plan (RMP) and online CDX web portal application;
- OSHA/EPA Emergency Response Plan (ERP);
- OSHA Fire Prevention Plan (FPP);
- OSHA HAZCOM/GHS Written Program;
- OSHA Hot Works and NFPA 51B - Standard for Fire Prevention During Welding, Cutting, and Other Hot Work Compliant Hot Works Program;
- OSHA Control of Hazardous Energy Sources Written Program;
- OSHA Personal Protective Equipment (PPE) Program;
- OSHA HAZWOPER Program; and
- OSHA Respiratory Protection Program.

Dr. Palermo explained that an FSA is a self-conducted audit of the safety features of a propane installation and an assessment of the means to minimize the potential for inadvertent propane releases from storage containers and during transfer operations. The assessment also includes an evaluation of the capabilities of local emergency response agencies as well as an analysis of potentially hazardous exposures from the installation to the neighborhood and from the surroundings to the LP-Gas facility. Since 1976, NFPA 58, Liquefied Petroleum Gas Code has required that a facility operator or owner conduct a FSA for propane facilities having ASME containers of aggregate storage greater than 4,000 gallons water capacity. NFPA 58 notes that an FSA should address the following:

1. The effectiveness of product control measures;
2. Analysis of local conditions of hazard within the container site;
3. Exposure to or from other properties, population density, and congestion within the site;
4. Probable effectiveness of plant fire brigades or local fire departments, based on adequate water supply, response time, and training;
5. Consideration for the adequate application of water by hose stream or other method for effective control of leakage, fire, or other exposures; and
6. If necessary, designated time period for review of the fire safety analysis with local emergency response agencies to ensure preplanning and emergency response.

Dr. Palermo testified that there was an existing fire safety analysis for the Property currently in place, but a separate FSA was prepared to address the expansion and the addition of new LPG equipment. He explained that the Rail Incorporation Project will not have a significant impact on the existing safety concerns and inherent risks in the operation of the terminal, provided that the facility is operated in conformance with the applicable regulations, required plans, and NFPA 58. He further explained that the OSHA PSM Plan and EPA RMP standard require that the

owner/operator of the facility develop an effective program to address safety operation of the facility that includes the following elements:

1. Employee participation;
2. Process safety information;
3. Process hazard analysis;
4. Operating procedures;
5. Training;
6. Contractors;
7. Pre-startup safety review;
8. Mechanical integrity;
9. Hot work permit;
10. Management of change;
11. Incident investigation;
12. Emergency planning & response; and
13. Compliance audits

Dr. Palermo opined that the Rail Incorporation Project will not have a significant impact on the health, safety, and welfare of the surrounding environment because the Sea-3 facility is being designed, operated, and maintained according to strict adherence to the previously-identified standards.

With respect to the process of amending he FSA, De. Palermo explained that the Providence Fire Department and Rhode Island State Fire Marshal's Office are reviewing the FSA and it will be amended based on their review comments. The FSA was drafted with the benefit of their input. Dr. Palermo also toured the Newington facility with the Providence Fire Department and the State Fire Marshall's Office so that they could see the existing safety features, which would be largely replicated in Providence. The amended FSA will be submitted to the Providence Fire Department and the Rhode Island State Fire Marshall's Office for approval.

Dr. Palermo testified that The SEA-3 LPG Expansion will be designed and constructed based on Best Management Practices (BMPs) and NFPA 58. The facility liquid and gas transfer lines and ASTs will be equipped with protective valve devices such as Emergency Shut Off Valves (ESV), Backflow Check Valves (BCK), Excess Flow Valves (EFV), Hydrostatic Pressure Relief Valve (HRV), Pressure Relief Valve (PRV) and breakaway protection should a truck accidentally pull away from a truck loading area. He also said that early waring detection systems for gas leaks, heat and frame detection will be employed to proactively alarm and activate the ESVs. He also provided descriptions of the types of the required protective valves, gas detection, flame and heat detection further described in NFPA, including:

1. Positive Shutoff Valve;
2. Backflow Check Valve;
3. Excess-Flow Valve;
4. Emergency Shutoff Valve;
5. Hydrostatic Pressure Relief Valve;

6. Container Pressure Relief Valve;
7. Propane Gas Sensors;
8. Overfilling Protection Device; and
9. Overpressure Shutoff Device.

With respect to safety and security involving the facility, Dr. Palermo testified that the EPA RMP is intended to protect the general public and the OSHA PSM Plan to protect the facility employees. These plans are to be developed once the LPF facility expansion has been approved. He said that the facility uses video cameras to monitor operations and that operations personnel will be trained on the security equipment. He also said that the expansion facility will be secured with a gate key access and 6-foot chain linked security fence around the facility perimeter. He further explained that, with respect to coordination, local fire department and police personnel will be involved in all emergency response training at the facility.

November 12, 2021
Sea 3 Providence, LLC
Petition for Declaratory Order
Rail Service Incorporation Project
EFSB Docket SB-2021-03
Witness: Dr. Robert S. Palermo

TESTIMONY OF DR. ROBERT S. PALERMO – MPE INC

Please state your name, business address, current employer and your position with that employer?

Dr. Robert S. Palermo, Principal Engineer and consultant to MPE, Inc., 10 Pendleton Drive, Hebron, CT 06248.

1. What are your current job duties?

I provide engineering consultation services to include the preparation of the following facility plans and providing the following client services:

- **OSHA Process Safety Management (PSM) Plans;**
- **Process Hazard Analysis (PHA);**
- **U.S. Environmental Protection Agency (EPA) Risk Management Plans (RMP);**
- **EPA Spill Prevention, Control and Countermeasure (SPCC) Plans;**
- **EPA Stormwater Pollution Prevention Plans (SPPP);**
- **Hazardous Waste Contingency Plans (HWCP);**
- **NFPA Fire Safety Analysis (FSA);**
- **Facility Hazard Analysis (FHA);**
- **Facility Noise Assessments;**
- **Construction and remediation Dust Control Plans;**
- **Facility Safety & Public Health Impact Assessments;**
- **OSHA HAZWOPER Health & Safety Plans (HASP) and HAZWOPER Training;**
- **Provide PSM/RMP Table Top and Mock Exercise Training for first responders involved with hazardous material spills and releases;**
- **OSHA/EPA Emergency Preparedness Plans; and**
- **OSHA Emergency Action Plans.**

2. How long have you been with your current employer?

I have been working with MPE, Inc. for about 6 years.

3. Prior to your current employer, have you worked for other entities in a similar capacity? If yes, please provide the name of your prior employers, the dates at which you worked there, your title at each place of employment and a brief description of your job duties.

Yes, I am employed at RSP Consulting LLC since 2002 providing similar consulting services as noted in Number 2 above. My former employers where I performed similar consulting services are provided below while I was employed by:

- **U.S. EPA Region 1, Boston, MA, 1975-1979**
  Wastewater Engineering Specialist
- **Ecology & Environment, Inc. Woburn, MA, 1979-1982**
  EPA SUPERFUND Contractor, Environmental Scientist investigating hazardous waste sites throughout New England.
- **NUS Corporation, Inc., Burlington, MA, 1982-1984**
  EPA SUPERFUND Contractor, 1984-1986, Environmental Scientist investigating hazardous waste sites throughout New England.
- **Camp Dresser & Mckee, Inc., Boston, MA, 1984-1986**
  EPA SUPERFUND Contractor, 1984-1986, Environmental Scientist remediating hazardous waste sites throughout New England.
- **Haley & Aldrich, Inc., Cambridge, MA, 1986-1992**
  Health & Safety Director and Senior Scientist managing an base wide environmental cleanup at Hanscom AFB, Bedford, MA
- **Raytheon Engineers & Constructors, Cambridge, MA,1992-1996**
  EPA SUPERFUND Contractor, Environmental Engineer remediating hazardous waste sites throughout New England.
- **EA Engineering, Science & technology, Burlington, MA,1996-1999**
  New England Operations Manager, Principal Engineer
- **EMCON, Inc. Burlington, MA,1999-2002**
  Business Unit Leader/Principal Engineer, providing site investigation and remediation services
- **MPE, Inc., Hebron, CT, 2015 to present**
  Principal Engineer, providing consulting services as noted in No. 2 above
- **RSP Consulting LLC, Wakefield, MA, 2002 to 2021,**
  Principal Engineer & Safety Professional, providing consulting services as noted in No. 2 above

4. Please provide your educational background and attach a copy of your CV to your testimony.
   - **B.A. with a focus in Natural/Environmental Science, Harvard University,1980**
   - **M.S. Environmental Science with a focus in Applied Geophysics, Lesley University, 1983**
   - **Sc.D. with a focus in Industrial Hygiene & Environmental Engineering University of Massachusetts, 2006**
   - **Graduate of the U.S. Naval War College, Command & Staff Program, 2007. My CV is attached as Exhibit 4.**

5. Do you hold any professional licenses or certifications? If so, please detail those licenses or certification and provide a description of any specialized training or education associated with obtaining and/or maintain those licenses.
   - **Professional Civil-Environmental (PE) Engineer; No. 47618; Commonwealth of Massachusetts**
   - **Professional Civil-Environmental (PE) Engineer; State of New Hampshire PE No. 12608,**
   - **Professional Civil-Environmental (PE) Engineer; PE No. 12364 State of Maine,**

- **Professional Civil-Environmental (PE) Engineer; PE State of New Jersey PE No. 24GE04988600**
- **Licensed Site Professional (LSP), Commonwealth of Massachusetts, in Inactive Status at this time (LSP No. 9004 since 1994)**
- **Certified Safety Professional in Comprehensive Practice (CSP); No. 21198, Board of Certified Safety Professionals**
- **Certified Instructional Trainer (CIT); No. 2877; Board of Certified Safety Professionals**
- **Registered Professional Industrial Hygienist (RPIH) in Comprehensive Practice; No. 12609, Association of Professional Industrial Hygienist (APIH)**
- **Certified Hazard Control Manager (CHCM), No. 2018, International Board of Hazard Control Management**

Are you required to participate in any continuing education as part of your profession? If yes, please describe what you are required to do to maintain compliance.

Continuing Education Units (CEU) are required to maintain my professional certifications and licenses.

6. What professional experience do you have that is specific to the environmental impacts, risks, benefits, concerns, issue etc. with construction activities at a site with an environmental land use restriction in place?

   As an LSP I have assisted with the preparation of several Activity and Use Limitations (AULs) under the Massachusetts Contingency Plan, 310 CMR 40.0000 which restrict and limit how the Site can be used. An AUL acts as a Deed Restriction to restrict how a Site can be used when environmental contamination is present. For example, the AUL could restrict or limit residential use of the Site, restrict the planting of vegetables for human consumption in Site soils, require that a Soil Cap be installed and be permanently maintaining to prevent access to underlying contaminated soils, etc.

7. What professional experience do you have that is specific to the environmental impacts, risks, benefits, concerns, issue etc. with storm water management plans at a site with an environmental land use restriction in place?

   I prepare EPA SWPPs and SPCC Plans for a number of my clients.

8. What professional experience do you have that is specific to the environmental impacts, risks, benefits, concerns, issue etc. with soil erosion, soil management and dust mitigation plans at a site with an environmental land use restriction in place?

   I prepare Dust Control and Dust Mitigation Plans for a number of my clients.

9. What professional experience do you have that is specific to the environmental impacts, risks, benefits, concerns, issue etc. with specific regard to the operation of an LPG terminal the nature of the SEA-3 Providence terminal?

   I inspected ten (10) LPG facilities in northeast Canada (i.e., Prince Edwards Island, Newfoundland, Novia Scotia and New Brunswick, etc.) and northeast New England

(i.e., Maine, Vermont, New Hampshire, etc.) for Irving Energy (2010-2013). The inspections were conducted for compliance with NFPA 58 – Liquefied Petroleum Gas Code and the Canadian Provincial standards and codes (i.e., Propane Storage & Handling Code CSA B149.2-10 and the Canadian Center for Occupational Health & Safety).

I was also involved with the fire protection approval with an Intermodal LPG Rail Transfers facility in Massachusetts that involved working with the local fire department and State Fire Marshal's office over a two-year period to address a number of environmental and local community concerns (2012-2016). I prepared the NFPA FSA for the facility and assisted my client with the preparation of their OSHA PSM Plan, EPA RMP and required OSHA programs. The facility was designed and constructed to be in compliance with NFPA 58 – Liquefied Petroleum Gas Code and the Massachusetts state fire code (527 CMR 1.00 and NFPA 1-2015 Edition).

10. What is your relationship with SEA-3 Providence and/or the large Blackline family of companies?

    I prepared the Fire Safety Analysis (FSA) for the SEA-3 Providence Facility.

11. How long have you worked with SEA-3 Providence and/or Blackline?

    In what capacity? **I prepared the Fire Safety Analysis (FSA) for the SEA-3 Providence Facility over the past 2 years.**

12. Are you familiar with the Property at issue in this matter and the surrounding area?

    Yes, the FSA identifies the SEA-3 facility and the immediate properties surrounding the Providence, RI SEA-3 facility.

13. Have you been involved with the application for and receipt of any of the permits currently held by SEA-3 Providence? If yes, please state what permits you have been involved with and the nature of the work conducted.

    I prepared the narratives for the noise assessment, dust control, and safety and public health as part of the initial RI EFSB submittal Petition.

14. What was your role in preparing the Site Report that was submitted in connection with this Petition for Declaratory Order?
    a. What sections did you draft or contribute to? **(see response to #17-18 above)**
    b. Are you incorporating the content contained in that document by reference into your written testimony? **Yes**

15. What will your role be with relation to the Rail Incorporation Project?

    I will finalize the FSA and continue to assist with the RI EFSB Petition submittal.

16. What body of laws or regulations govern the fire safety of an LPG terminal?
    a. Can you describe the applicable provisions of those regulations to the Board?

    Yes, the FSA references all of the applicable primary fire safety regulations which include:

- **NFPA 1 - Fire Code;**
- **NFPA 58 – Liquefied Petroleum Gas Code;**
- **NFPA 24 - Standard for Installation of Private Fire Service Mains;**
- **NFPA 70 - National Electric Code;**
- **Rhode Island Fire Protection Regulations, The Rhode Island Fire Safety regulations are described in 450-RICR-00-07, Part 7;**
- **Rhode Island Fire Code NFPA 1- Fire Code, 2015 Edition. NFPA 1, Chapter 69 – Liquefied Petroleum Gases & Liquefied Natural Gases outlines the requirements for LPG storage and handling;**
- **2013 Rhode Island General Laws Title 23 - Health and Safety Chapter 23-28.20 - Storage and Handling of Liquefied Petroleum Gas addresses the registration, permitting, and expiration of permits for the storage and handling of LPG; and**
- **The following U.S. Occupational Safety & Health Administration (OSHA) and U.S. Environmental Protection Agency (EPA) regulations also pertain to the SEA-3 LPG facility operations:**
  - ✓ **OSHA Process Safety Management (PSM) Plan;**
  - ✓ **EPA Risk Management Plan (RMP) and online CDX web portal application;**
  - ✓ **OSHA/EPA Emergency Response Plan (ERP);**
  - ✓ **OSHA Fire Prevention Plan (FPP);**
  - ✓ **OSHA HAZCOM/GHS Written Program;**
  - ✓ **OSHA Hot Works and NFPA 51B - Standard for Fire Prevention During Welding, Cutting, and Other Hot Work Compliant Hot Works Program;**
  - ✓ **OSHA Control of Hazardous Energy Sources Written Program;**
  - ✓ **OSHA Personal Protective Equipment (PPE) Program;**
  - ✓ **OSHA HAZWOPER Program; and**
  - ✓ **OSHA Respiratory Protection Program.**

17. Did you draft the fire safety analysis submitted with the Site Report? Yes
    a. Are you incorporating the content contained in that document by reference into your written testimony? **Yes**
18. What is a fire safety analysis?

The Fire Safety Analysis (FSA) is a self-conducted audit of the safety features of a propane installation and an assessment of the means to minimize the potential for inadvertent propane releases from storage containers and during transfer operations. The assessment also includes an evaluation of the capabilities of local emergency response agencies as well as an analysis of potentially hazardous exposures from the installation to the neighborhood and from the surroundings to the LP-Gas facility.

Since 1976, NFPA 58, Liquefied Petroleum Gas Code (hereinafter referred to as the "code" or "NFPA 58") has required that a facility operator or owner conduct a FSA for propane facilities having ASME containers of aggregate storage greater than 4,000 gallons water capacity.

NFPA 58 notes that an FSA should address the following:

1. The effectiveness of product control measures;

2. **Analysis of local conditions of hazard within the container site;**
3. **Exposure to or from other properties, population density, and congestion within the site;**
4. **Probable effectiveness of plant fire brigades or local fire departments, based on adequate water supply, response time, and training;**
5. **Consideration for the adequate application of water by hose stream or other method for effective control of leakage, fire, or other exposures; and**
6. **If necessary, designated time period for review of the fire safety analysis with local emergency response agencies to ensure preplanning and emergency response.**

19. How is it developed?

The FSA is developed following the instructions provided in the NFPA Fire Safety Analysis Manual for LP-Gas Storage Facilities.

20. There is an existing fire safety analysis for the Property currently in place correct? **Yes**
    a. Did you develop that? **Yes**
    b. Was it approved by the appropriate local and state fire authorities? **My understanding is that they are still reviewing the FSA but we have incorporated their input, comments and suggestions into the FSA.**
21. Does the Rail Incorporation Project require significant revisions to the existing fire safety analysis? **A separate FSA was prepared to address the expansion and addition of the new LPG equipment at the SEA-3 Providence facility.**
22. Does the Rail Incorporation Project have a significant impact on the existing safety concerns and inherent risks in the operation of the terminal?

There will be no significant impact, as long as the SEA-3 facility is operated in conformance with the applicable regulations, required plans and NFPA 58 (see # 21 above for codes, standards and regulations). The FSA and operation of the facility is closely regulated by the State Fire Marshall, Providence FD and Fire Safety Board. The OSHA PSM Plan and EPA RMP are detailed comprehensive plans that help ensure safety operation of the LPG facility and that the equipment is properly inspected, maintained and operated. For example, the OSHA PSM Plan and EPA RMP standard require that the owner/operator of the facility develop an effective program to address safety operation of the facility that includes the following elements:

1. EMPLOYEE PARTICIPATION

One of the most elements is the employee participation that requires employees—including production and maintenance staff—be involved in every aspect of the PSM/RMP program at their respective worksites. They must also be represented at the meetings where PSM/RMP-related issues are discussed.

2. PROCESS SAFETY INFORMATION

The employer shall complete a compilation of written process safety information before conducting any process safety hazard analysis required by the standard. All workers should be able to access and understand the technical data regarding the LPG related risks they face on the job and at the LPG facility.

3. PROCESS HAZARD ANALYSIS

One of the most technical elements of PSM is the Process Hazard Analysis (PHA) that requires that engineers and maintenance leaders to analyze the consequences of safety failures. These analyses must be conducted in teams, and OSHA/EPA require that each team must include one person who is "knowledgeable in the specific process hazard methodology being used."

4. OPERATING PROCEDURES

There are plenty of potential chemical hazards following turnarounds and emergency shutdowns. OSHA/EPA require that companies have plans and/or operating procedures in place for keeping everyone safe as they shut down in an emergency and start back up.

5. TRAINING

Workers who carry out processes involving highly hazardous chemicals (HHC) need to be well-trained, and their training should have been accomplished through a competent source, first-party or otherwise. OSHA/EPA requires that their training be well-documented and be appropriate for the types of incidents and emergencies that could unfold at the LPG facility. The Propane Education & Research Council (PERC) and National Propane Gas Association (NPGA), Certified Employee Training Program for Basic Plant Operations, 2011 Edition, will be utilized and followed during routine operations at the SEA3 Providence facility. The SEA-3 facility operations personnel will be trained in accordance with the NPGA/PERC required training for operators, and complete the Certified Employee Training Program (CETP) or equivalent educational programs acceptable to the State Fire Marshal.

6. CONTRACTORS

Regular employees and contractors must be well-informed of the hazards they face. Under the PSM National Emphasis Program the employer must inform contract employers of the known potential fire, explosion or toxic release hazards related to the contractor's work and the process.

7. PRE-STARTUP SAFETY REVIEW

OSHA and EPA expect employers to perform pre-startup safety reviews for both new and modified facilities. This rule applies even if the procedural changes only affect a single component or process.

8. MECHANICAL INTEGRITY

Periodic, documented inspections are required for several systems, including:

- **Pressure vessels;**
- **Storage tanks;**
- **Piping systems; and**
- **Ventilation systems.**

The employers or contractors conducting mechanical integrity (MI) inspections must be adequately trained, their testing procedures must follow "recognized and generally accepted good engineering practices," according to OSHA/EPA.

9. HOT WORK PERMIT

Employer needs to issue permits to employees and contractors who weld or perform other high-temperature work near covered processes. They also need to train their personnel to post and file these permits when necessary and on their hot work permit procedures.

10. MANAGEMENT OF CHANGE

Standard procedures for managing changes to process chemicals, technology, equipment and procedures must be place. Each change also requires the following considerations:

- **The technical basis for the change;**
- **The impact of the change on worker safety and health;**
- **Necessary modifications to operating procedures.**
- **The necessary time period for the change; and**
- **Authorization requirements for the proposed change.**

11. INCIDENT INVESTIGATION

OSHA's state standard calls for investigations for all incidents that result in—or could have resulted in—a catastrophic highly hazardous chemical release and that appropriate mitigative measures be implemented to prevent the same for occurring. Because of that ambiguous wording, companies must keep every potential HHC-related scenario in mind.

12. EMERGENCY PLANNING & RESPONSE

Since even a minor chemical release can lead to major incidents employers are required to develop emergency response plans for handling smaller HHC releases. Emergency response training at the SEA-3 facility is intended to be provided locally utilizing the training resources provided by the Propane Education Research Council (PERC) on Propane Emergencies, PERC Instructor Guide, 3rd Edition Book. A two to three-day training program could be offered locally utilizing the PERC Instructor Guide.

The Propane Gas Association of New England offers 3-day training classes for emergency responders throughout New England. The 3-Day training is for industry members and first responders that have not previously taken the Emergency Response Training. It includes two days of classroom training from a team of industry volunteers with hundreds of years of experience in propane response. The third day is hands on including an opportunity for live fire training and leak mitigation.

The SEA-3 LPG Expansion facility will work with the Providence FD and PD to conduct joint emergency response training which will include Table Top Exercise and Mock-Up Training Exercises dealing with propane release scenarios to better train and prepare for a propane incident at the facility. The National Propane Gas Association (NPGA) and Propane Education & Research Council (PERC) have developed guidelines for response personnel responding to propane emergencies that can be utilized as a training resource (Propane Emergencies, Third Edition, 2007).

13. COMPLIANCE AUDITS

Employers must certify that they have evaluated compliance with the provisions of this section at least every three years to verify that the procedures and practices developed under the standard are adequate and are being followed. This element also requires employers to retain at least their two most recent audit reports.

Additionally, NFPA 58 – Liquefied Petroleum Gas Code has a number of requirements that specifically pertain to the safe design and operation on an LPG facility. For example, Chapters 4 through 15 below specify the design and operation requirements for an LPG facility as described in the following NFPA 58 chapters:

- **Chapter 4 - General Requirements;**
- **Chapter 5 - LP Gas Equipment and Appliances;**
- **Chapter 6 - Installation of LP-Gas Systems;**
- **Chapter 7 - LP Gas Liquid Transfer;**
- **Chapter 8 - Storage of Cylinders;**
- **Chapter 9 - Vehicular Transportation of LP-Gas;**
- **Chapter 10 - Building & Structures Housing LP Gas;**
- **Chapter 12 - Refrigerated Containers;**
- **Chapter 13 - Marine Shipping & Receiving;**
- **Chapter 14 – Operation & Maintenance; and**
- **Chapter 15 – Pipe & Tubing Size Tables.**

23. In your opinion, does the Rail Incorporation Project have a significant impact on a health, safety and welfare of the surrounding environment?

No. The SEA-3 facility is being designed, operated and maintained according to strict adherence to the above standards, codes and regulations which are in place to prevent an incident from occurring and even if one were to occur emergency procedures and first responder training are in place to address a release.

24. Please describe the process for developing this amended fire safety plan including your work with the Providence Fire Department and State Fire Marshall.

The Providence FD and Rhode Island State Fire Marshal's Office are reviewing the FSA and it will be amended based on their review comments. We have prepared the draft FSA with the benefit of their input and feedback. We also conducted a tour of the Newington Sea 3 facility with Providence FD and the State Fire Marshal's Office so they could see the safety features that existing on the existing rail site there which would be largely replicated in Providence.

25. Who will the amended fire safety analysis be submitted to for approval?

The Providence FD and Rhode Island State Fire Marshal's Office.

26. Please describe the redundant automatic product control systems currently on the Property and how those will be changed to accommodate the changes associated with the Rail Incorporation Project.

The SEA-3 LPG Expansion will be designed and constructed based on Best Management Practices (BMPs) and NFPA 58. The facility liquid and gas transfer lines and ASTs will be equipped with protective valve devices such as Emergency Shut Off Valves (ESV), Backflow Check Valves (BCK), Excess Flow Valves (EFV), Hydrostatic Pressure Relief Valve (HRV), Pressure Relief Valve (PRV) and breakaway protection should a truck accidentally pull away from a truck loading area.

Early waring detection systems for gas leaks, heat and frame detection will be employed to proactively alarm and activate the ESVs. A brief description of the types of required protective valves, gas detection, flame and heat detection further described in NFPA 58 are provided below:

Positive Shutoff Valve: Manually operated shutoff valve used to control the flow of propane.

Backflow Check Valve: Valve allows flow in one direction only and is used to allow a container to be filled while preventing product from flowing out of the container.

Excess-Flow Valve: Valve designed to close when the liquid or vapor passing through it exceeds a prescribed flow rate.

Internal Valve: Primary shutoff valve for a container that can be closed remotely, which incorporates an internal excess flow valve with the seat and seat disc located within the container so that they remain in place should external damage occur to the valve.

Emergency Shutoff Valve: Shutoff valve incorporating thermal and manual means of closing that also provides for a remote means of closing.

Hydrostatic Pressure Relief Valve: Relief valve that is set to open and relieve pressure in a liquid hose or pipe segment between two shutoff valves when the pressure exceeds the setting of the valve.

Container Pressure Relief Valve: A type of pressure relief device designed to open and then close to prevent excess internal fluid pressure in a container without releasing the entire contents.

Propane Gas Sensors: Propane gas detection sensors installed throughout the facility at strategic locations where there are possible leak points and where propane can

accumulate.

Heat & Flame Sensors: Heat/flame detection sensors installed at strategic locations throughout the facility where there could be potential ignition sources (i.e., heat, spark
or flame) and propane vapors.

Overfilling Prevention Device: A safety device designed to provide an automatic means to prevent the over filling of a container in excess of the maximum permitted filling limit.

Overpressure Shutoff Device: A safety device that shuts off the flow of LP-Gas vapor
when the outlet pressure of the regulator reaches a predetermined maximum allowable
pressure.

The SEA-3 LPG Expansion facility will use automatic ESVs to shut down the LPG flow in the event of an emergency. The safety system features, controls, shutdowns, alarm horns and warning lights to be utilized at the SEA-3 LPG Expansion facility is further described in Section 7.0 of this FSA.

27. How is the public protected from the worst-case scenarios at the Property now?

The proposed LPG expansion property is currently operated and owned by another entity.

a. Will that change significantly as a result of the updated fire safety analysis?

The EPA RMP is intended to protect the general public and the OSHA PSM Plan to protect the facility employees. These plans are to be developed once the LPF facility expansion has been approved.

28. What does the fire safety analysis contain relative to staffing the facility?
    a. For security purposes? **The SEA-3 facility is considering the use of video cameras to monitor facility operations.**
    b. What kind of training is offered to the staff in connection with the fire safety analysis? **The SEA-3 facility operations personnel will be trained on the security equipment.**
    c. How is physical access to the property controlled now? **The SEA-3 expansion facility will be secured with a gate key access and 6-foot chain linked security fence around the facility perimeter.**
        i. Does that significantly change under the amended fire safety analysis?
29. Does the fire safety analysis provide for coordinated training of all staff working on the site and local first responders for emergency response purposes?

No, the OSHA SM plan and EPA RMP accomplish this.

30. Please detail the flame detection and release detection systems currently in place at the Property?

a. Does the amended fire safety analysis significantly modify these systems? **The FSA in Section 9.5 - Propane Sensors & Alarms and Section 9.6 – Flame Detection Sensors addresses the UL flame detection sensors and propene release alarms (audio and strobe alarms).**
b. Does the Rail Incorporation Project create significant additional risks of unintended release or ignition as opposed to existing operation? **No.**

31. Please discuss the emergency response procedures that will be conducted under the amended fire safety analysis in connection with the Rail Incorporation Project.
    a. What kind of coordination with local public safety officials does this entail? **The local fire department and police personnel will be involved with all emergency response training that will be conducted at the facility (see response to # 23 above 12. Emergency Planning & Response).**
    b. What kind of training is offered in this regard? **PERC Emergency Response Training, NPGA Emergency Responder Training, Table Top Exercises, Mock Exercises, etc.**
32. In your opinion, from a fire safety and public safety perspective, does the Rail Incorporation Project have a significant impact on the health, safety and welfare of the surrounding community as opposed to the current state of the terminal operation?
    a. Why not? **No see responses above**

Exhibit 4

Dr. Robert S. Palermo

30 Towle Farm Road, Unit 7
Hampton, NH 03842
Tel. No. 781-462-8214 Email: rsp9968@comcast.net

Dr. Palermo is an engineer, industrial hygienist, and safety professional with over thirty-eight years of broad environmental and health and safety experience in multiple workplaces. He is nationally recognized as a leader in the field of environmental, health and safety (EH&S) and is one of the most qualified professionals in practice today in the U.S. He has conducted many facility audits/inspections for EH&S compliance based on the Occupational Health and Safety Administration (OSHA), American National Standards Institute (ANSI), National Fire Protection Association (NFPA), American Society of Mechanic Engineers (ASME), American Petroleum Institute (API), U.S. Department of Transportation (DOT), International Institute of Ammonia Refrigeration (IIAR), and the American Society of Heating, Refrigerating and Air-Conditioning Engineers (ASHRAE) requirements, for clients such as GE, Raytheon, Polaroid, Lockheed Martin, BASF, Watts Water Technologies, Irving Energy, U.S. Navy, Army Corps of Engineers, U.S EPA, Astra Zeneca, Harvard University, MIT, Middlebury College, Norwich University, BAE Systems, Husky Injection Molding, CYTYC, and others.

Dr. Palermo over the past eleven years (i.e., 2010 to 2021) has focused on proving fire safety consulting services to clients in Massachusetts, New Hampshire, Maine, Vermont and Rhode Island. He has worked closely with the Stare Fire Marshall offices in Massachusetts and New Hampshire on a number of recent projects and also with the Fire Chiefs/Authority Having Jurisdiction (AHJ) in a number of towns and cities throughout New England. These services have involved conducting fail safe analysis, process hazards analysis, fire safety analysis, flammable and combustible facility assessments, explosive dust facility assessments, flammable gas and flammable cryogenic fluids assessment, conducting hazard material assessments, building means of egress analysis, flammable gas and liquid storage rooms fire safety assessments, preparation and review of fire protection plans and emergency action plans, and conducting audits and inspections for compliance with DOT Hazardous Material Regulations, NFPA, ANSI, ASME, IIAR, API, International Fire Code, International Building Code and other applicable fire codes and protection standards.

Dr. Palermo held a past seat on the General President's Advisory Board of the International Association of Fire Fighters (IAFF) for HAZMAT and Weapons of Mass Destruction training programs. He is an former instructor at the OSHA Training Institute in Manchester, NH where he provided safety training. He is a former Adjunct Professor at Keene State College, Keene, NH in the Graduate School of Occupational Health and Safety and Applied Sciences where he taught course in Advanced Safety Management Systems, and Best Practices in Safety and is a guest lecturer at the University of Massachusetts in the Graduate Studies Work Environment Program. Dr. Palermo is also a former Adjunct Professor at Merrimack College in Andover, MA in the Graduate School of Engineering where he taught several course in Sustainable Engineering, Applied Hydrology and Water Resource Engineering.

EDUCATION:

Graduate of the Naval War College, Command and Staff Program, Newport, RI, June 2007

Sc.D., Industrial Hygiene and Environmental Engineering- University of Massachusetts, 2006

M.S., Environmental Science and Engineering, Lesley College, 1984

B.A., Environmental/Natural Science, Harvard University 1980

CERTIFICATIONS/LICENSES:

Professional Civil-Environmental (PE) Engineer; No. 47618; Commonwealth of Massachusetts

Professional Civil-Environmental (PE) Engineer; State of New Hampshire PE No. 12608,

Professional Civil-Environmental (PE) Engineer; PE No. 12364 State of Maine,

Professional Civil-Environmental (PE) Engineer; PE State of New Jersey PE No. 24GE04988600

Diplomate American Board of Forensic Engineering and Technology (DABFET), No. 20924, The American College of Forensic Examiners

Certified Safety Professional in Comprehensive Practice (CSP); No. 21198, Board of Certified Safety Professionals

Certified Instructional Trainer (CIT) in Occupational Safety and Health; No. 2877; Board of Certified Safety Professionals

Registered Professional Industrial Hygienist (RPIH) in Comprehensive Practice; No. 12609, Association of Professional Industrial Hygienist (APIH)

Certified Hazard Control Manager (CHCM), No. 2018, International Board of Hazard Control Management

TEACHING & ACADEMICS:

- Keen State College, Keene, NH, Professor in the Graduate School of Occupational Health and Safety and Applied Sciences, Adjunct Faculty, 2011 to 2019.
- Merrimack College, North Andover, MA, Professor in the Graduate School of Civil and Environmental Engineering, Adjunct Faculty, 2015 to 2019.
- Keene State College OSHA Training Center, Manchester, NH, Instructor of Courses in Conducting Building Indoor Air Quality Investigations, 2012 to present.
- Guest Speaker and Lecturer at Clark University in Worcester, MA on Sustainable Waste Management 2015-2018.
- Member of the New England Consortium, University of Massachusetts, Lowell, MA, Advisory Board Member for National Institute Environmental Health and Safety (NIEHS) occupational health and safety member consortium throughout New England, 1999 to 2017.
- Member of the International Association of Fire Fighters (IAFF), General President's Advisory Board for HAZMAT and Weapons of Mass Destruction Training, 2014-2019

PROFESSIONAL AFFILIATIONS:

- Harvard University Faculty Club (HFC)
- Board of Certified Safety Professionals (BCSP)
- American Conference of Governmental Industrial Hygienist (ACGIH)
- American Industrial Hygiene Association (AIHA), New England Chapter
- International Association of Firefighters (IAFF)

REPRESENTATIVE FIRE PROTECTION EXPERIENCE:

Experience with the Following Fire Codes:

- International Fire Code;
- International Building Code;
- International Mechanical Code;
- Mechanical Codes;
- NFPA 1 – Fire Code;
- NFPA 10 – Standard for Portable Fire Extinguishers;
- NFPA 11– Standard for Low-, Medium-, and High-Expansion Foam
- NFPA 16 – Standard for the Installation of Foam-Water Sprinkler and Form-Water Spray Systems;
- NFPA 17 – Dry Chemical Extinguishing Systems Code;
- NFPA 20 – Fire Pumps;
- NFPA 25 – Fire Sprinkler Systems;
- NFPA 30 – Flammable and Combustible Liquids Code;
- NFPA 51B - Standard for Fire Prevention During Welding, Cutting, and Other Hot Work
- NFPA 55 – Compressed Gas & Cryogenic Fluids Code
- NFPA 58 – Liquefied Petroleum Gas Code;
- NFPA 70 – National Electric Code;
- NFPA 70E – Standard for Electrical Safety in the Workplace;
- NFPA 80 – Fire Doors & Fire Dampers;
- NFPA 101- Life Safety Code;
- NFPA 485 – Standard for Storage, Handling & processing of Lithium Metal;
- NFPA 652 – Standard on the Fundamentals Combustible Dust Code;
- NFPA 654 – Prevention of Fire & Dust Explosions from Manufacturing & handling of Combustible Dust; and
- NFPA 704 - Standard System for the Identification of the Hazards of Materials for Emergency Response.

NFPA 51B & ANSI Z49.1 Hot Works Training (2014-persent):

Completed an eight (8) Hour NFPA 51B and ANSI Z49.1 Hot Works Training programs at Kettle Cuisine (KC) in Lynn, MA with representation and participation from the Lynn, MA Deputy Fire Chief and Lynn, MA Fire Department personnel. Dr. Palermo was approved by the Lynn, MA Fire Chief to deliver the training to personnel at KC that were performing Hot Works by the Lynn Fire Department. Assisted KC with the development of their written Hot Works Operating Procedure.

Completed a six (6) Hour NFPA 51B and ANSI Z49.1 Hot Works Training program at Wheaton College (KC) in Norton, MA with representation and participation from the Facility Operations

Department personnel. Conducted fire safety reviews of woodshops and chemical storage rooms for fire safety.

NFPA Fire Safety Analysis, NFPA 1, NFPA 30, NFPA 58, NFPA (2010 to present):

Have undertaken NPFA Fire Safety Analysis at over fifteen (15) Bulk LPG facilities in Northeast Canada (i.e., Prince Edwards Island, New Brunswick, Nova Scotia, Newfoundland, and New England for Irving Energy for compliance with NFPA 30, NFPA 58 and NFPA 70.

Have undertaken a NPFA Fire Safety Analysis at the Grafton & Upton Railroad LPD Railway Transfer Facility in Grafton, MA for compliance with NFPA 30, NFPA 58 and NFPA 70.

Have undertaken a NPFA Fire Safety Analysis at the SEA-3 LPG Transfer Facility in Providence, RI for compliance with NFPA 30, NFPA 58 and NFPA 70.

NFPA 1, NFPA 11, NFPA 16, NFPA 17, NFPA 20, NFPA 25, & NFPA 30, MA 527 CMR 1.00; Chapter 60 Fire Safety Evaluations (2010 to present):

At a pharmaceutical research facility in MA conducted a detailed review of the laboratory operations and modeled the release of chemical agents in the biological, radiological, chemical and animal studies laboratories. There were both flammable gases and toxic chemical in use at the research facility. Determined the need for fail-safe sensor technology to monitor for a dangerous chemical release and to shut off chemical supply at source if unsafe chemical concentrations were present. Smart sensors activated alarms (i.e., strobes and sirens) and secured the laboratories from entrance and automatically notified the security desk and operation manager of unsafe condition.

At a biomedical manufacturing facility in NH modeled the release of chemical agents in biological reactor manufacturing process. Reviewed the process piping and storage of anhydrous ammonia for conformance with applicable IIAR, NFPA and ASME standards. Determined the need for fail-safe sensor technology to monitor for a gas release and to shut off chemical supply at source if unsafe gas concentrations were present. Smart sensors activated alarms (i.e., strobes and sirens) and secured the laboratories from entrance and notified the security desk and operation manager of unsafe condition.

At a plastic regeneration processing facility in NH reviewed and made recommendations for a supplemental water supply fire suppression system to supplement the city water supply to charge the dry fire suppression system at the facility. Fail safe control valves were installed to the fire pump room that failed safe in the event of a power was lost or if the centrifugal pump failed during the fire sprinkler charging cycle. Conducted a fire egress review of horizontal and vertical access and egress passageways in the facility as well as a review of the fire sprinkler system for adequacy.

At a life sciences facility in MA assisted with the design and installation of a fail-safe flammable gas storage room where equipment was inspected, repaired, checked for proper operations and forwarded back to customers after the appropriate operations were performed on the equipment. Explosion control sensor technology with audible and strobe alarms and an explosion proof ventilation system and electrical service for equipment operated in the gas storage room were incorporated into the facility design and operation. The entire design-build process was reviewed and approved by the local fire chief.

At a vacuum pump manufacturing facility in MA assisted with the design and installation of a fail-safe flammable gas storage room where equipment is inspected, repaired, and maintained for customers. Provided design-build code recommendations for the design and operation of flammable refrigerant gas operation and maintenance room

NFPA 70 & 70E Arch Flash Hazard Evaluations:

Completed equipment hazard analysis for conformance with NFPA 70E – Arc Flash at college in MA. Worked with Facilities Department to further asses and evaluate electrical arch flash potential.

Completed a Hot Works evaluation for conformance with NFPA - 51B Standard for Fire Prevention During Welding, Cutting, and Other Hot Work at a large food processing facility in MA.

NFPA 652 & 654 Fire & Dust Explosion Analysis (2015 to present):

Completed several National Fire Protection Association (NFPA) 652 - Standard on the Fundamentals of Combustible Dust, Dust Hazard Explosion Analysis and NFPA 654 – Standard for the Prevention of Fire and Dust Explosions from the Manufacturing, Processing and Handling of Combustible Particulate Solids for facilities in NH and MA.

Completed a Dust Hazard Explosion Analysis for a college in MA and made recommendations for modification of the local exhaust ventilation system and fire protection system to address observed fire hazards.

Completed a Dust Hazard Explosion Analysis for a fiber flock manufacturing facility in MA and made recommendations for modification of the local exhaust ventilation system and fire protection system to address observed fire explosion hazards.

REPRESENTATIVE PROJECT EXPERIENCE:

Risk Management Plan (RMP) Compliance Audit (2012):

Completed a detailed RMP audit of an ammonia refrigeration facility that has been in operation for over ten years. The management, hazard assessment, prevention program, employee participation, hot work permits, required employee training, contractors, and risk management plan components of the RMP were closed reviewed with facility operations personnel for compliance with EPA risk management requirements. Provided a detailed audit report of facility findings with recommendations to address noted conditions.

Risk Management Plan (RMP) & Process Safety Management Plan (PSM) Experience (2009-2012):

Reviewed a large energy distribution company's RMP and PSM requirements as they relate to their current operations for approximately twenty liquefied propane gas (LPG) and distillate bulk plants located in the northeast and Canada. Visited the plants and provided a detailed report of audit findings with recommendations to address noted conditions/findings. The review also included comparing existing operations to applicable requirements outline in NFPA 30, NFPA 58, the National Propane Gas Association (NPGA) guidelines and the American Petroleum Institute (API) 510 requirements.

Risk Management Plan (RMP) & Process Safety Management Plan (PSM) Experience (2010):

Completed a Process Hazard Analysis Revalidation (PHAR) of a large refrigeration warehouse in New England to comply with the Occupational Health and Safety Administration (OSHA), Process Safety Management (PSM) standard. The PHAR is required under 29 CFR 1910.119;(6)

every five (5) years after the completion of the initial process hazard analysis (PHA). The Process Hazard Analysis Action Logs and PHA Priority List items documented in the previous PHA were reviewed for the items listed in the Appendix A - What-If/Checklists Log Sheets. Equipment repair and maintenance logs on file were also reviewed to verify that ongoing inspections, maintenance and repairs were being performed as required in the facility PSM Plan.

Plan Preparation Experience with Spill Prevention Control and Countermeasures Planning (SPCC), Storm Water Pollution Plans (SWPP), Integrated Contingency Plans (ICP) and Emergency Response Plans (ERP) – United States Projects (1990-2021):

Have prepared spill and storm water pollution, contingency and emergency response plans for several manufacturing and industrial facilities. Additionally, have provided and have participated in numerous spill and emergency response training exercises as an expert trainer and facilitator (e.g., multiple facilities at GE, Ben and Irving Oil Distribution and Marketing, Polaroid, Raytheon, etc.). Have developed numerous SPCC Plans, ERP and ICP for industrial facilities where large quantities of petroleum hydrocarbons (e.g., JP4/5) were stored in above ground storage tanks.

Emergency Planning & Community Right-to-Know Act (EPCRA) for U.S. Facilities (1996-2007):

Have developed and assisted with the updating of emergency response plans, contingency plans and Toxic Release Inventory (TRI) reporting to Local Emergency Planning Commissions (LEPC) and State Emergency Response Commissions (SERC) where large quantity of chemicals were in use at manufacturing plants throughout the United States. Have prepared and assisted manufacturing facilities with their EPCRA TRI Tier II and Form R reports for chemicals stored and used on-site.

HAZMAT & HAZWOPER Training Experience:

The New England Consortium (TNEC), University of Massachusetts, Lowell, MA (2000-present):

Dr. Palermo assisted TNEC with the development of a National Institute of Environmental Health and Safety (NIEHS) computer aided audio-visual HAZWOPER training module which addressed assessment of a chemical facility from a spill response standpoint by the HAZMAT Team. The module was interactive and involved questions and answers by the participants. Dr. Palermo maintains adjunct faculty status at the University of Massachusetts, The New England Consortium (TNEC), where he provides Train-the-Trainer and emergency preparedness and incident response instruction to health, safety and environmental organizations throughout New England.

Vermont HAZMAT Response Team Training, Burlington, VT (2005):

Dr. Palermo provided advanced HAZMAT training to Vermont's HAZMAT Team at the Fire Training Academy in VT. The training focused on advanced spill and HAZMAT responses using the tools of the trade (e.g., EPA CAMEO, ALOHA, Chemical Reactivity Models) and newly designed chemical warfare agent and biological detection equipment and instrumentation. The training involved in class group tabletop exercises and a field training exercise where the training provided was applied in a practical exercise.

Malden, MA LEPC Training Exercise (2002):

Dr. Palermo provided into and participated in the design and implementation of a mass casualty and chemical-biological training exercise in Malden, MA. Dr. Palermo was a training exercise evaluator during the LEPC training exercise in Malden, Massachusetts in May 2002 and with the planning of the exercise. The Massachusetts HAZMAT Response Team and members of three community fire departments participated in the exercise, which simulated both a biochemical terrorist scenario, and a medical evacuation exercise involving injured victims during a train derailment. Members of the local police departments, Boy Scouts, students from local schools, industries representatives in the area, three local hospitals, area ambulance companies and emergency medical responders, local members of the Health Department, representatives from the U.S. Environmental Protection Agency (EPA) and the Massachusetts Emergency Planning Agency (MEPA) participated in the exercise.

Massachusetts Medical Examiner's Office, Boston, MA (2002-2003):

Conducted a CBRNE First responder training to the Massachusetts Medical Examiner Office in Boston, MA. The training focused on CBRNE responses and the use of specialized PPE and monitoring instrumentation to detect hemotoxins, neurotoxins and radiological agents. The training also addressed specific decontamination protocols to be followed to decontaminate victims exposed to terrorist deployed agents such as anthrax, small pox and dirty radiological bombs.

Vermont Department of Public (VT DPH), Health Specialist First Responder Training, Burlington, VT (2003-2004):

Provided First Responder training for public health nurses and public health specialist employed at the VT DPH. The training focused on HAZMAT/CBRNE responses and the states' incident response procedures in place to address regional and local responses to these kinds of incidents. The training also addressed specific concerns and procedures that must be in place to address response to victims exposed to potential terrorist deployed agents such as anthrax, small pox, chlorine gas, toxic industrial chemicals, and dirty bombs.

<u>EPA Superfund Experience</u>:

Saco Tannery Superfund Site (1990-1992):
Provided Senior Technical Review (STR) for the preparation of 30, 60, and 90 percent design documents for the remediation of Saco Tannery Superfund site in Maine. The construction documents involved preparation of construction cost estimates for site preparation and capping of approximately 53 waste pits and 2 large waste lagoons.

Navy BRAC Contract, Naval Facilities Engineering Command, (1996-1998):

Provided senior technical review (STR) of a number of environmental reports of former naval sites located in North Kingston, Rhode Island at the former location of the Naval Construction Battalion Center (NCBC). Reviews were conducted prior to submittal of documents to EPA Region I for their regulatory review and comment. STR included the following documents RI/FSs, Environmental Baseline Surveys, Design Analysis Reports, Plans and Specifications, Preliminary Remedial Action Plans and input into the Record of Decisions.

New Hampshire Plating Superfund Site, (1993-1995):

Project Manager for a million-dollar RI/FS of a former metal plating facility contaminated with chlorinated organic solvents and metal plating waste. Supervised a team of fourteen scientists and engineers conducting the RI/FS. Supervised contracted work performed on-site by numerous subcontractors. Attended several public meetings and interacted with several agencies during the conduct of the work to include the U.S. Fish and Wildlife Service, U.S. Geological Survey, EPA Region I Boston, MA, EPA New England Regional Laboratory, town officials and the New Hampshire Department of Environmental Services.

CERCLA New Hampshire Plating Superfund Site, (1993-1995):

Project Manager for a multi-million-dollar Remedial Investigation and Feasibility Study (RI/FS) of a former metal plating facility which resulted in chlorinated solvents and metal plating waste being released into environmental media. Supervised a team of fourteen scientists and engineers conducting wetlands, surface water, groundwater and ecological investigations over a two-year period. Supervised contracted work performed on-site by numerous subcontractors involving monitoring well installations, borehole geophysics, surface geophysics and groundwater and surface water sampling. Attended several public meetings and interacted with several agencies during the conduct of the work to include the U.S. Fish and Wildlife Service, U.S. Geological Survey, EPA Region I Boston, MA, EPA New England Regional Laboratory, town officials and the New Hampshire Department of Environmental Services.

U.S. Air Force Base Superfund Site (1984-1992):

Project Manager for a multi-million-dollar investigation of a former U.S. Air Force Base with chlorinated organic solvent contamination. Investigation and remedial work was undertaken under the U.S. Army Corps of Engineers Installation Restoration Program (IRP) with EPA Region I review and oversight. Provided technical support in the design and construction of a groundwater treatment which utilized an infiltration gallery to reinject treated groundwater and a groundwater extraction well and reinjection system involving air stripping and off gas carbon adsorption technology for the removal of volatile organic compounds. Participated in numerous public meetings with local, state and federal regulators and assisted with the implementation of a Community Relations Plan to communicate with concerned citizens and the adjacent communities.

U.S. EPA Employee & EPA Region I, Superfund Experience, EPA Region I - New England States (1975-1995):

Former EPA Region I employee from 1975 to 1978 and member of EPA's National Training Team assembled in the early 1980s to travel throughout the U.S. to train EPA and state emergency response personnel on how to properly respond to waste site releases. While employed by Ecology & Environment, Inc. (an EPA Superfund Contractor retained under the Field Investigation Team [FIT] Contract) was involved with undertaking environmental studies for EPA which led up to the Civil Action Case taken against two companies who were charged with contaminating the water supplies in Woburn, MA. While employed as a Superfund contractor by E&E, Inc, NUS Corporation, Camp, Dresser & McKee, Inc., and Raytheon Environmental Services, Inc. from 1980 through 1996 supported numerous Superfund site investigations. Over fifteen years of Superfund experience performing the following services for EPA in Region I under federal contract:

- Prepared Sampling and Analysis Plans (SAPs) and Quality Assurance Project Plans (QAPPs) for sites under investigation, to address the data quality needs and analytical objectives for the project.

- As a Senior Project Manager, managed Remediation Investigations (RI), Feasibility Studies (FS), Remedial Designs (RD) and Remediation Actions (RA) conducted on over eight Superfund sites located in New England over the past fifteen years.

- As a Risk Assessor, conducted and provided senior technical review of several Baseline Human Health Risk and Ecological Assessments completed under CERCLA sites.

- Conducted water sampling programs around the perimeter of Superfund sites based on EPA water quality sampling methods and protocols to determine the concentrations of volatile organic compounds (VOCs), semi volatile organic compounds (SVOCs) and metals at upgradient and downgradient monitoring well locations.

- Performed EPA Organic and Inorganic Tiered Data Validation of analytical data received from the laboratories prior to being used to assess the nature and extent of contamination at the site.

- Assisted in the development of EPA's Standard Operating Procedures (SOPs) back in the early 1980's for performing environmental media sampling.

- Trained hundreds of EPA and state emergency response personnel and emergency response support personnel on safe methods and procedures to be followed when investigating spills and hazardous waste releases into the environment. The training included personal protective equipment, respiratory protection, use of portable field monitoring instruments, medical monitoring requirements, hazard assessment, heat stress, contingency planning and required decontamination procedures.

Sites involved hydrogeologic investigations conducted on multiple properties where hazardous waste was released into the subsurface soils, into the underlying groundwater, into the adjacent streams and rivers and into coastal waterways. The work involved conducting all required and necessary studies to define the nature and extent of environmental impact and in preparing the required plans to remediate the sites based on EPA human health and ecological risk requirements.

Environmental Due Diligence and ASTM Phase I/II Environmental Site Assessments (1990-2007):

Have completed over twenty environmental property site assessments and due diligence environmental investigations to assist with property transfers and facility closures. Environmental assessments addressed historical and current use of oil, toxic metals, polychlorinated biphenyls, hazardous materials, asbestos, Lead paint, HAZMAT and their release into the environment, the nature and extent of contamination and amount of money to be set aside in escrow to address identified environmental liabilities and associated site clean-up and remediation consistent with local, state and federal requirements and regulations.

PERSONAL:

- Retired U.S. Navy Captain and recipient of Presidential Meritorious Service Medal, four (4) Navy Commendation Medals, Navy Achievement Medal, Unit Commendation Medal, Outstanding Volunteer Service Medal and Global War on Terrorism Medal for outstanding leadership and distinguished military service.
- Outstanding military leader, served with distinction as Commanding Officer/Officer-In-Charge of six (6) separate naval medical units. Have held Secret and Top-Secret Security clearances.
- Recipient of the International World Safety Organization (IWSO) Training Award in 1995 for providing outstanding adult education and training in the workplace and in advancing safety in practice as a way of life.
- Member of the American Conference of Governmental Industrial Hygienist (ACGIH) since 1985.
- Received Top Achiever Award in 2007 by the American College of Forensic Examiners (ACFE) for obtaining Fellow and Diplomat status through experience and qualifications and by passing rigorous written examinations in engineering, incident response and homeland security (e.g., handling of domestic DOT and international IATA HAZMAT and Dangerous Goods shipments).
- Married with two children (Ricky and Maria Palermo).
- Boy Scouts of America Merit Badge Counselor, Reading, MA from 2010-2017.

STATE OF RHODE ISLAND
ENERGY FACILITY SITING BOARD

IN RE: SEA 3 PROVIDENCE, LLC PETITION FOR DECLARATORY ORDER REGARDING THE RAIL SERVICE INCORPORATION PROJECT (PROVIDENCE, RI)

DOCKET SB-2021-03

PRE-FILED TESTIMONY OF JOHN SHEVLIN

November 12, 2021

STATE OF RHODE ISLAND
ENERGY FACILITY SITING BOARD

IN RE: SEA 3 PROVIDENCE, LLC PETITION FOR DECLARATORY ORDER REGARDING THE RAIL SERVICE INCORPORATION PROJECT (PROVIDENCE, RI)

DOCKET SB-2021-03

EXECUTIVE SUMMARY OF THE TESTIMONY OF JOHN SHEVLIN

November 12, 2021

March 15, 2021

Mr. Willie Willis
SEA-3 Providence
25 Fields Point Drive
Providence, RI 02905

Re: SEA-3 LPG Terminal- Traffic Assessment
Providence, Rhode Island
Pare Project No.: 21046.00

Dear Mr. Willis:

Per your request, Pare Corporation (Pare) has completed a preliminary investigation into the potential impact on the traffic conditions on the surrounding roadway network due to the proposed expansion of the ancillary operation improvements at the SEA-3 Providence, LLC Propane Terminal (SEA-3). The facility is on a 10-acre lot at 25 Fields Point Drive in Providence, Rhode Island located within the Port of Providence (ProvPort). This site receives LPG from pressurized ships and then converts the fuel to propane for distribution for home heating and backup power generation. SEA-3 is the second largest storage and distribution terminal for LPG (propane) in the northeastern United States and is the only refrigerated, water-accessible propane storage terminal in southern New England. This location in ProvPort is a critical asset to the southern New England propane market.

This assessment focuses on the distribution of the LPG after the rail offloading. The overall objective of the project is to provide the operational flexibility to move 600,000 gallons (with a maximum of 1,200,000 gallons) of LPG product per day on to truck transports. The LPG is to be distributed from the Fields Point Drive site to destinations within the southern New England region (Rhode Island, Connecticut, & Massachusetts). The delivery locations are within an anticipated 150-mile radius from the ProvPort site. Currently the site has 3 lanes for the existing truck loading. It is proposed to relocate the existing three (3) truck loading lanes and to also add a fourth (4th) and fifth (5th)) expansion lane to transfer propane from bullets to truck loading.

The existing site is permitted for 244 trucks to travel to and take LPG away from the site each day. This permitted number of trucks will not increase with the ancillary expansion of the Sea 3 Providence's operation being described in the Site Report and Petition. An estimated 80-100 trucks refuel at the terminal each day during the winter, when demand was highest, when a previous operator ran the facility. Based on the existing permits, the site is allowed to load 18 trucks per hour. With an average operation time for loading the trucks being 30 minutes per lane and with SEA-3 looking to expand the facility to 5 fueling lanes, this allows a maximum of 10 trucks being loaded per hour which is well below the permitted 18 trucks per hour.

As far as the site layout, the access to the site will be moved from Seaview Drive to a new entrance further south on Fields Point Drive, just north of the intersection with Harborside Boulevard. Between

the entrance and the fueling positions, there is approximately 600 feet of queuing area on-site, which will allow more than enough area for stacking of trucks without truck traffic spilling out onto the adjacent roadway system. After the product is loaded onto the trucks, the trucks will exit the site through the existing site egress onto Fields Point Drive. As mentioned, this site will provide deliveries to customers within an approximate 150-mile radius within the southern New England Region. The deliveries will not go out to local neighboring customers but will be distributed throughout the southern New England region using mainly the interstate highway system. All truck traffic from the site will use the roadways within ProvPort, Fields Point Drive and Terminal Road, to gain access to Aliens Avenue. Aliens Avenue will provide direct access to the I-95 northbound ramp, approximately 1,700 feet north of the Terminal Road intersection to provide deliveries to points north and west.

For access to I-95 southbound, traffic will turn left onto Allens Avenue and make an immediate right turn onto Ernest Street, a mostly industrial area. Traffic will then head north on Eddy Street, through a mixture of industrial and residential uses and east on Thurbers Avenue to gain access onto I-95 south. This route appears to be an established truck route.

In summary, we are of the opinion that the proposed development and the number of trucks being generated from the site along with the routes they will be travelling on will not have any significant impact to the capacity and safety of the existing roadway network. We are available to discuss our findings at your convenience. Please feel free to contact me if you have any questions or need additional information.

Sincerely,

John P. Shevlin, P.E.
Senior Vice President

JPS/

ZAJOBS \ 21 Jobs\ 20146.00 SEA 3- ProvPort Traffic-REReportaraffic Assessment.doc

SEA 3 PROVIDENCE LLC – DECLARATORY PETITION

TESTIMONY OF JOHN SHEVLIN, P.E.

1. Please state your name and employer.

My name is John Shevlin. I am a professional engineer licensed in the State of Rhode Island. I am currently the Senior Vice President at Pare Corporation.

2. Please state your affiliation with Sea 3 Providence.

I was asked to prepare the traffic analysis portion of the Site Plan which was submitted in connection with the Petition.

3. Have you ever testified as an expert before any other board or commissions in the State of Rhode Island.

I have testified before many boards and commissions in Rhode Island as a professional engineer and been recognized as an expert in areas related to traffic. I have been recognized by many zoning boards and planning commissions throughout the state, most notably the Zoning Board of Review and City Plan Commission in the City of Providence. I have deep familiarity with traffic conditions in the City of Providence.

4. What were your findings related to any potential impact on traffic conditions that could result from the Rail Incorporation Project?

As I stated in my letter which was attached as an Exhibit to the Site Report and incorporated into the Site Report, there will not be any significant impact on traffic conditions resulting from the Rail Incorporation Project. The existing site is permitted for 244 trucks to travel to and take LPG away from the site each day. That will not change. An estimated 80-100 trucks refuel at the terminal each day during times of peak demand during the winter months. This estimated number of trucks coming to the facility is consistent with the truck traffic of the prior tenants and operators of the same terminal.

Based on the existing permits, the site is able to load 18 trucks per hour. With an average operation time for loading the trucks being 30 minutes per lane and with Sea 3 looking to expand the facility to 5 fueling lanes, this allows a maximum number of 10 trucks being loaded per hour which is well below the 18 currently allowed under its existing permits.

As far as the site layout, the access to the site will be move from Seaview Drive to a new entrance further south on Fields Point Drive, just north of the intersection with Harborside Boulevard. Between the entrance and the fueling positions, there is approximately 00 feet of queuing area on site, which will allow more than enough area for stacking of trucks without truck traffic spilling out into the adjacent roadway system.

After the trucks are loaded, the trucks will exit the site through the existing site egress onto Fields Point Drive. The trucks have ready access to I-95 and do not travel through local neighborhoods remaining primarily on the highway systems. All truck traffic from the site will use the roadways within ProvPort, Fields Point Drive and Terminal Road to gain access to Allens Avenue which provides direct access to I-95. The travel of these trucks is over a well established truck route.

5. From a traffic engineering perspective, does this Rail Expansion Project have a substantial impact on the public health, safety and welfare of the surrounding community.

No. As I stated previously as well as in my letter provided with the Site Report, this proposal does not have a significant impact on traffic in the area around the Property.

STATE OF RHODE ISLAND
ENERGY FACILITY SITING BOARD

IN RE: SEA 3 PROVIDENCE, LLC PETITION FOR DECLARATORY ORDER REGARDING THE RAIL SERVICE INCORPORATION PROJECT (PROVIDENCE, RI)

DOCKET SB-2021-03

PRE-FILED TESTIMONY OF JONATHAN SHUTE

November 12, 2021

Jonathan F. Shute – Executive Summary

BACKGROUND

Jonathan F. Shute, the Owner of Transportation Services located in Topsham, ME, has extensive experience in rail transport and safety, including the transport of LPG, dating back to 1976. For the last fifteen years, Mr. Shute has been responsible for providing railroad and regulatory training of railroad personnel, including CFR 49 Part 172 Hazardous Material Handling training, safe operating practice handling of hazardous materials, and general safety and operating instruction for railroad locomotive engineers and conductors. In addition to these services, Mr. Shute conducts reviews of federal regulatory compliance, including hazardous materials for client railroads. Mr. Shute has also made multiple presentations to municipal officials and conducted first responder training for fire departments and law enforcement.

Mr. Shute holds multiple professional licenses and certifications in connection with his employment, including (1) Freight Train Engineer & Conductor License, issued in conformity with CFR 49 240.233 and CFR 49 242.207 (Effective: October 22, 2019); (2) Certification in CFR 49 Part 172 HM-1 Hazardous Material Handling, Toxic Inhalation Hazard Training, and Railroad Security Training; (3) Triennial Training and Certification, Locomotive Engineer and Conductor, and annual check rides; (4) Triennial Part 172 Hazmat Training and annual review training TIH/PIH handling; and (5) Triennial CFR 49 Part 232 Air Brake training and Certificate.

In connection with his current employment, Mr. Shute is required to undergo an annual operating rules and safety training, including triennial hazmat training and annual TIH/PIH training as well as CFR 49 Part 232 Triennial airbrake training, including safety inspection of railcars, which is also incorporated in Part 172 Hazardous Material Handling training.

THE INSTANT MATTER

I. <u>Experience Specific to Rail Transport of LPG</u>:

Mr. Shute has professional experience as a licensed locomotive engineer and conductor operating trains handling hazardous materials, including LPG. Mr. Shute also has extensive experience in oversight and training of those charged with handing hazardous materials, including LPG, on railroads going back to 1976, and general rail experience since 1967 in proximity to hazardous materials in transport. Further, Mr. Shute has experience with LPG stored in rail yards under his supervision and coordinating general movement of hazardous materials, including propane with consignees, in railroad territories under his jurisdiction.

II. <u>Transportation of LPG in the United States and the State of Rhode Island</u>:

According to Mr. Shute, rail transport of LPG to terminals is the preferred method and industry standard in the United States in areas without access to pipeline. Mr. Shute testified that rail transport is common in the Northeast region of the country and is shipped in significant volumes, including through Rhode Island, with the peak volumes occurring during the winter months. It is Mr. Shute's understanding that LPG moves through the City of Providence, RI on the shore line route of the Northeast Corridor to serve a facility located in North Kingstown, RI.

Mr. Shute testified that the Federal Railroad Administration (FRA) regulates railroads in the United States and that the transport of LPG in the United States is governed by CFR 49 Part 172, the Association of American Railroads publication entitled United States Hazardous Materials Instructions For Rail, US, and DOT/PHMSA publication 2020 EMERGENCY RESPONSE GUIDEBOOK.

III. Loading and Storage of LPG:

Mr. Shute testified that Pressurized Tanks Cars DOT 112 are utilized to ship LPG. According to Mr. Shute, these tanks are structurally designed cars for the transport of LPG and equipped with tight lock couplers, preventing cars from coupler separation, and retaining cars in an upright position if exposed to derailment.

LPG is transferred from a storage vessel to rail car by trained facility personnel utilizing hoses and connections. LPG stored in railcars on a railroad must be held on privately owned or leased track by the shipper or consignee, with track number/name clearly identified, track length designated, and may only store the commodity licensed to be placed there in the track lease agreement. No other commodities or railcars may be stored on the leased track, and appropriate insurance must be provided. Such leased track is subject to FRA requirements and rules of the host railroad.

IV. Security Procedures During Transportation:

Mr. Shute testified that the security procedures that are in place during the transportation of LPG on the railroad once the railcars leave their starting point are that the LPG's placement in the train, quantities, and commodities is proprietary information of the railroad and employees are trained to share on a need-to-know basis only. Further, rail employees are trained to spot and report unusual activity on the railroad, and on or about rail cars. Rail cars carrying hazardous materials are also inspected by rail personnel when picked up from a shipper along with accompanying documents, when placed in trains and when removed from trains and inspections in conjunction with train air brake tests and inspections. Finally, trains are also inspected on line of road by present employees whose duties place them on or near right of way as any train is passing, looking for any condition that might impede the safe passage of the train.

V. Safety Systems During Transportation of LPG:

According to Mr. Shute, there are safety systems in place during the transportation of LPG to prevent certain risks including the escape of vapor or liquid and the avoidance of ignition sources. Specifically, railcars including hazmat are inspected on line of road and at terminals and interchanges between railroads, are subject to specific switching procedures and train placement regulations.

If there is an accident involving a railcar while transporting LPG, Train Conductors are required to have current train placement, car number and commodity, correct commodity description, and current copy of ERG, Emergency Response Guidebook, and share these materials with first responders.

If there is an unintended release of LPG during transport, train crew members are instructed to notify railroad dispatchers and first responders and assist in providing evacuation perimeter should such perimeter be required. To detect said release, trains would be subject to visual observation of escaping vapor or possibly odor.

To prevent potential worst-case scenarios, train crews are familiar and qualified on physical characteristics of the territories on which they operate by examination, minimally every three years. They are trained to assess impact of scenario and know what documents pertaining to cargo to share with first responders.

VI. Opinion on Rail Incorporation Project:

According to Mr. Shute, the rail incorporation project does not pose a significant increase in threat level to the surrounding community from a public safety perspective in comparison with the existing operation. Rather, Mr. Shute testified that it is only providing the public with a supplemental source of supply safely conveyed to site on rail which is an industry standard, customary and safe method of transporting LPG in the United States.

Sea 3 Providence, LLC
Petition for Declaratory Order
Rail Service Incorporation Project
EFSB Docket SB-2021-03
Witness: Jonathan F. Shute

Testimony of Jonathan F. Shute
Rail Transport/Safety Expert

1. **Please state your name, business address, your current employer and your position with that employer.**

   Jonathan F. Shute, 20 Sonshine Drive, Topsham, ME, Transportation Services,Owner

2. **How long have you been employed with your current employer?**

   Approximately 15 years.

3. **Prior to your current employment, what other rail/LPG related experience do you have? Please provide the name of prior employers, the period during which you worked with that employer, your position and a brief description of your job duties. Rail experience since 1967.**

   Rail hazmat experience including LPG commencing in 1976. See resume attached as an Exhibit 3 to my testimony.

4. **What business is your current employer in?**

   Railroad and regulatory training of railroad personnel including CFR49 Part 172 Hazardous Material Handling training, safe operating practice handling these materials, and general safety and operating instruction for railroad locomotive engineers and conductors.

5. **What services does the business provide?**

   Services as provided for in 4 above, in addition to review of federal regulatory compliance including hazardous materials for client railroads. I have made presentations to municipal officials, and conducted first responder training for fire departments and law enforcement.

6. **Do you hold any professional licenses or certifications in connection with your employment? If yes, please describe the nature of these licenses and state what specialized training you must undertake in order to hold the applicable licenses or certifications.**

Yes. Freight Train Engineer & Conductor License, issued in conformity with CFR49 240.233 and CFR 49 242.207 Effective:10-22-2019. Current certification CFR49 Part 172 HM-1 Hazardous Material Handling, Toxic Inhalation Hazard Training, and Railroad Security Training. Triennial Training and Certification, Locomotive Engineer and Conductor, and annual check rides. Triennial Part172 Hazmat Training and annual review training TIH/PIH handling. Triennial CFR49 Part 232 Air Brake training and Certificate.

7. **In connection with your employment, are you required to undergo any continuing education or training programs? If yes, please describe those programs.**

   Yes. Annual operating rules and safety training, including triennial hazmat training and annual TIH/PIH training, CFR49 Part 232 Triennial airbrake training including safety inspection of railcars which is also incorporated in Part 172 Hazardous Material Handling training,

8. **What experience do you have specific to rail transport of LPG?**

   I have personal experience as a licensed locomotive engineer and conductor operating trains handling hazardous materials including LPG. I have extensive experience in oversight and training of those charged with handing hazardous materials, including LPG, on railroads going back to 1976, and general rail experience since 1967 in proximity to hazardous materials in transport. I have experience with LPG stored in rail yards under my supervision, coordinating general movement of hazardous materials including propane with consignees in railroad territories under my jurisdiction.

9. **Is rail transport of LPG a common practice for shipment of LPG in the United States?**

   Yes. Rail transport of LPG to terminals is the preferred method and industry standard in the United States in areas without access to pipeline. It is common in the Northeast region of the country and is shipped in significant volumes, including Rhode Island. The peak volume is in the winter months.

10. **Are you aware of whether or not LPG is currently transported via rail service in the State of Rhode Island? If yes, please describe where that is taking place?**

    I know that LPG moves through Providence on the shore line route of Northeast Corridor and that there is an LPG rail served facility in North Kingstown, RI.

11. **Are you aware of whether or not LPG is currently transported via rail service over the railroads that run through the City of Providence?**

It is my understanding that LPG moves on rail lines thru the City of Providence to serve a terminal in North Kingston facility.

12. What government entity or agency regulates railroads in the United States?

Federal Railroad Administration (FRA)

13. Can you provide a citation to the portion of the federal law or regulations which would pertain and govern the rail transportation of LPG in the United States?

CFR49 Part 172 and Association of American Railroads publication entitled United States Hazardous Materials Instructions For Rail, US and DOT/PHMSA publication 2020 EMERGENCY RESPONSE GUIDEBOOK

14. What type of rail cars are utilized to ship LPG?

Pressurized Tank Cars DOT 112

15. Can you speak to the safety specifications and features of those railcars?

a. Are they specially designed for transporting LPG or similar substances?

Yes. Specifically, structurally designed cars for transport of LPG and equipped with tight lock couplers, preventing cars from coupler separation and retaining cars in upright position if exposed to derailment.

16. Please describe the process by which LPG is loaded into the rail cars?

LPG is transferred from storage vessel to rail car by trained facility personnel utilizing hoses and connections.

17. How is the LPG stored in the rail cars?

LPG stored in railcars on a railroad must be held on privately owned or leased track by the shipper or consignee, with track number/name clearly identified, track length designated, and may only store the commodity licensed to be placed there in the track lease agreement. No other commodities or railcars may be stored on the leased track, and appropriate insurance must be provided. Such leased track is subject to FRA requirements and rules of the host railroad.

18. What security procedures are in place during the transportation of the LPG on the railroad once the railcars leave their starting point?

Placement in train, quantities and commodities is proprietary information of railroad and employees are trained to share on a need to know basis only. Rail employees are trained to spot and report unusual activity on railroad, and on or about rail cars. Rail cars carrying hazardous materials are inspected by rail personnel when picked up from a shipper along with accompanying documents, when placed in trains and when removed from trains and inspections in conjunction with train air brake tests and inspections. Trains are also inspected on line of road by present employees whose duties place them on or near right of way as any train is passing, looking for any condition that might impede the safe passage of train.

19. What safety systems are in place during the transportation of LPG on the railroad once the rail cars are in transit?

Railcars including hazmat are inspected on line of road and at terminals and interchanges between railroads, are subject to specific switching procedures and train placement regulations.

20. What safety systems are in place in the event there is an accident involving the railcar while transporting LPG?

Train Conductors are required to have current train placement, car number and commodity, correct commodity description, and current copy of ERG, Emergency Response Guidebook, and share these materials with first responders.

21. What safety systems are in place in the event there is an unintended release of LPG during transport?

Train crew members are instructed to notify railroad dispatchers and first responders, and assist in providing evacuation perimeter should such perimeter be required.

a. Are there systems in place for detection of said release?

Trains on line of road would be subject to visual observation of escaping vapor or possibly odor.

22. What risks are you controlling for during this process?

Escape of vapor or liquid and avoidance of ignition sources.

23. How do you control for potential worst case scenarios?

Train crews are familiar and qualified on physical characteristics of the territories on which they operate by examination, minimally every three years. They are trained to

assess impact of scenario and know what documents pertaining to cargo to share with first responders.

24. Does the rail incorporation project pose a significant increase in threat level to the surrounding community from a public safety perspective in comparison with the current existing operation?

No, in this individual's view it is only providing the public with a supplemental source of supply safely conveyed to site on rail which is an industry standard, customary and safe method of transporting LPG in the United States.

Exhibit 3

Jonathan F. Shute
685 Sligo Road
North Yarmouth, ME 04097
207.838.5739
jshute6720@gmail.com

Employment: Rail

1/2016-Present Self Employed-Transportation Services
Rail industry retired, providing consulting services for rail related operating practice, mechanical, maintenance of way, and safety training , federal compliance review and remediation, and general rail safety. (See 8/07)
Currently consult for Maine Department of Transportation, Multimodal Division, inspecting federal railroad Tiger Grant materials and construction.
CFR 49 Part 240 Locomotive Engineer and Part 242 Conductor current certification(s)

4/12 -12/15 Manager of Training, Compliance, and Safety; Genesee & Wyoming Railroads Northeast Region
Responsible for new hire and recurring annual training, train and engine service employees, annual GCOR training for Engineering Dept. employees. Maintain FRA records and assure compliance. Promote and teach safety driven initiatives, co-leader New England North Safety Improvement Team , 2012 and 2013.

12/11-3/12 New England Central Railroad-Trainmaster
Returned to position upon completion of ARRA project.

1/11-11/11 New England Central Railroad-Manager , Vermonter High Speed Rail Project
Managed 72 million dollar American Recovery & Reinvestment Act Rail Rehabilitation Project to two year completion, ahead of schedule, under budget , and injury free.
Major track rehab project including 160 miles of welded rail, 350,000 cross ties, 55 rail crossings, surfacing, 60 switch renewals, and turnout upgrades.

8/08-12/10 New England Central Railroad-Trainmaster
Job Description: Work under direction of General Manager. Responsible for 182 main line track miles and 3 terminals. General supervision of train and engine crews, new hire and employee training, accident and operating investigation, safety training, evaluation, compliance. Cost control and budgetary compliance. Train operations and scheduling, customer liaison, interdepartmental coordination, Mechanical, Signal and Track.

8/07-Present Transportation Services-President
Self employed DBA providing consulting services in railroad operations and evaluation, operational training ,safety, and regulatory compliance.

11/03-07/07 Maine Eastern Railroad Co., Rockland, ME-General Manager
Job Description: As in Safe Handling Rail below.

9/00-10/03 Safe Handling Rail, Inc., Auburn, ME – General Manager
Job Description: Startup and management of 100 mile short line leased from Maine Department of Transportation. Responsible for employment, safety and operating training, accident investigation, EDI Ops, budgeting, sales and marketing, operations planning, customer service, and oversee Operating, Mechanical and Track maintenance. Certified locomotive engineer and DSLE, Air brake certification, Certified Norac and RWP examiner.

10/96-8/00	Flats Industrial Railroad Co., Cleveland, OH. – Vice President Operations Job Description: Startup and management of switch carrier. Responsible for employment, training, and safety. Managed EDI Ops, PR/AP/AR, budgeting, operations planning, customer service and marketing, FRA track inspections. Certified Norac examiner, Member FRA RSAC Committee, Region II, Ohio.
1982-1983	Guilford Transportation Industries, Portland, ME – Trainmaster Job Description: Worked under direction of General Supt.-Transportation. General supervision of train and engine crews, new hire and employee training, accident and operating investigation, hearing officer. Train scheduling, cost and performance studies on 674 mile territory.
1976-1980	Maine Central Railroad Co., Portland, ME – Trainmaster Job Description: Duties as in Guilford above.
1973-1975	National Railroad Passenger Corp., Montreal, P.Q., Canada, - Trainmaster Operating, Passenger Services, and Mechanical liaison: CN, CV, B&M, D&H, and Penn Central Railroad(s)
1969-1972	Penn Central Transportation Co., New Haven, Ct. Job Description: Supervisor of Passenger Equipment Utilization: supervised passenger, baggage, mail, and express car utilization in New England and New York State.
1967-1969	New York, New Haven, and Hartford Railroad Co., New Haven, Ct. – Signal Station Operator Job Description: Signal Station Operator, New Haven Division. Worked in numerous main line towers and drawbridges, trained new hires.

Specialized Training

April 2012	Participate in 16 member team to standardize Genesee & Wyoming train and engine service employee training for 115 North American railroads.
November 2008	RA Locomotive Engineer Training, BNSF National Academy of Railroad Sciences, Overland Park, KS . Train service engineer.
Current	Certified Locomotive Engineer since 1997, Conrail Training, Conway, PA
Current	Certified GCOR Instructor 2008, Railamerica, Jacksonville, FL
Current	Certified Norac Rules Examiner since February 1997, recertified June, 2006
Current	CSXT Rules Examiner
March 2004	Maine DOT CFR 49 214 Bridge and Roadway Worker Safety Training
March 2004	Certified Single Car Air test, Railway Ed. Institute, Housatonic Railroad, Canaan, CT
January 2004	FRA CFR 49 232 Brake System Safety Standards Training, Philadelphia, PA
December 2003	CFR 49 232 Brake System Training, ASSLRA/FRA, Baltimore, MD
March 2003	FRA CFR 49 240 DSLE and Certified Locomotive Engineer Training, Baltimore Maryland.

February 2001	Canac CWR Installation and Inspection training, Maine Department of Transportation, Augusta, ME
July 2000	Canac Training-Train Safety and Hazmat Recertification, Wilmington, DE
1996-1999	Conrail Locomotive Engineers Training Facility, Conway, PA, Engineer training, DSLE training
June 1997	Track Inspection training-Conrail, Pittsburg, PA

Employment-Other

1989-1996	Urchin Merchant,Inc., Portland, Me, Office Administrator, Transportation Coordinator
1987-1989	General Marine Corp., Portland, ME, Job Facilitator, Liaison to U.S. Army Corp. of Engineers, Transportation Operations
1983-1987	Scan Ocean, Inc., Gloucester, MA, Transportation & Operations Manager
1980-1983	Joint Trawlers, Ltd, Stockholm, Sweden, Field Operations Manager

Education

1972	Southern Connecticut State College, BA Geography-Transportation
1973	University of Grenoble, Grenoble, France, French language study

Organizations

New England Railroad Club-President, 2007-08

Maine Operation Lifesaver-Board of Directors-Level I Presenter

Board of Directors New York & Western Pennsylvania Railroad 2003-2007

STATE OF RHODE ISLAND
ENERGY FACILITY SITING BOARD

IN RE: SEA 3 PROVIDENCE, LLC PETITION FOR DECLARATORY ORDER REGARDING THE RAIL SERVICE INCORPORATION PROJECT (PROVIDENCE, RI)

DOCKET SB-2021-03

PRE-FILED TESTIMONY OF KERRY WILLIS

November 12, 2021

Kerry Willis – Executive Summary

BACKGROUND

Kerry Willis is the Vice President of Operations for Blackline Midstream, where he has worked since June 2019. He has worked in the LPG industry since 1979 and, during that time, has worked in executive positions. He received extensive training during his previous employment at the Atlantic Richfield Company. He has received certifications from the Wharton School of the University of Pennsylvania, where he also received his MBA, and from the Massachusetts Institute of Technology. He has received special training in root cause analysis and special incident investigation. He is a certified firefighter and a certified medic. He also received training in due process review and analysis. He is an industrial emergency response & incident command management certified instructor.

Mr. Willis stated that Sea-3 Providence, LLC is a wholly owned subsidiary of Blackline Midstream, LLC, which was formed in 2017 as part of a joint venture with Sixth Street Partners, a global investment firm with over $50 billion in assets under management. The Blackline leadership team, led by James Day, the CEO, and Justin Day, President, has extensive experience in the energy sector, particular in the LPG industry. Through its subsidiary companies, Blackline manages a diverse business engaging in the importation, storage and distribution of LPG. Blackline has two companies operating in the Northeast. The first Is Sea-3 LLC, which is located in Newington, New Hampshire, which was acquired by Blackline in 2017. The Newington site is an 11 acre facility featuring 2 storage tanks with combined capacity for 26,900,000 gallons, 4 horizontal bullet tanks and a truck rack with 5 loading lanes. Blackline's second Northeast company is Sea-3 Providence, LLC, which is located at 25 Fields Point Drive, Providence, Rhode Island within ProvPort and is the location of the Project.

THE FACILITY

Mr. Willis testified that the facility in question began operations as a marine LPG terminal in 1975. Sea-3 Providence took possession of the terminal in 2018. Prior to that, it was operated by Enterprise Partners LLP. That company moved 100 million gallons of LPG per year at that facility.

Mr. Willis testified that Sea-3 Providence conducted a "modernization process" upon taking possession of the terminal. He testified that that process included (1) engineering evaluation; (2) examination of all systems and components necessary to import cold propane by vessel and store it safely; (3) modernizing and updating the truck rack; (4) renovating the fire and gas detection safety system; (5) inspection of all aspects of the facility to ensure the integrity of the existing piping system; (6) removal of obsolete equipment and replacement with modern equipment; (7) updating all control systems to meet current standards and best practices under the NFPA standards; and (8) preparation of a new FSA in accordance with NFPA standards and emergency response plan. This was an investment in excess of $10 million, he testified. Prior to commencing operations, Sea-3 Providence engaged MPE to prepare a fire safety analysis, according to Mr. Willis.

Mr. Willis provided an extensive description of the equipment currently located on the property, which he broke down by system type. According to Mr. Willis, The first can be categorized as safety systems. These systems include safety instrument devices, fire protection, and devices that constantly monitor pressure, flow, level, and pressure. Mr. Willis explained that the second system allows Sea-3 to take propane off of a cargo ship and push the propane into the storage tank. There is a manifold at Berth 5, a mobile marine loading arm, a dock, piping at the top of the tank, and equipment to take vapor from the tank and push it to a ship. He said that the third system is a boil off gas system. This includes the piping on the top of the tank, two compressors, fin fans, and the receiver. Finally, Mr. Willis testified that the last system takes cold propane from the storage tank and warms it to a temperature above freezing to load onto a transport vehicle. There is also piping equipment, three pumps, exchanges, furnaces, and Coriolis meters.

FACILITY OPERATIONS

Mr. Willis testified that Sea-3 currently receives LPG by marine cargo ship. In 2021, he testified, Sea-3 has had 2 shipments and plans on receiving another. He noted that Sea-3 looks to demand, cost, and the time of year/weather when determining how many shipments/gallons should be brought into the terminal. With respect to security, Mr. Willis said that the terminal follows the MARSEC maritime security system and that they communicate with the coast guard regarding pre-planned responses to security concerns. The drivers that transport propane from the facility are trained and qualified. Before a driver can take LPG from the tank, the driver must first enter their work order number into the system, which will then initiate a load volume. The facility factors 30 minutes per load to provide drivers with extra time; the process actually takes about 20 minutes. When a cargo ship delivers propane, extra security measures are employed. There is heightened security on the port side and there is a security detail on the water side. At that time, Berth 5 is inaccessible to the public and there are barricades to prevent vehicles from accessing that area.

Mr. Willis testified that the facility currently moves about 20 million gallons of LPG per year, in about 1,666 truck shipments. Based on current capacity, the facility can conduct 18 truck shipments per hour. This is the number allowed by the existing air quality permit issued to Sea-3. Sea-3 will not seek an extension of the permit. Within the next 3-5 years, Mr. Willis expects to move over 100 million gallons of propane, based on projected demand.

RAIL INCORPORATION PROJECT

Mr. Willis testified that the Rail Incorporation Project will provide the operational flexibility to move 600,000 gallons (with a maximum of 1,200,000 gallons) of LPG product per day on truck to transports with maximum commercial flexibility on market source via refrigerated storage or rail to the existing terminal in Prov Port. This will be done in three phases. The first will entail the completion of warm propane railcar unloading, metering (LACT skid), bullet storage and tie to existing truck loading. The second phase will be completion of the relocation of the existing truck loading and adding two rail lanes. The third will involve the completion of dehydration and refrigeration additions. He explained that Sea-3 purchased the

property with the knowledge that there would need to be a rail operation. They knew when they purchased the property that rail was necessary for supply stability purposes. Sea-3 believes that the incorporation of the adjacent rail is important to the operation because Sea-3 needs the space to put the new equipment.

Mr. Willis testified that, other than marine vessel, the industry standard method of shipping LPG across the United States is rail and pipeline. The Sea-3 Providence/Blackline team has experience in importing LPG via rail in addition to marine vessel, as they would be seeking to employ the exact same system that Blackline manages at their Newington facility. The new equipment sought to be located on the adjacent parcel will incorporate 16 rail slots, 4 offload compressors, 6 bullets, the ability to cool the propane, a dehydration skid, a two-stage cooling process, and a high pressure and a low-pressure chiller. These pieces of equipment are very similar to the equipment being presently used by Sea-3. He said that, with respect to security, Sea-3 will continue to follow MARSEC, U.S. Coast Guard, Department of Transportation, and Federal Railroad Administration security requirements.

Mr. Willis provided detailed testimony regarding the environmental impact of the Rail Incorporation Project. The project would increase LPG capacity by about 3%. Mr. Willis expects there to be a reduction in emissions, however, because propane that is delivered by rail does not need to be re-warmed. Mr. Will explained that the Rail Incorporation Project will allow Sea-3 to remove one of the 2 existing flares on site because Sea-3 would be incorporating a low-pressure vent recovery system, which would allow Sea-3 to recover propane vapors rather than release them into the atmosphere. He detailed how flares are designed as safety devices for over pressure. If pressure over builds, then propane is released into the flare system and burns so that it isn't released into the atmosphere.

Mr. Willis explained that Sea-3 wishes to bring in LPG via rail in addition to marine vessel to ensure supply and price stability for the consumer. He said that the ability to access a supply of domestic propane is critical because it is a cheaper and more dependable supply than international propane. He said that if rail is incorporated into their existing operations, then they can eventually introduce renewable propane to Rhode Island, which has environmental benefits. Mr. Willis also testified that Sea-3 considered port-to-port transportation as an alternative to rail but decided against this option because it would have been costly. Sea-3 determined that the Rail Incorporation Project would not have a significant impact on the health, safety, and welfare of the surrounding environment and community. This determination was made after Sea-3 engaged an environmental engineering firm, a rail expert, a traffic expert, and a fire and safety expert.

Mr. Willis described the several safety systems in place at the facility. He said that there are systems in place to continuously monitor temperature, pressure, flow, and level. If either of these exceed their respective operating windows, the basic protocol systems at the facility will initiate shutdowns accordingly, depending on the severity. The safety equipment will not significantly change as a result of the Rail Incorporation Project, but new safety equipment will be added and incorporated. Mr. Willis explained that risk at the facility is mitigated by analysis dependent on consequence and likelihood. This analysis will not change with respect to the Rail Incorporation Project. Mr. Willis explained that the delivery of propane by rail will not increase

the risk to the surrounding community because demand dictates the amount of propane that will be handled at the facility—not rail.

Sea 3 Providence, LLC
Petition for Declaratory Order
Rail Service Incorporation Project
EFSB Docket SB-2021-03
Witness: Kerry Willis

Testimony of Kerry Willis

Introduction and Current Operations

1. Please state your name, work address and position with the company

   Kerry Willis, Vice President of Operations and Capital Projects for Blackline Midstream. I work at 25 Fields Point Drive, Providence, Rhode Island.

2. How long have you been employed by Sea-3 Providence, LLC/Blackline Midstream?

   Since June 2019.

3. Prior to your employment with Sea-3 Providence/Blackline Midstream did you work in the LPG or other energy related industry? If so, please state the name of each company, the period during which you were employed there, the position you held and a brief description of your job duties.

   Yes. I've worked in the LPG industry since April 1979. From 1979 until 1999 I worked for Atlantic Richfield Company. I started there as an operator and I worked my way up to operations manager. I was responsible for maintaining safe and efficient operations on a daily basis. I developed strategies to help stay competitive. The company was absorbed by BP in 2002. At that time I ran BP in in Texas City. I was the plant manager for the west plant until September 2009. At that time I retired and began conducting small project work on various contract assignments. I then worked at the McDermott LNG Plant from 2017 until 2018. I was the director of operations there. My Resume is attached as Exhibit 2.

4. Please provide your educational background

   I received extensive training during my employ at the Atlantic Richfield Company. I have taken several engineering courses. I received my MBA from the Warton School of the University of Pennsylvania. I helped write and develop curriculum at the Massachusetts Institute of Technology. I have earned a certificate of operations excellence from MIT.

5. Please provide a description of any special training received or licenses held in connection with your work for Sea-3 Providence or related to your employ in the LPG industry

   I have received special training in root cause analysis and special incident investigation. I am certified firefighter and a certified medic. I have also received

training in due process review and analysis. I am an industrial emergency response & incident command management certified instructor.

6. What are your current job duties for Sea-3 Providence/Blackline Midstream?

   I am the VP of operations and projects. I am responsible for the safe and efficient operation of the terminals in Providence and New Hampshire. I establish guidelines and budgets and ensure the proper execution of safe operation of the facilities. My job entails reducing rick and improving the functionality of the business.

7. Were you involved in the preparation of the Site Report prepared in connection with this Petition?

   Yes.

8. How many employees presently work for Sea-3 Providence? Do you oversee these employees?

   Ten employees. I oversee the terminal manager.

9. What is the role of the terminal manager?

   They are responsible for safe, efficient execution of facility operations on a daily basis.

10. Does the terminal manager receive any special training in connection with his position? If yes, please describe the nature of the training related to the safe and secure operation of the terminal in Providence.

    Yes. The terminal manager is provided with training involving process safety requirements. The threshold of training is dependent on the volume of chemicals present at the facility. The training includes training that is required by OSHA, the DOT, and the EPA. This involves risk management training and leadership training.

11. Can you please inform the Board as to the history/company profile of Sea-3 Providence and Blackline?

    Sea-3 Providence, LLC is a wholly owned subsidiary of Blackline Midstream, LLC, which was formed in 2017 as part of a joint venture with Sixth Street Partners, a global investment firm with over $50 billion in assets under management. The Blackline leadership team, led by James Day, the CEO, and Justin Day, President, has extensive experience in the energy sector, particular in the LPG industry. Through its subsidiary companies, Blackline manages a diverse business engaging in the importation, storage and distribution of LPG. Blackline has two companies operating in the Northeast. The first Is Sea-3 LLC, which is located in Newington, New Hampshire, which was acquired by Blackline in 2017. The Newington site is an 11 acre facility featuring 2 storage tanks with combined capacity for 26,900,000

gallons, 4 horizontal bullet tanks and a truck rack with 5 loading lanes. Blackline's second Northeast company is Sea-3 Providence, LLC, which is located at 25 Fields Point Drive, Providence, Rhode Island within ProvPort and is the location of the Project.

12. How long has Sea-3 Providence been operating in the City of Providence?

    Since 2018.

13. Can you describe the relationship between Sea-3 Providence and Blackline Midstream/Blackline Partners?

    Blackline partners is the parent company. Blackline Midstream is a subsidiary of Blackline Partners. Sea-3 Providence is subsidiary of Blackline Midstream.

14. Can you describe the relationship between Sea-3 Providence and Sea-3 Newington?

    They are sister facilities. They are separate businesses.

15. How is LPG it utilized?

    The most common use is for home heating. It can be used in several ways. It can be used in chemical applications. There is little end to the hydrocarbon of propane.

16. How does it compare to other sources of power or home heating as source of fuel from an environmental/emissions standpoint?

    It is efficient, per the carbon intensity index published by the Energy Information Administration. Propane releases less harmful emissions than home heating oil.

17. How does Sea-3 Providence currently bring LPG into the Port of Providence?

    By marine cargo ship.

18. Do you know how long there has been a marine LPG terminal at the Property?

    Since 1975.

    a. Can you provide the Board with any information related to the operation of the prior tenants of the port at the site presently occupied by Sea-3 Providence.

       It was run by Enterprise Products Partners L.P. At their peak, Enterprise Products was moving approximately 100,00,000 gallons of LPG through the terminal.

19. When did Sea-3 Providence take possession of the terminal located at 25 Fields Point Drive?

    In 2018.

20. Who was the most immediate prior operator at the terminal?

Enterprise Products Partners L.P.

a. When did they cease operations?

In 2015.

b. Do you have any sense of the volume of LPG which they moved through the terminal at the peak of their operation?

Yes. They moved 100 million gallons of LPG per year.

21. Can you provide a description of the "modernization process" conducted by Sea-3 Providence upon taking possession of the terminal which was required to bring the terminal back online? Please include a description of any new equipment, technology, policies and procedures, etc. that were put in place associated with this process in your answer.

The process included (1) engineering evaluation; (2) examination of all systems and components necessary to import cold propane by vessel and store it safely; (3) modernizing and updating the truck rack; (4) renovating the fire and gas detection safety system; (5) inspection of all aspects of the facility to ensure the integrity of the existing piping system; (6) removal of obsolete equipment and replacement with modern equipment; (7) updating all control systems to meet current standards and best practices under the NFPA standards; and (8) preparation of a new FSA in accordance with NFPA standards and emergency response plan. This was an investment in excess of $10 million.

22. As part of that process, did Sea-3 Providence prepare a fire safety analysis for the terminal? If so, who prepared that Fire Safety Analysis and was it approved by the Providence Fire Dept./State Fire Marshall prior to commencing operations?

Yes, MPE prepared the analysis. It was approved; such approval was required in order to get authorization to restart operations at the Providence facility.

23. Please provide a description of the equipment currently on the property.

There are several types of systems. The first can be categorized as safety systems. These systems include safety instrument devices, fire protection, and devices that constantly monitor pressure, flow, level, and pressure. The second system allows us to take propane off of a cargo ship and push the propane into our storage tank. There is a manifold at Berth 5, a mobile marine loading arm, a dock, piping at the top of the tank, and equipment to take vapor from the tank and push it to a ship. The third is a boil off gas system. This includes the piping on the top of the tank, two compressors, fin fans, and the receiver. The last is the system that takes cold propane from the storage tank and warms it to a temperature above freezing to load onto a transport vehicle. There is also piping equipment, three pumps, exchanges, furnaces, and Coriolis meters.

24. Under current operations, how does Sea-3 Providence receive LPG at the terminal?

By marine cargo ship containing approximately 10.2 million gallons per shipment.

a. How many shipments and total gallons of LPG were received in 2019?

One.

b. How many shipments and total gallons of LPG were received in 2020?

Two or three.

c. How many shipments and total gallons of LPG have been received year to date in 2021?

Two have been received and we have one more planned.

25. What factors does Sea-3 Providence look at to determine how many shipments/gallons to bring into the terminal and when to bring those shipments in?

We look to demand, cost, and the time of year/weather.

26. Please describe the process for obtaining LPG and having it shipped to Providence?

We have a commercial group that will put out a request for proposal for the purchase of propane. We then accept bids. Weather may also dictate shipment.

27. What sort of security approvals/government approvals are associated with bringing in each vessel? Please describe that process.

We have an operating plan. It is the coastguard's responsibility to manage commerce in the ports. The Coastguard is informed of delivery and their protocol determines what happens next.

28. What happens once the vessel arrives in the port at the terminal? Please provide information beginning with removing the LPG from the vessel through loading it onto the trucks to take it off the Property to the distributors.

When we purchase cargo we send a sequence for the requirements to get a ship in port. Once the LPG is in the storage tank, drivers pick up the LPG. The drivers attach their vehicles to the tank. The drivers are trained and qualified. The LPG rests in tank at -45 degrees Fahrenheit. Before a driver can take LPG from the tank a driver must first enter their work order number into the system. That allows them to initiate a load volume. When they hook up to ground, the load sequence starts. The hearer starts, and propane is pushed out of the tank through the transfer pipes. The flow starts slowly and progressively speeds up and then progressively slows toward the end. If the flow gets too high or too low, or if the temperature gets too low, or if the heater overfires, the system will shut down. Drivers load in about 20

minutes. We factor in 30 minutes per load to provide drivers with extra time. We can load 2 trucks per hour on each lane.

29. Please describe the day to day security at the Property.

    We follow the MARSEC maritime security system and we communicate with the coast guard regarding pre-planed responses to security concerns. We use MARSEC-level security at every port. MARSEC determines the protocols to follow for how people are given access to the facility. We inspect 10% of trucks that come in without suspicion.

30. How does the nature of the security of the Property change during the time there is a vessel being offloaded?

    There is a security detail on the water side and Port of Providence maintains a heightened security on the port (land) side. When ship comes in, there is additional security. At that time, people do not have access to Berth 5 without being checked by security. No one can get to Berth 5 at that time by accident. There are also barricades to prevent people from driving there.

31. How many truck lanes are currently located on the Property?

    Three.

32. How many truck shipments does your existing air quality permit from DEM allow Sea-3 Providence to conduct daily? Will the capacity of the existing air quality permit change in connection with the Rail Incorporation Project? Is Sea-3 seeking any expansion of its existing air quality permit?

    18 trucks per hour. The capacity will not change. We are not seeking any expansion of the existing air quality permit.

33. On average, how many truck shipments are conducted on the Property presently?

    We currently have seen about 1,666 truck shipments per year since coming back online in the terminal.

34. How long does a truck remain on site?

    About 30 minutes.

35. Based on current capacity, how many truck shipments can be conducted on the property each day?

    18 truck shipments per hour.

36. What is the driver of how many truck shipment are conducted each day?

    Demand.

37. When is demand for LPG greatest?

During the winter months. The colder it gets, the more demand there is.

38. What does Sea-3 Providence project demand for LPG in the region to be over the next 5 years? 10 years? What is the basis for Sea-3 Providence's demand calculation?

Within the next 3-5 years, we expect to move over 100 million gallons of LPG annually. We base this off a model that analyzes the consumption of LPG in the region. We then factor in operating costs, we look at the market, and we estimate the demand for propane from Sea-3 versus our competitors. This is driven by price and supply stability. Within the next 10 years, the demand will be driven by environmental regulations and solutions that have not yet been competitive.

Rail Incorporation Project

39. Please describe the proposed Rail Incorporation Project which Sea-3 Providence is proposing to undertake at the immediate adjacent parcel next to the current terminal? Please describe each phase of the project in detail.

It will provide the operational flexibility to move be able to 600,000 gallons (with a maximum of 1,200,000 gallons) of LPG product per day on truck to transports with maximum commercial flexibility on market source via refrigerated storage or rail to the existing terminal in Prov Port. This will be done in three phases. The first will entail the completion of warm propane railcar unloading, metering (LACT skid), bullet storage and tie to existing truck loading. The second phase will be completion of the relocation of the existing truck loading and adding two rail lanes. The third will involve the completion of dehydration and refrigeration additions.

40. Can you please describe the decision making process around Sea-3 Providence's plan to exercise its option on the adjacent parcel and connect to the rail line?

When Sea-3 purchased the terminal, they knew that there would need to be a rail operation to conduct a productive business and provide the most cost effective product to the consumer. They knew when they started operations that they would need rail for supply stability purposes. That is why they leased the property and the option parcel where the rail connection will be made.

41. Why does Sea-3 Providence believe the incorporation of the adjacent parcel and connection to the existing rail line is important to their operation in Prov Port?

We need the space. We can't get all of our equipment on the property that we currently own. We'll need the space to put a rail track, the 6 bullet tanks, 2 chillers, a fire water pump, and an electrical distribution component.

42. Other than marine vessel, what is the industry standard method of shipping LPG across the United States?

Rail and pipeline.

43. Does the Sea-3 Providence/Blackline team have experience in importing LPG via rail in addition to marine vessel? If yes, please describe that experience.

Yes. We are seeking to employ the exact same system that we manage at our Newington facility.

44. Please describe the new equipment to be located on the option parcel associated with the Rail Incorporation Project?

We will be incorporating 16 rail slots, 4 offload compressors, 6 bullets, the ability to cool the propane, a dehydration skid, a two-stage cooling process, and a high pressure and a low pressure chiller.

45. How does the new equipment compare with the presently existing equipment on the site?

It is very similar. The difference will be the purpose of the equipment. The purpose will be to offload from railcar into bullet storage. We don't currently do this because we don't have bullet storage and we don't offload from rail car.

a. Do you anticipate an increase in carbon emissions or a negative environmental impact from any of this new equipment? Why or why not?

No. In fact, I anticipate a reduction because propane that is delivered by rail doesn't need to be re-warmed. It is the warming process which results in emissions from the existing site. LPG which is brought in via vessel needs to be rewarmed prior to being loaded into the trucks. LPG brought in via rail is at ambient temperature and does not need to be rewarmed. The more LPG brought in via rail, the less carbon emissions produced by the operation of the terminal.

46. Please describe the process for bringing in LPG via rail as compared to how you bring it via vessel?

When bringing in LPG by rail, we buy a campaign. We will use 2 strings of 8 rail cars. We will have 8 Cars on each side of the platform.

47. As a result of storing the LPG in the six bullets versus solely utilizing the existing 19,000,000 gallon tank, will Sea-3 Providence increase its storage capacity? If yes, by how much?

Yes, by about 3%.

48. As a result of storing the LPG in the six bullets versus the existing 19,000,000 tank, will Sea-3 Providence be able to remove any of the existing equipment on the Property, including without limitation one of the flares?

Yes. We will remove the second flare that we have.

49. What is the function of the flares?

Flares are designed as a safety device for over pressure and are permitted through a process with RIDEM. If there is over pressure the propene releases into the flare system and burns. It is part of a complex integrated safety system. It is a last layer of defense so that propane isn't released into atmosphere.

50. Why will incorporation of rail transport and use of the bullet tanks allow you to remove one of the flares?

    The second flare is used for the truck rack. We're going to put another low pressure vent recovery system. This will allow us to recover vapors rather than releasing them into the atmosphere.

51. Will the implementation of the Rail Incorporation Project impact the carbon emissions on the site? If so, how?

    The carbon emissions will go down because the warm propane in the bullet storage tanks won't need to be reheated. We also won't be burning residual propane. That propane will go into the storage tank from the recovery system rather than being burned by a flare.

52. How will the use of rail to import LPG to the Property change the security process for its current operation?

    We will continue to follow all the MARSEC, U.S. Coast Guard, and Department of Transportation security requirements

53. Why does Sea-3 Providence want to bring in LPG via rail in addition to marine vessel?

    It will ensure supply and price stability for the consumer while reducing carbon emissions and enabling Sea 3 to pursue conversion to renewable propane in the coming years.

54. Why is the ability to access domestic supply critical for Sea-3 Providence?

    There is an abundant supply of domestic propane. It is a more affordable and dependable supply. We can't predict whether vessels will be a reasonable solution in the future because those vessels ship propane form foreign countries. Additionally, renewable propane can only currently be obtained from domestic sources.

55. If you can bring in LPG via rail, you can continue the process of eventually introducing renewable propane to the market in Rhode Island correct?

    Yes.

56. What is renewable propane?

    It is propane created from a feedstock that is considered to be renewable.

    a. How is it processed?

The Feedstock needs to be cleaned up to process renewable propane. The feedstock needs to be converted to synthetic gas and the synthetic gas is then converted to propane.

b. What are the benefits to the environment?

It relies on natural decomposition. It creates a better home for that. It can also accelerate decomposition.

c. Is it possible or practical to introduce renewable LPG to the market through this terminal without connecting to rail?

No.

57. Did Sea-3 Providence consider alternatives to the Rail Incorporation Project as a means of meeting its projected future demand for LPG coming through the terminal?

Yes.

a. What were those alternatives?
    i. **Sea-3 considered port-to-port and use of truck shipments.**
b. Why are they inferior as compared to the Rail Incorporation Project?
    i. **It is more costly to the consumer of LPG, do not allow Sea 3 Providence to achieve a reduction in its carbon emissions, do not afford the opportunity to explore the use of renewable propane in the same fashion as rail.**
c. Would those alternatives have a greater impact on the surrounding neighborhood and environment as compared to the Rail Incorporation Project?
    i. **Yes, because we wouldn't reap any of the benefits that will come from the new project which I have described in my testimony and as our professionals who have worked on this project have spoken to in their testimony and the Site Plan.**

58. How did Sea-3 Providence reach the determination that this Rail Incorporation Project would not have a significant impact on the health, safety and welfare of the surrounding environment and community?

We engaged an environmental engineering firm, a rail expert, a traffic expert, and a fire and safety expert. That information has revealed no negative impacts on the environment, health, safety or welfare of the community compared to current operations. In fact, there will only be improvements to the health, safety and welfare of the community as a result of this project, including reduction of carbon emissions from the site.

a. What type of professionals and experts did Sea-3 Providence engage to assist on this Project?

An environmental engineering firm, a rail expert, a traffic expert, and a fire and safety expert.

b. Those professionals all contributed to the Site Report which was submitted in support of the declaratory petition correct in accordance with their areas of expertise correct?

Yes.

59. Can you describe the current safety protocols, equipment and technology in place at the Property?

We always monitor temperature, pressure, flow, and level. Each of these has a normal operating window. If that window is exceeded, we have basic process control systems that will adjust the process to bring back the process to control. If either temperature, pressure, flow, or level is too high, our safety systems will initiate shutdowns depending on the severity. The shutdowns can be regional or system-wide.

a. Will these safety features significantly change as a result of the Rail Incorporation Project? If yes, how? If not, why?

No, but new safety equipment will be added and incorporated.

60. If the Rail Incorporation Project was not to move forward for any reason, how would Sea-3 Providence meet the projected increase in demand?

We would continue to rely primarily on transportation of LPG by vessel. We would need to significantly increase the number of vessels brought into port to meet the projected increases in demand discussed in our filings and Site Report. However, if vessel is interrupted or insufficient to meet demand, we would only have truck-based shipment as an option.

a. Why is this alternative inferior?

Because it is more expensive to the consumer and creates a less stable supply of propane. Rather than decreases emissions, it will most likely increase emissions due to continue to have to heat all LPG product in the terminal prior to being loaded into trucks. Additionally, it does not open up the market for pursuit of renewable propane in RI as we would continue to lack access to reliable domestic markets.

b. Why does Sea-3 Providence believe that the Rail Incorporation Project is a better alternative not just from a business perspective but also for the surrounding community and the consumers?

Because of supply and price stability. It will reduce emissions. The Project is a security solution that is a long-term investment for the community.

61. Please describe the security procedures currently in place at the Property?

We have several security measures in place, such as the ones that I described earlier. MARSEC, for example, requires us to inspect 10 percent of transport vehicles. There is also heightened security during cargo transportation.

62. Will there be any significant changes to these procedures resulting from the Rail Incorporation Project?

In addition to maintaining all existing security procedures, we will meet all requirements of the Federal Railroad Administration which regulates the rail transport of LPG in the United States.

63. What, if any, environmental or safety risks exist based on the current operation of the Sea-3 Providence Terminal?

These would be normal risks for this kind of operation, including loss of primary containment if propane is released into the atmosphere.

64. How does Sea-3 Providence manage and mitigate these risks?

I use a rigorous process where risk is function of consequence and likelihood. You can't change the consequence, but you can implement measures to prevent the likelihood using safety instrumented systems, including redundancy. This involves protection analysis.

65. Are these risks increased or exacerbated in any way by the Rail Incorporation Project? If yes, why? If no, why not?

No. the likelihood described in my previous answer will remain the same because I use a disciplined approach to ensure that our control systems do not allow a release of propane in the atmosphere.

66. Are the methods in which Sea-3 Providence manages and mitigates these risks going to significantly change during the construction phase of the Rail Incorporation Project?

No. The risks with construction are not associated with the release of propane.

67. Will the methods of managing and mitigating these risks significantly change upon completion of the Rail Incorporation Project?

No. We will continue to use our rigor and discipline to ensure that there is no release or propane into the atmosphere.

68. Do you believe that rail service to the Property has a significant increase in risk to the surrounding community as compared to the marine vessel service?

No. First of all, the port is already serviced by rail. Everyday, substances such as ammonia and chlorine are shipped into the port via rail that serves adjacent operations. Further, LPG is already transported over the same tracks through the city on its way to the LPG terminal in North Kingstown which is only serviced via rail. Demand determines the volume that will be handled by the facility—not rail. If

we do not have access to rail and demand rises to 100,000,000 gallons per year, the facility will meet that demand through the most costly, less efficient and less predictable vessel cargo.

We employ every best practice in the industry and run the facility in accordance with the NFPA regulations. We work closely with public safety in the City of Providence and will continue to do so. Whether brought in via rail or vessel, whether stored in bullets or the existing 19,000,000 gallon tank, the worst case scenarios remain the same and our diligence, dedication and investment in preventing them does not waiver. As I have stated, and others have as well, this project decreases our carbon emissions from the site. We remain a non-contributor from a storm water contamination perspective.

69. Part of the Rail Incorporation Project is modifications to the existing truck rack operation is that correct?

Yes.

a. Can you provide the Board with the details of the modifications to the truck rack?

We will be adding 2 more lanes which would alleviate constraints.

b. Are you able to meet demand without modification? How?

Yes, by transport via vessel.

70.

a. Will the changes to the truck rack require any modifications of the existing air quality permit?

No.

Exhibit 2

Willie Willis
4019 Elm Crest Trail
Houston, Texas 77059
(281) 639-1925
WillieWillis@me.com

Introduction – Mr. W. Willis

Strong manufacturing, operations and project leader with a track record of sustainable safety, operational and financial delivery in businesses ranging in size from $100M to $2B with 2000+ employees and multiple facilities. A unique and inspirational leader who balances people and team development, operates with rigor and takes decisive action in face of tough business challenges. Additionally, excels in building highly focused, functional teams and implementing systems, processes and standards to operate safely and reliably while demonstrating leadership by example as well as the highest commitment to safety, quality and efficiency, including serving as an industry leader in incident command and emergency response.

Core Competencies

- Strategic focus on EBITDA growth YOY via asset
- Strategic focus on EBITDA growth YOY via asset utilization/optimization and max return capital projects
- Operations excellence and high reliability operating (HRO) discipline
- Collaborating and aligning organization and teams
- Commissioning and operational readiness
- Training and succession planning/development
- Process Safety Management (PSM) program management; Emergency Response Plan Development
- Project management excellence

Professional Profile

- Exceptional leadership and management skills
- Strong organizational skills with attention to detail
- Developing and implementing structural and cultural essentials for highly reliable operations
- Developing strategies and tactics to achieve short-term and long-range business needs
- Strategic benchmarking (Solomon Survey, project benchmarking tools and HSE metrics) to develop tactical execution plans for a vibrant business at bottom of cycle margin environments
- Risk reduction and 100% margin capability improvement for plants and process units
- Skilled in utilization of project management institute skills and body of knowledge (PMBOK) and work processes to aid clients with project and portfolio management needs through front end loading, option selection, engineering to commissioning and operating
- Experience with 6 sigma and lean process improvement tools and approach
- One of 2 primary Incident Commanders for BP in North and South America (BART) Leader

Professional History

September 2019 – Present

Contract Commissioning and Start-Up Director, Blackline Midstream, Sea-3 Providence, RI & Newington, NH

- Responsible for the safe, reliable commissioning and start-up of Providence, RI 400,000 bbl LPG Terminal
- Commissioned refrigerated tank, marine facility and 3 lane truck rack capable of loading 1M gallons per day
- Developed all commissioning, start-up, operating and emergency response procedures
- Trained all Sea-3 staff for operations and maintenance on 3-tiered qualification levels
- Developed PSM/RMP program for both Sea-3 Providence and Sea-3 Newington Terminals
- Commissioned 16 LPG rail car to dehydration and refrigerated storage at Sea-3 Newington Terminal, including training support for all operations and maintenance activities, similar to Providence

March – September 2019
Contract Operations and Commissioning Director, McDermott LNG Plant, Cameron, LA

- Responsible for the commissioning and start-up of train 1 of the 15 Mtpa LNG facility
- Responsible for the discipline completion certificates for all phases, the hand-off between construction to commissioning and start-up including civil, mechanical, electrical and instrument and control
- Major equipment includes GE frame 7 gas turbines, centrifugal compressors, Air Products main cryogenic heat exchanger and all feed gas pre-treatment equipment
- Safely started train 1 without any HSE or PSM incidents

January – December 2018
Contract Operations and Commissioning Leader, Delek Logistics, Dallas/Big Spring/El Dorado, TX
Greenfield Crude Oil Gathering (60kbpd) System including 48 Production LACTS, 25 miles of pipeline, metering and tanks

- Developed Operations and Maintenance Staffing Plan from construction through commissioning to stable operations
- Interviewed, hired and trained Operations Mgr, Measurement Mgr and Operations/Technical craft positions
- Created and implemented operations procedures for local field operations and control center remote operations
- Established emergency response procedures and drills in collaboration with Big Spring refinery
- Created and trained new operations and maintenance staff on formal commissioning procedures and work plans, coordinating with Control Center
- Provided temporary support as Operations General Manager for El Dorado operations during personnel transition, including Operations and Maintenance leadership
- Developed Decommissioning Project to move 200 miles of high-risk aging pipeline, gathering barrels to truck gathering and delivered to main line stations
- Provided guidance to HSE department to create new control of work and permitting procedures, including notification and approval communication procedures for the control center regarding work in the field

2009 – 2020
President & CEO, Willis Consulting Firm, Houston, TX
Managing a small consulting firm focusing on improving safety, compliance, reliability and production for the petrochemical and energy industries. As a private consultant, I have worked for the following companies:

- Holly Frontier Refining, *New Mexico, 2013*
- National Grid Utilities, *Boston, Massachusetts, 2013*
- Private Refiner, *Wyoming & Louisiana, 2014*
- Marathon Texas City HSE projects, *2009 -2016*
- BP Whiting, Indiana ($12 billion heavy oil upgrade project), *2009-2015*
- Sasraf Refinery, *Saudi Arabia, 2016*
- Matrix Services, *2016-2018*
- Orbital Sidekick, *2016-present*
- Delek Logistics, *2018*
- Cameron LNG, *Cameron, Louisiana, 2019*
- Blackline Midstream (Sea-3 Terminals), *Providence, RI; Newington, NH, 2019-2020*

2015 October – 2016 August
Director of Operations, Buckeye Partners, L.P., Corpus Christi, TX
Greenfield Processing and Storage ($200MM/yr EBITDA) Plant employing two 25kbpd crude splitters and 5.4 MMbbls of storage and blending (including 1.2MMbbls of refrigerated LPG storage) with pipeline connectivity to gathering fields, 3rd party suppliers and marine facility w/ 5 deep water docks

- Outstanding HSE performance, PSM program development and implementation
- Commissioning and startup of the crude splitters and refrigerated LPG storage
- Transitioned plant from startup/commissioning to steady, state operation to optimization of production yields and max run rates within 9 months
- Developed the culture, capability and competencies in Buckeye team required for safe, compliant and reliable production in a processing facility
- Developed and implemented the strategy to maximize revenue for both Buckeye and the JV partnership

2015 January – 2015 August
Senior Vice President of Operational Excellence & Sustainability, FOCUSS SERVICE GROUP, Houston, TX

- Senior Consultant of Start Up & Commissioning
- Senior Consultant of Emergency & Crisis Preparedness
- Business Development
- Leadership Development
- Operations & Infrastructure Development
- Client Accountability & Commercial

2002 – 2009
BP Products North America, Texas City, TX
2000+ employee, 450 MB/Day refinery and chemical plant. BP's largest production facility and 3rd largest refinery in U.S.

2006 – 2009
Operating Practices/Commissioning General Manager

- Named head of a $4B, multi-year, multi-phase reconstruction program in 2005 to safely re-commission the Texas City site following Hurricane Rita and the 2005 Isom explosion
- Brought 50% of the complex online within 1 year and steadily increased capacity and start-up of other key units to reach 100% operational capacity in 2008 with high availability, process safety leadership and safety performance
- Established new standards, controls and operations to re-invigorate integrity management and establish a highly reliable organization, which positively impacted operations and functions across 30 different process units
- Worked with the site leadership team to establish an all-encompassing safety recovery plan, which changed the fundamental culture, enhanced audit/risk management practices and established new performance benchmarks
- Accountable for all the work processes, which govern operations, routine maintenance and HSE compliance
- Major focus on implementing an innovative permit-to-work system and integration of ISO and OSHA, (specifically OSHA 1910.119 PSM and ISO 9001 and 14001) requirements
- Consolidated training resources for operations into central group with greatly improved focus on competency
- Revised over 500 Unit training guides across various units and technologies
- Integrated process safety more directly into operations through a rigorous approach to operating envelopes and deviation response

2004 – 2006
Plant Manager, Texas City, TX

- Accountable for safe, compliant operations of Texas City refinery, including a 60 MB/D Hydrocracker, 2 cyclic reformers (60 MB/D and 75 MB/D), 3 distillate desulfurization units, dual train aromatics extraction units, naphtha desulfurization, toluene disproportiation unit and an isomerization unit
- Cut OSHA RIF rates (65%+) to 0.35 and reduced EPA reportables by 50% across West Plant from 2002-2004

- Improved uptime from ~85% to 97% on the hydrocracker complex
- Led a 1M+ man-hour, 6-month rebuild of a $65M reformer revamp with no OSHA recordable incident
- Led the recovery and stabilization of the division following the tragic March 2005 Isom explosion
- Stepped into a crisis leadership role after fatal incident decimated operational capabilities, employee morale, community relations and business/market credibility
- Planned and orchestrated a safe site shutdown in response to Hurricane Rita, 2005
- Played a key role in designing an inspection renewal program by identifying and resolving issues, which minimized unplanned outages and increased availability across multiple operations

2002 – 2004
Transformation Manager

- Devised a regional business model that collapsed management of 4 independently operated facilities into an enterprise structure as well as led a variety of employee and community engagement initiatives
- Executed key components of the plan, which targeted $100M of value creation by eliminating duplicate functions, equipment and headcount
- Shifted focus from consolidation to decomposition of core assets and operations when BP divested its $7B chemicals business to Solvay and Ineos
- Established an employee-based committee to make Texas City refinery a "great place to work," resulting in 100% improvement in employee satisfaction scores, despite ongoing organizational restructuring
- Improved relationships between the business, industry partners and local community as a member of the Texas City Industrial Plant Managers' Network and Texas City / La Marque Chamber of Commerce

1999 – 2002
Operations Manager, Atlantic Richfield, Cherry Point, Washington
Accountable for developing annual strategic plan and tactical execution for the 250 MBPD facility for safe, compliant and reliable production

- Executedproject that improved production from 180 MBPD to 250 MBPD for $40M (project payback 6 months)
- Served on a multi-disciplinary project team that installed new co-generation, additional low sulfur diesel capacity and several compliance projects
- During my tenure as superintendent and operations manager that facility was a pace setter in the "Solomon Survey" for net cash margin, availability and utilization (an average of 35% ROCE as a standalone facility)
- Represented ARCO as a strong corporate citizen through mutual aid agreements with nearby facilities and local fire departments and served as a board member for local United Way

1994 – 1999
Area Superintendent
Operations Superintendent for the following areas:

- Crude Unit and Light Ends Recovery
- Delayed Coker and Sulfur plant, including Amine and sour water strippers
- Utilities Area including Boilers, Nitrogen and Waste treatment facilities
- Hydroprocessing area including 60 MBPD hydrocracker, low sulfur diesel unit naphtha reformers and hydrogen plant production
- Tank farm and blending
- Calciner for aluminum industry

1979 – 1994
Process Operations/Operations Supervisor

Responsible for providing technical support, identifying and overcoming control/operating inefficiencies as well as

the delivery of daily safety and production plans

- Worked in every operational unit as well as qualified for all outside and board positions
- Developed and implemented the training and qualification for the site emergency response teams
- Developed and implemented technician progression program

Education and Experience

Certified Firefighter and Medic 2009 - Present
Training Officer for the City of Pasadena Fire Department

Massachusetts Institute of Technology Executive Leadership Program 2006
Developed key components of curriculum for operational excellence and risk management

Wharton Business School Executive Development Program 2002

Industrial Emergency Response & Incident Command Management Certified Instructor
Continuing Education & Training in Operations, Finance, and other business disciplines through City University and other Washington state colleges

STATE OF RHODE ISLAND
ENERGY FACILITY SITING BOARD

IN RE: SEA 3 PROVIDENCE, LLC PETITION FOR DECLARATORY ORDER REGARDING THE RAIL SERVICE INCORPORATION PROJECT (PROVIDENCE, RI)

DOCKET SB-2021-03

PRE-FILED TESTIMONY OF ROBERT CEPPI

November 12, 2021

Sea 3 Providence, LLC
Petition for Declaratory Order
Rail Service Incorporation Project
EFSB Docket SB-2021-03
Witness: Robert Ceppi

TESTIMONY OF ROBERT CEPPI – MPE INC.

1. Please state your name, business address, current employer and your position with that employer?
   Robert Ceppi, Principal Engineer with MPE, Inc with a business address of PO box 259 Hebron, Connecticut.
2. What are your current job duties?
   Oversee company operations, write proposals, assist in the design of new petroleum facilities and fire protection systems, project management, start up and testing of systems and facilities.
3. How long have you been with your current employer?
   30 years.
4. Prior to your current employer, have you worked for other entities in a similar capacity? If yes, please provide the name of your prior employers, the dates at which you worked there, your title at each place of employment and a brief description of your job duties.
   Previously and concurrently I worked at the Connecticut Yankee Nuclear power plant in Haddam Neck CT from 1987 thru 1996 as a contractor working primarily on Fire protection systems. My resume is attached as Exhibit 7.
5. Please provide your educational background and attach a copy of your CV to your testimony.
   Bachelor of science degree in civil engineering.
6. Do you hold any professional licenses or certifications? If so, please detail those licenses or certification and provide a description of any specialized training or education associated with obtaining and/or maintain those licenses.
   Professional engineer license in Rhode Island,
   Professional engineers license in Massachusetts,
   Professional engineers license in Connecticut,
   Professional engineers license in Maine,
   Professional engineers license in Vermont,
   Professional engineers license in New Hampshire,
   Professional engineers license in New York,
   Professional engineers license in New Jersey,
   Professional engineers license in Ohio,
   Professional engineers license in Illinois,
   Professional engineers license in Indiana
7. Are you required to participate in any continuing education as part of your profession? If yes, please describe what you are required to do to maintain compliance.

In order to maintain the professional license several states require 15 professional development hours (PDH) per year.

8. What professional experience do you have that is specific to the environmental impacts, risks, benefits, concerns, issue etc. with construction activities at a site with an environmental land use restriction in place?
   MPE has been designing petroleum facilities for approximately 30 years in compliance with environmental regulations to protect the lands from environmental contamination.
9. What professional experience do you have that is specific to the environmental impacts, risks, benefits, concerns, issue etc. with storm water management plans at a site with an environmental land use restriction in place?
   As part of the design and construction of petroleum facilities all these items are taken into consideration and have been over the years by MPE.
10. What professional experience do you have that is specific to the environmental impacts, risks, benefits, concerns, issue etc. with soil erosion, soil management and dust mitigation plans at a site with an environmental land use restriction in place?
    As a General contractor all these items are taken into consideration while constructing new petroleum facilities or during upgrades of existing facilities.
11. What professional experience do you have that is specific to the environmental impacts, risks, benefits, concerns, issue etc. with specific regard to the operation of an LPG terminal the nature of the Sea 3 Providence terminal?
    Over The past 30 years MPE has taken into consideration all codes and standards in regards to design, construction and operations of petroleum terminals.
12. Have you ever testified before a board, court or other tribunal as an environmental engineer for a project of a similar nature to the Rail Incorporation Project? If yes, please state when, what forum you testified before, a brief description of the project and subject matter of your testimony for each instance.
    On a regular basis I present design plans for upgrades or new facilities to local town boards such as conservation, zoning, and/or planning boards to obtain permits for construction.
13. What is your relationship with Sea 3 Providence and/or the large Blackline family of companies?
    To provide engineering consulting on the design aspects specifically and fire protection related areas.
14. How long have you worked with Sea 3 Providence and/or Blackline?
    a. In what capacity?
       I have worked with Sea3 and black line since the restart of the Providence Sea3 location as a consulting engineer in the fire protection discipline.
15. Are you familiar with the Property at issue in this matter and the surrounding area?
    Yes I am familiar with the property in the surrounding area. MPE has done engineering for several of the petroleum facilities in the Allens avenue area and Provport.

16. Were you involved in the modernization process of the current Sea 3 Providence terminal when they took over the Property? **Yes**
    a. What was the nature of that involvement?
       I worked with Sea3 on the fire protection aspects and with the local and State fire Marshalls to bring the facility up to code and acceptable standards.
17. What was your role in preparing the Site Report that was submitted in connection with this Petition for Declaratory Order?
    a. What sections did you draft or contribute to?
       The fire protection physical aspects.
    b. Are you incorporating the content contained in that document by reference into your written testimony?
       Yes
18. What will your role be with relation to the Rail Incorporation Project?
    To provide the fire protection design for the rail project upgrade and oversee the installation of such.
19. Did you draft the fire safety analysis submitted with the Site Report?
    I contributed to parts of the FSA submitted.
    a. Are you incorporating the content contained in that document by reference into your written testimony?
       Yes
20. Does the Rail Incorporation Project require significant revisions to the existing fire safety analysis?
    The FSA for the current operation will remain in place and a new FSA for the rail facility which is on a separate piece of property has been written and submitted to the authorities for review.
21. Does the Rail Incorporation Project have a significant impact on the existing safety concerns and inherent risks in the operation of the terminal?
    No
22. In your opinion, does the Rail Incorporation Project have a significant impact on a health, safety and welfare of the surrounding environment?
    No
    a. Why not?
       The rail expansion will be designed and constructed in accordance with the required standards and codes and regulations to help prevent any unsafe conditions and any adverse impacts on health safety and welfare of the surrounding environment. The public safety safeguards are substantially similar to what is in place at the existing site.
23. Can you please describe the gas line and storage container safety features?
    There are safety relief valves on the vessels and pipelines to prevent overpressurization. There will also be fire protection cooling water available to keep these items cool during fire conditions which will help reduce over pressurization.
24. How does the current fire safety analysis provide for tank and pipeline protection?
    The FSA describes the protection that is provided for the current facility.

a. Will there be significant changes to this aspect in connection with the Rail Incorporation Project?

The current facility high level of protection will remain the same.

25. What are the current ignition control procedures at the Property?

As required by codes and standards, ignition sources are controlled by proper construction and installation of components.

a. Will these significantly change as a result of the amended fire safety analysis?

No

26. Is there currently adequate water supply in case of an emergency on the site?

The water supply was tested by flowing hydrants in the area and determined there was adequate water to provide the protection needed for the rail facility.

a. Does this change significantly as a result of the rail incorporation project?

No

b. How does the fire safety analysis ensure adequate water supply?

The FSA provides the quantity of water that is required for the size of tanks that are being installed which is based on NFPA standards.

27. What changes will be made associated with the Rail Incorporation Project?

The rail facility will have the required fire protection features similar to the current facility and in addition to that there will be water available to cool surrounding propane tanks and rail cars.

a. Does any danger of a fire increase by virtue of the Rail Incorporation Project?

No

b. Does the Rail Incorporation Project significantly increase any chances of fire of such a nature that it poses a significant threat to the surrounding environment?

No

28. In your opinion, from a fire safety and public safety perspective, does the Rail Incorporation Project have a significant impact on the health, safety and welfare of the surrounding community as opposed to the current state of the terminal operation?

No

a. Why not?

The rail facility will be constructed in compliance with all codes and standards to ensure a safe facility and operation.

Exhibit 7

RESUME

ROBERT CEPPI

EDUCATION

B.S. Civil Engineering, Lowell Technological Institute, Lowell, Massachusetts 1976

PROFESSIONAL REGISTRATION

Professional Engineer License in multiple States:
MA, CT, RI, NH, ME, VT, NY, NJ, MI, OH, and IN

PROFESSIONAL AFFILIATIONS

Society of Fire Protection Engineers
National Fire Protection Association

CONTRACTOR LICENSE

Sprinkler Contractor License in Multiple States
Massachusetts, Rhode Island, Maine

PROFESSIONAL EXPERIENCE

MPE, INC.,
Professional Engineer/Project Manager

PETROLEUM

Duties include the supervision of all operations and divisions of MPE. Responsible for all engineering design work, which includes: the complete design of home heating oil bulk storage facilities; the design of all aspects of large marine storage terminals; upgrades of existing facilities; containment systems; automation systems; electrical systems; and fire protection systems. Project Manager for the General Contracting of the construction of complete new bulk storage facilities as well as expansion and upgrades of existing facilities. Review and assist all inspection work that includes API 653 tanks inspections as well as complete facility inspections and evaluations. Participate in site visits and development of Spill Prevention Controls and Countermeasures (SPCC) plans for all size facilities.

Specific projects include; a new 8 bay loading rack for Capital Terminals in East Providence, RI, various tank farm and loading rack upgrades at Motiva in Providence, RI; Design and construction of several retail oil storage bulk facilities including Irving Oil Facilities in Barre, VT; Charlestown, NH; Amherst, NH; and Ossipee, NH; Halle Oil in Manchester, NH; Roy Bros. in Fitzwilliam, NH; Pioneer Oil in Sturbridge; MA; Parente Oil in Coventry; RI, McKinstry Oil in Southbridge, MA; Peterson Oil in Worcester, MA; Leominster Ice and Oil in Leominster, MA; Bemis & Hobbs in Spencer, MA; Crowley Fuels in N. Brookfield, MA; Express Oil in Waterbury, CT; Superior Oil in Millbury, MA; and Fraticelli Oil in Leominster, MA. MPE also performed recent modifications and

upgrades at Irving Oil in Concord, NH to daylight piping and installed a liner system within an earthen containment berm.

Design and erection of API 650 Aboveground Storage Tanks (AST's) of all sizes and materials including stainless steel.

Represent clients at various town meetings and with authorities having jurisdiction to assist in the approval process of permitting for bulk storage and distribution facilities.

FIRE PROTECTION

Responsible for a variety of fire protection design and installation projects for MPE and for several Sprinkler Contractors, Architectural/ Engineering Firms, Building Owners, and Fossil and Nuclear Power Plants.

Projects include: High Rise Buildings; Renovations of existing structures; Manufacturing plants; Warehouses; Rack sprinklers; Power plants; Office buildings; Hospitals; Nursing homes; Schools; Condominiums; and Residential applications. These projects include the design of: Water supplies; Fire pumps; Standpipes; Wet and Dry Sprinkler Systems; Preaction and Deluge Systems; and special extinguishing systems using such agents as Foam, Carbon Dioxide, and Dry Chemical.

Specific projects include: Upgrade and expansion of the fire protection system at Northeast Petroleum in New Haven that included new fire pumps, water distribution, and monitor nozzles for the tank farm, upgrade of the foam system at the truck loading rack, and remote control water cannons for the marine dock. Complete new foam deluge system for the truck loading rack at Gulf Oil in Chelsea, MA; and sprinkler modifications for tenant fit-outs for several general contractors.

Experience also includes: Complete fire alarm systems for both activation and monitoring of fire protection systems; The construction of fire barriers and maintaining their integrity, including the use of fire doors, fire dampers, penetration seals, and water curtains; Review of Life Safety code requirements; Testing and Inspection of fire protection equipment and systems; Inspection and loss prevention surveys of buildings and property; Code compliance reviews; Analysis of insurance company reports and recommendations to resolve noted deficiencies with economical and/or alternative solutions; Assist building owners with code compliance issues and act as a liaison to code officials.

IMPELL CORPORATION, Lead Senior Engineer

Systems Engineering Division overseeing a variety of Fire Protection projects at several different Nuclear power plants in New England. The Size of these projects ranged from $60,000.00 to $600,000.00 with supervision of up to 17 employees. The overall objective of all tasks was to insure that the applicable Fire Protection codes and Regulations set by the Nuclear Regulatory Commission were met to the letter of the law.

CONTAINER CORPORATION OF AMERICA, Safety Manager

Division Manager of Safety for the Shipping Container Division overseeing 29 corrugating box plants with responsibilities covering: fire protection, boiler and machinery, safety, industrial hygiene, workers compensation, insurance and security. Also worked as Corporate Fire Protection Engineer overseeing all CCA facilities, which included paper mills and paperboard plants. One project included was a remote controlled monitor system to protect a paper storage yard at a paper mill in Los Angeles.

OWENS - ILLINOIS, INC., Fire Protection Specialist

Employed as a Fire Protection Specialist in the Risk Management Department overseeing all existing, proposed and modified Owens-Illinois plants, warehouses and other facilities. Some of the responsibilities included: design of all fire protection systems; investigating the adequacy of protection against fire, windstorm, lightning, explosion, flood, flammable liquids, and other contingencies; review and correspond on safety inspection reports; and investigation of losses.

INDUSTRIAL RISK INSURERS, Fire Protection Engineer

Employed as a Fire Protection Engineer conducting loss prevention surveys at all types of risks which would entail: testing and operability of fire protection systems; preparing detailed reports on deficiencies found; and providing practical and economical recommendations on how to resolve deficiencies.