



May 2, 2019

Ms. Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Washington, D.C. 20426

Re: *Jordan Cove Energy Project L.P.*
Docket No. CP17-495-000
Supplemental Information

Dear Ms. Bose:

On September 21, 2017, Jordan Cove Energy Project L.P. (“JCEP”) filed an application pursuant to Section 3(a) of the Natural Gas Act, as amended,¹ and Parts 153 and 380 of the regulations of the Federal Energy Regulatory Commission (“Commission”),² for authorization to site, construct, and operate certain liquefied natural gas facilities (“LNG Terminal”). JCEP provides supplemental information related to certain minor modifications to components of the LNG Terminal in the attachment hereto.

Should you have any questions, please contact me at neades@pembina.com or 832-255-3841.

Sincerely,

/s/ Natalie Eades
Natalie Eades
Jordan Cove Energy Project L.P.

Enclosures

cc: John Peconom (FERC)
John Crookston (Tetra Tech)

¹ 15 U.S.C. § 717b(a) (2012).

² 18 C.F.R. Pts. 153 and 380 (2018).



SUPPLEMENTAL RESOURCE REPORT
JCEP LNG Terminal Project
Docket No. CP17-495-000
J1-000-RGL-RPT-JCL-00017-00 Rev A



JORDAN COVE ENERGY PROJECT L.P.

RESOURCE REPORT SUPPLEMENT

FERC DOCKET NO. CP17-495-000

May 2019

CONTENTS

OVERVIEW AND DESCRIPTION	4
RESOURCE REPORT 1 – GENERAL PROJECT DESCRIPTION.....	5
1.3.8.13 Electrical Systems	5
RESOURCE REPORT 13 - ENGINEERING AND DESIGN MATERIAL.....	5
13.28 Electrical.....	5
13.28.1 Electrical System Design	5
13.28.1.1 Power Requirements	6
13.28.1.2 Main Power Supply, Utility/Generated.....	6
13.28.1.3 Electrical Equipment Layout Drawings.....	6
13.28.1.4 Cable Routing Drawings	6
13.28.1.5 Main Power Generators Type	6
13.28.1.6 Number of Main Power Generators, including Black-start Generators	6
13.28.1.7 Main Power Supply Voltage.....	6
13.28.1.8 Main Power Supply Capacity	7
13.28.1.9 Emergency Power Supply, Utility/Generated	7
13.28.1.10 Emergency Power Generators Type.....	7
13.28.1.11 Number of Emergency Power Generators	7
13.28.1.12 Emergency Power Voltage	7
13.28.1.13 Emergency Power Capacity.....	7
13.28.1.14 UPS Services, Voltage, Size, and Capacity	7
13.28.1.15 Transformer Type	7
13.28.1.16 Number of Transformers.....	7
13.28.1.17 Electrical Distribution System.....	7
13.28.1.18 Distribution and Voltage Levels.....	7
13.28.1.19 Uninterruptible Power Supply and Battery Backup Systems	8
13.28.1.20 Electrical Cable Schedule/List.....	8
13.28.1.21 Electrical Cable Design and Specification.....	8
13.28.1.22 Cathodic Protection	8
13.28.1.23 Hazard Area Classifications.....	8
13.28.1.24 Ignition Control Setbacks and Separations	8
13.28.1.25 Electrical Pass-through Seals and Vents to the Atmosphere	8

ACRONYMS

DEIS	Draft Environmental Impact Statement
FERC	Federal Energy Regulatory Commission; also Commission
HRSG	Heat Recovery Steam Generator
JCEP	Jordan Cove Energy Project, L.P.
kV	Kilovolts
LNG	Liquefied Natural Gas
LV	Low Voltage
MW	Megawatts
MV	Medium Voltage
PCGP	Pacific Connector Gas Pipeline, LP
SORSC	Southwest Oregon Regional Safety Center
STG	Steam Turbine Generator
UPS	Uninterruptible Power System

OVERVIEW AND DESCRIPTION

Jordan Cove Energy Project L.P. (“JCEP”) is seeking authorization from the Federal Energy Regulatory Commission (“FERC” or “Commission”) under Section 3 of the Natural Gas Act to site, construct, and operate a natural gas liquefaction and liquefied natural gas (“LNG”) export facility (“LNG Terminal”), located on the bay side of the North Spit of Coos Bay, Oregon. JCEP will design the LNG Terminal to receive a maximum of 1,171 Million Standard Cubic Feet Per Day of natural gas and produce a maximum of 7.8 million tons per annum of LNG for export. The LNG Terminal will turn natural gas into its liquid form via cooling to about -260°F, and in doing so it will reduce in volume to approximately 1/600th of its original volume, making it easier and more efficient to transport.

In order to supply the LNG Terminal with natural gas, Pacific Connector Gas Pipeline, LP (“PCGP”) is proposing to contemporaneously construct and operate a new, approximately 235-mile-long, 36-inch-diameter natural gas transmission pipeline from interconnections with the existing Ruby Pipeline LLC and Gas Transmission Northwest LLC systems near Malin, Oregon, to the LNG Terminal (“Pipeline,” and collectively with the LNG Terminal, the “Project”).

This Supplemental Resource Report (“Supplemental Report”) includes details of Project design enhancements for the power generation system of the proposed LNG Terminal described in the FERC Application documents filed as part of Docket No. CP17-495-000. During detailed design, JCEP will implement the minor modification described in this Supplemental Report without increasing the overall environmental impacts associated with the Project. This Supplemental Report maintains the section numbers and section headings of the original Resource Reports. As a result, section numbers in this Supplemental Report may not be sequential. Text included in this Supplemental Report is intended to update the sections of the original Resource Reports that have corresponding section numbers and headings.

These design enhancements will maintain or reduce the duty of the Heat Recovery Steam Generators (“HRSGs”) and Auxiliary Boiler and therefore will not result in additional environmental impacts for air quality and noise compared to those described in information filed in FERC Docket CP17-495-000 and in FERC’s Draft Environmental Impact Statement for the Project”, issued March 29, 2019 (“DEIS”). While the power supply is modified, the LNG Terminal layout and operations will not change, and, as a result, the reliability and safety analysis presented in the DEIS will not be affected. The import power feeder described in this Supplemental Report will be routed within the footprint of the LNG Terminal facilities displayed on Figure 2.1-2 of the DEIS; therefore, there will be no additional impacts to geological; soil and sediment; water and wetland; upland vegetation; wildlife and aquatic; threatened, endangered, and other special status species; land use; recreation and visual; socioeconomic; transportation; and cultural resources beyond those documented in the DEIS. The engineering documentation detailing these design enhancements will be submitted to FERC prior to construction of final design.

RESOURCE REPORT 1 – GENERAL PROJECT DESCRIPTION

1.3.8.13 Electrical Systems

JCEP plans to obtain power from the regional electric grid for the Southwest Oregon Regional Safety Center (SORSC) and temporary construction activities as described in Section 1.9. A portion of the electric power for operations of the LNG Terminal facilities will be generated on-site with the balance imported from the regional electric grid owned and operated by PacifiCorp (“Pacific Power”). Pacific Power distributes electric power to other industrial users within the region including the Roseburg Forest Products Company, Southport Lumber Company, LLC and DB Western. No means for exporting power to the grid are considered in the LNG Terminal design.

The total power requirements for the LNG Terminal are 39.2 MW (holding mode) and 49.5 MW (loading mode). Electric power will be via three on-site steam turbine generators (“STGs”) generating up to a total maximum of 24.4 MW and imported power capacity ranging from 15 to 26 MW. The steam for the STGs is efficiently generated by HRSGs using exhaust from the refrigerant compressor combustion turbine drivers. The rated electric output of the STGs will be finalized during the detail design phase of the Project. An auxiliary boiler will be used to generate steam for power when gas turbines are not in operation.

Imported electric power to the LNG Terminal will be provided via an underground 12.47 kV connection point at the north-east corner of the South Dunes site. The 12.47 kV feeder will then be routed underground from the connection point through the South Dunes site and the Access and Utility Corridor to the Auxiliary Powerhouse Enclosure located to the north of Ingram Yard near the STGs. The approximate length of the underground cable run is 10,500 feet through the LNG Terminal property.

Two medium voltage (“MV”) switchgear buses within the Auxiliary Powerhouse Enclosure will be connected to the STGs and the 12.47 kV power supply, MV switchgear breakers and capacitor banks will be provided at the switchgear to integrate the import power feeder. The MV buses will feed a plant distribution 12.47 kV switchgear, 6.9 kV switchgear and motor control center, and 480-volt switchgears and motor control center buses located throughout the plant.

Black start power supply for the STGs will be available from the grid. However, during the detail design phase of the Project, JCEP will consider installing one standby diesel generator to provide redundant black start power supply. There are two standby diesel generators for the SORSC.

RESOURCE REPORT 13 - ENGINEERING AND DESIGN MATERIAL

13.28 Electrical

13.28.1 Electrical System Design

Information on the electrical design is provided in the Electrical Basis of Design (J1-000-ELE-BOD-KBJ-50001-00) included in Appendix B.13.1, the Electrical Power Generation Study and System Description (J1-000-ELE-RPT-KBJ-50001-00) included in Appendix B.13.2, the Electrical Specifications included in Appendix F.13.3, and the electrical design information included in Appendix N.13.

Updated engineering documentation detailing the final design electric power generation and distribution system will be submitted to FERC prior to construction of final design.

13.28.1.1 Power Requirements

No change.

13.28.1.2 Main Power Supply, Utility/Generated

JCEP will generate up to a total maximum of 24.4 MW of electric power on-site via three STGs and import the balance of electric power, up to 26 MW, from the local electrical distribution facility owned and operated by Pacific Power. More information on the main power supply is provided in the Electrical Basis of Design (J1-000-ELE-BOD-KBJ-50001-00) included in Appendix B.13.1 and the Electrical Power Generation Study and System Description (J1-000-ELE-RPT-KBJ-50001-00) included in Appendix B.13.2.

Updated engineering documentation detailing the final design electric power generation and distribution system will be submitted to FERC prior to construction of final design.

13.28.1.3 Electrical Equipment Layout Drawings

No change.

13.28.1.4 Cable Routing Drawings

No change.

13.28.1.5 Main Power Generators Type

The main on-site power generators are STGs driven by steam generated by HRSG units located at each liquefaction train by an auxiliary boiler during black-start, or by a combination of HRSGs and auxiliary boiler when two or more HRSGs are offline for maintenance. The balance of electric power required for normal operation of the LNG Terminal will be imported from the local electrical distribution facility owned and operated by Pacific Power.

13.28.1.6 Number of Main Power Generators, including Black-start Generators

The LNG Terminal electrical system will be supplied from three STGs, up to a total maximum of 24.4 MW, and imported from the local electrical distribution facility owned and operated by Pacific Power, up to 26 MW. With import power available, standby diesel generators are not required. JCEP will consider installing one standby diesel generator to provide redundant black start power supply for the STGs pending the outcome of a power grid transmission reliability study that will be completed during the detail design phase of the Project.

More information on the main power generators is provided in the Electrical Power Generation Study and System Description (J1-000-ELE-RPT-KBJ-50001-00) included in Appendix B.13.2 and the MV & Low Voltage ("LV") One-Line Diagrams included in Appendix N.13.3.

Updated engineering documentation detailing the final design electric power generation and distribution system will be submitted to FERC prior to construction of final design.

13.28.1.7 Main Power Supply Voltage

Each STG will produce electricity at 12.47 kV. Imported electric power from the local electrical distribution facility will be provided at 12.47 kV.

13.28.1.8 Main Power Supply Capacity

No change.

13.28.1.9 Emergency Power Supply, Utility/Generated

No change.

13.28.1.10 Emergency Power Generators Type

No change.

13.28.1.11 Number of Emergency Power Generators

No change.

13.28.1.12 Emergency Power Voltage

No change.

13.28.1.13 Emergency Power Capacity

No change.

13.28.1.14 UPS Services, Voltage, Size, and Capacity

No change.

13.28.1.15 Transformer Type

No change.

13.28.1.16 Number of Transformers

No change.

13.28.1.17 Electrical Distribution System

The power distribution system will include: a 12.47 kV electrical system for the plant main supply, a 6.9 kV electrical system to supply the plant's MV loads, a 480 V/motor control center electrical system to supply the plant's LV loads, a UPS system, and direct current battery systems. More information on the electrical distribution system is provided in the Electrical Basis of Design (J1-000-ELE-BOD-KBJ-50001-00) included in Appendix B.13.1, the Electrical Power Generation Study and System Description (J1-000-ELE-RPT-KBJ-50001-00) included in Appendix B.13.2, the Electrical Load List (J1-000-ELE-LST-KBJ-50001-00) included in Appendix N.13.1, and the MV & LV One-Line Diagrams included in Appendix N.13.3.

Updated engineering documentation detailing the final design electric power generation and distribution system will be submitted to FERC prior to construction of final design.

13.28.1.18 Distribution and Voltage Levels

Information on the electrical distribution and voltage levels is provided in the Electrical Basis of Design (J1-000-ELE-BOD-KBJ-50001-00) included in Appendix B.13.1, the Electrical Power Generation Study and System Description (J1-000-ELE-RPT-KBJ-50001-00) included in Appendix B.13.2, the Electrical Load List (J1-000-ELE-LST-KBJ-50001-00) included in Appendix N.13.1, and the MV & LV One-Line Diagrams included in Appendix N.13.3.

Updated engineering documentation detailing the final design electric power generation and distribution system will be submitted to FERC prior to construction of final design.

13.28.1.19 Uninterruptible Power Supply and Battery Backup Systems

No change.

13.28.1.20 Electrical Cable Schedule/List

No change.

13.28.1.21 Electrical Cable Design and Specification

Information on the electrical cable design is provided in the Electrical Basis of Design (J1-000-ELE-BOD-KBJ-50001-00) included in Appendix B.13.1, and relevant electrical specifications included in Appendix F.13.3.

Updated engineering documentation detailing the final design electric power generation and distribution system will be submitted to FERC prior to construction of final design.

13.28.1.22 Cathodic Protection

No change.

13.28.1.23 Hazard Area Classifications

No change.

13.28.1.24 Ignition Control Setbacks and Separations

No change.

13.28.1.25 Electrical Pass-through Seals and Vents to the Atmosphere

No change.

CERTIFICATE OF SERVICE

I hereby certify that I have this 2nd day of May, 2019, served the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding.

/s/ Victoria R. Galvez _____
Victoria R. Galvez
Attorney for
Jordan Cove Energy Project L.P.