

1.0 INTRODUCTION

1.1 PROJECT SUMMARY

On May 21, 2013, Jordan Cove Energy Project, L.P. (Jordan Cove)¹ filed an application for its liquefaction project with the Federal Energy Regulatory Commission (FERC or Commission) under Section 3 of the Natural Gas Act (NGA). Pacific Connector Gas Pipeline, LP (Pacific Connector)² filed its companion application with the FERC for the supply pipeline to Jordan Cove's liquefied natural gas (LNG) terminal under Section 7 of the NGA on June 6, 2013. The FERC issued a Notice of Application for the Jordan Cove Liquefaction Project on May 30, 2013, and a Notice of Application for the Pacific Connector Pipeline Project was issued on June 19, 2013. Hereafter in this environmental impact statement (EIS), Jordan Cove and Pacific Connector are also referred to as the applicants, and their inter-related proposals are collectively referred to as the Jordan Cove Energy and Pacific Connector Gas Pipeline (JCE & PCGP) Project, or the Project.³

In Docket No. CP13-483-000, Jordan Cove seeks authorization to construct and operate a new LNG export terminal in Coos County, Oregon. The terminal would be capable of receiving natural gas, processing that gas, liquefying the gas into LNG, storing the LNG, and loading the LNG onto vessels at its marine dock. Jordan Cove requested Commission approval to produce up to 6 million metric tons per annum (MMTPA) of LNG, using a supply of approximately 0.9 billion cubic feet per day (Bcf/d) of natural gas.

In Docket No. CP13-492-000, Pacific Connector seeks a Certificate of Public Convenience and Necessity (Certificate) to construct and operate a new 232-mile-long, 36-inch-diameter natural gas transmission pipeline, crossing through Klamath, Jackson, Douglas, and Coos Counties, Oregon. The pipeline would be designed to transport approximately 1.06 Bcf/d from interconnections with the existing Ruby Pipeline LLC (Ruby)⁴ and Gas Transmission Northwest LLC (GTN) systems near Malin, Oregon. The design assumes that about 0.04 Bcf/d would be delivered to the Pacific Connector Clarks Branch Meter Station in Douglas County, while 1.02 Bcf/d would be reserved for delivery to the Jordan Cove Meter Station at the Coos Bay terminus of the pipeline in Coos County.

Pacific Connector also requested a blanket certificate to allow for future construction, operation, and abandonment activities under Subpart F of Title 18 Code of Federal Regulations (CFR) Part 157 of the Commission's regulations, and requested a blanket certificate to provide open-access

¹ Seventy-five percent of Jordan Cove is controlled by Jordan Cove LNG LP, a Delaware limited partnership that is a subsidiary of Veresen Inc. (Veresen), and 25 percent is controlled by Energy Projects Development LLC, a Colorado limited liability company owned by private investors. See Jordan Cove's April 23, 2014 filing with the FERC in Docket No. CP13-483-000.

² Pacific Connector is a joint venture between Veresen and the Williams Companies Inc. (Williams), with Williams Pacific Connector Gas Operator LCC as the manager and operator of the pipeline.

³ Individually, the Jordan Cove proposal is referred to as the Jordan Cove Liquefaction Project, Jordan Cove LNG terminal, Jordan Cove Project, or Jordan Cove facilities; the Pacific Connector proposal may be referenced similarly, as the Pacific Connector Pipeline Project, Pacific Connector pipeline, or pipeline project.

⁴ Veresen, the partner who owns portions of Jordan Cove and Pacific Connector, recently acquired a 50 percent stake in the Ruby Pipeline; see Natural Gas Intelligence, 29 September 2014, "Veresen Sees New Ruby Pipeline Stake as Upside for Jordan Cove LNG."

transportation services under its tariff in accordance with Subpart G of Part 284. Requests for these future actions performed under the blanket program are restricted to minor actions and would be filed as prior notices or in annual reports that would be subject to individual environmental reviews by FERC staff in accordance with Part 157.206.

The FERC is the federal agency responsible for authorizing onshore LNG terminals and interstate natural gas transmission facilities, as specified in Section 311(e)(1) of the Energy Policy Act of 2005 (EPAAct) and the NGA. For the JCE & PCGP Project, in accordance with Section 313(b)(1) of the EPAAct, the FERC is the lead federal agency for the coordination of all applicable federal authorizations, and is also the lead federal agency for preparation of this EIS in compliance with the requirements of the National Environmental Policy Act of 1969 (NEPA), as outlined in the Council on Environmental Quality (CEQ) regulations for implementing the NEPA (40 CFR Parts 1500-1508).

The United States (U.S.) Department of Agriculture Forest Service (Forest Service) Pacific Northwest Region; U.S. Army Corps of Engineers (COE) Portland District; U.S. Department of Energy (DOE); U.S. Environmental Protection Agency (EPA) Region 10; U.S. Department of Homeland Security Coast Guard (Coast Guard) Portland, Sector Columbia River; U.S. Department of the Interior Bureau of Land Management (BLM) Oregon State Office, Bureau of Reclamation (Reclamation) Klamath Basin Area Office, and Fish and Wildlife Service (FWS) Oregon State Office; and the Pipeline and Hazardous Materials Safety Administration (PHMSA) within the U.S. Department of Transportation (DOT) are cooperating agencies, as defined in 40 CFR Part 1501.6, for the development of this EIS. A cooperating agency has jurisdiction by law or special expertise with respect to environmental impacts involved with the proposal, and can participate in the NEPA analysis.

The Forest Service, COE, DOE, EPA, BLM, Reclamation, FWS, and DOT are cooperating in a manner consistent with an interagency agreement signed in May 2002 with the FERC regarding early coordination of required environmental and historic preservation reviews of interstate natural gas pipeline facilities.⁵ The Coast Guard and DOT are also cooperating with the FERC under the terms of a February 2004 interagency agreement for review of LNG facilities.⁶ The purpose and scope of the actions of the federal cooperating agencies with regards to the review of this Project are further summarized in sections 1.4.2 and 1.4.3 below. Together with the cooperating agencies, it is the intent of the FERC to produce an EIS that satisfies the requirements of the NEPA. Prior to issuance of this EIS, the cooperating agencies had opportunities to review preliminary and administrative drafts and comment to the FERC.

While the FERC authorizes the siting, construction, and operation of onshore LNG terminals, authorization to export LNG to foreign countries is granted by the DOE's Office of Fossil Energy. The DOE authorized Jordan Cove to export LNG to free trade agreement (FTA) nations

⁵ May 2002 Interagency Agreement on Early Coordination of Required Environmental and Historic Preservation Reviews Conducted in Conjunction With the Issuance of Authorizations to Construct and Operate Interstate Natural Gas Pipelines Certificated by the Federal Energy Regulatory Commission, signed by the FERC, Advisory Council on Historic Preservation, CEQ, EPA, Department of the Army, Department of Agriculture, Department of Commerce, DOE, Department of the Interior, and DOT.

⁶ February 2004 Interagency Agreement Among the Federal Energy Regulatory Commission, United States Coast Guard, and Research and Special Programs Administration for the Safety and Security Review of Waterfront Import/Export Liquefied Natural Gas Facilities.

in 2011, and authorized the export of LNG to non-FTA nations in March 2014.⁷ The purpose and need for the DOE actions are further summarized below in section 1.4.3.3.

The BLM and Forest Service would use this EIS in their assessments of amendments they are considering to their land management plans (LMP) for the Coos Bay, Roseburg, Medford, and Lakeview Districts, and for Umpqua, Rogue River, and Winema National Forests, to allow for the Pacific Connector Pipeline. In addition, the BLM would use this EIS when considering the issuance of a Right-of-Way Grant to Pacific Connector for a pipeline easement over federal lands, with concurrence from the Forest Service and Reclamation (as further discussed below in sections 1.5.2 and 4.1.3.4).

1.1.1 Background

Natural gas, which is primarily methane (CH₄), is a naturally occurring fossil fuel that is used for a variety of purposes, including industrial, electric generation, home heating and cooking, and in some cases as a fuel for motor vehicles. Natural gas is obtained from underground sources and transported in pipelines from its place of production to customers. In the United States, the interstate transportation of natural gas via pipelines and its storage as LNG⁸ are regulated by the FERC. Domestic exploration, production, gathering, and intrastate transportation of natural gas, including local distribution pipeline networks to individual consumers, are activities regulated by the states.

LNG is natural gas that has been cooled to about -260 degrees Fahrenheit (°F), which turns the gas into a liquid. As a liquid, LNG is about 600 times more compact than its equivalent amount of gas vapors. Once liquefied, it can then be stored in cryogenic containers, and transported great distances overseas between natural gas producing countries and consumers using specially designed ships. After receipt at an import terminal, the LNG can be warmed and vaporized back into a gaseous state.

On September 4, 2007, Jordan Cove, in Docket No. CP07-444-000, filed an application with the FERC to construct and operate an LNG import terminal at Coos Bay, Oregon. That same day, Pacific Connector, in Docket No. CP07-441-000, filed an application with the FERC to construct and operate a 234-mile-long, 36-inch-diameter natural gas sendout pipeline connecting the Jordan Cove LNG import terminal with existing natural gas transportation systems, including the facilities of Northwest Pipeline GP (Northwest), Avista Corporation (Avista), GTN, Tuscarora Gas Transmission Company (Tuscarora), and Pacific Gas and Electric Company (PG&E). The purpose of the Jordan Cove LNG import terminal was to provide new sources of natural gas to the West Coast of the United States. It was Pacific Connector's original intent to transport those additional supplies of natural gas from the Jordan Cove terminal to markets in Oregon, California, and Nevada. In May 2009, the FERC produced a final EIS (FEIS) for Docket Nos. CP07-441-000 and CP07-444-000. The Commission authorized both the Jordan Cove LNG

⁷ The DOE issued its *Order Granting Long-Term Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel from the Jordan Cove LNG Terminal to Free Trade Agreement Nations* on December 7, 2011 in FE Docket No. 11-127-LNG. On March 24, 2014, DOE issued its *Order Conditionally Granting Long-Term Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel From the Jordan Cove LNG Terminal in Coos Bay, Oregon to Non-Free Trade Agreement Nations* in Docket No. 12-32-LNG (DOE/FE Order No. 3413).

⁸ LNG storage in cryogenic tanks for domestic pipeline transportation, not an import or export terminal, is referred to as a "peak shaving plant."

import terminal and the Pacific Connector sendout natural gas pipeline in an *Order Granting Authorizations Under Section 3 of the Natural Gas Act and Issuing Certificates* on December 17, 2009.

On April 16, 2012, the Commission issued an *Order Granting Rehearing in Part, Dismissing Request for Stay, and Vacating Certificate and Section 3 Authorizations* that vacated the authorizations for both the Jordan Cove LNG import terminal in Docket No. CP07-444-000 and the associated Pacific Connector sendout pipeline in Docket No. CP07-441-000. The Commission vacated the authorizations because the LNG import purpose for the project was no longer feasible.⁹

Despite the vacation of Jordan Cove's LNG import proposal and the associated Pacific Connector sendout pipeline, including the public records supporting its original December 17, 2009 authorizations, the Commission held that portions of our¹⁰ FEIS produced in May 2009 could still be valid for re-use. As stated in footnote 36 on page 11, Section IV of the April 16, 2012 Commission Order: "Depending on the details of the proposed project, it is possible that portions of the environmental information and analysis developed in conjunction with the import terminal may remain viable for resubmission and use for the contemplated export terminal and associated pipeline facilities."¹¹ Therefore, where applicable, this current EIS references information from the May 2009 FEIS.

On February 29, 2012, Jordan Cove requested that the FERC consider initiating the environmental pre-filing process for its liquefaction project. The FERC accepted that request on March 6, 2012, and assigned Docket No. PF12-7-000 to the Jordan Cove LNG export proposal. On June 7, 2012, Pacific Connector filed its revised request to initiate the FERC's environmental pre-filing process for its newly proposed pipeline project. The FERC accepted that request on June 8, 2012, assigning Docket No. PF12-17-000 to the new Pacific Connector pipeline proposal. The public scoping activities that were part of the FERC's pre-filing process, including consultations with stakeholders, are described in section 1.6 below.

1.1.2 Current Proposals

The proposed action analyzed in this EIS includes the activities outlined in Jordan Cove's and Pacific Connector's applications to the FERC. The Commission and cooperating agencies would consider the potential environmental impacts of the applicants' proposals as disclosed in this EIS prior to making their decisions.

The main jurisdictional facilities associated with Jordan Cove's LNG export terminal include:

- access channel from the existing Coos Bay navigation channel to the terminal marine slip;
- marine slip, with a berth for one LNG vessel on the east side and a berth for tug boats on the north side;

⁹ 139 FERC § 61,040, Section IV., page 7, paragraph 20.

¹⁰ The pronouns "we," "us," and "our" refer to the environmental staff of the FERC's Office of Energy Projects (OEP). In addition, we consider the staffs of our third-party environmental contractor, and the federal cooperating agencies and their contractors who are participating in the production of this EIS to be an extension of the FERC staff.

¹¹ 139 FERC § 61,040

- LNG loading system, consisting of three 16-inch-diameter loading arms and one 16-inch-diameter vapor return arm, with a peak capacity of 12,000 cubic meters per hour (m³/hr), installed on a shore-side platform;
- LNG transfer line, consisting of one 2,300-foot-long, 36-inch-diameter cryogenic pipeline, from the storage tanks to the LNG vessel berth;
- LNG storage system, consisting of two full-containment LNG storage tanks, each with a net capacity of 160,000 m³ (1,006,000 barrels), and each equipped with two fully submerged LNG in-tank pumps sized for approximately 11,600 gallons per minute (gpm);
- boil-off gas (BOG) recovery system, used to control the pressure in the LNG storage tanks, consisting of three cryogenic centrifugal BOG compressors, each rated for approximately 10,160 actual cubic feet per minute (ACFM);
- four natural gas liquefaction trains, each with the export capacity of 1.5 MMTPA of LNG;
- refrigerant storage and resupply system, comprised of a total of three horizontal storage bullets, each holding one of the three hydrocarbon refrigerants (ethylene, propane, and isopentane) that provide make-up to the single mixed refrigerant cryogenic loop;
- aerial cooling system (Fin-Fan), to reject heat removed during the LNG liquefaction process;
- emergency vent system and ground flare, LNG spill containment system, fuel gas, nitrogen, instrument/plant air systems, electrical and lighting systems, service water system, fire water ponds and fire water delivery system, operational controls, and various hazard detection and prevention systems;
- utility corridor, about 1 mile long and 150 feet wide, between the LNG terminal and the South Dunes Power Plant, including a 230-kilovolt (kV) transmission line and access road; and
- a pipeline gas conditioning facility, consisting of two feed gas cleaning and dehydration trains with a combined natural gas throughput of approximately 1 Bcf/d; and
- other security and control facilities, administrative buildings, and support structures associated with the terminal.

The non-jurisdictional facilities associated with the Jordan Cove's LNG export terminal would include:

- South Dunes Power Plant, consisting of a nominal 420-megawatt (MW) natural gas-fired combined cycle electric generating system and heat recovery steam generator units;
- Southwest Oregon Regional Security Center (SORSC); and
- other security and control facilities, administrative buildings, and support structures associated with the power plant.

The main jurisdictional natural gas pipeline facilities proposed by Pacific Connector include:

- a 232-mile-long,¹² 36-inch-diameter welded steel underground pipeline, capable of transporting about 1.07 Bcf/d of natural gas from interconnections with existing supply pipelines near Malin;

¹² The total length of the pipeline does not match the mileposts (MP), which have been retained from the original route proposed in Docket No. CP07-441-000. Where realignments have been adopted into the proposed route, the

- the Klamath Compressor Station, with one new compressor rated at 41,000 International Organization for Standardization (ISO) horsepower (hp), and one additional standby unit of 20,500 ISO hp, at the eastern beginning of the pipeline, about milepost (MP) 228.1;
- four meter stations, including the Klamath-Beaver Meter Station and Klamath-Eagle Meter Station co-located within the Klamath Compressor Station tract, the Clarks Branch Meter Station at MP 71.5, and the Jordan Cove Meter Station at MP 1.5R;
- five pig¹³ launcher or receiver units, co-located with other aboveground facilities;
- 17 mainline block valves (MLV); and
- a gas control communication system, including 11 radio towers, co-located at other facilities.

The non-jurisdictional facilities associated with the Pacific Connector Pipeline Project include electric lines to the meter stations and compressor station.

The general location of facilities proposed by Jordan Cove and Pacific Connector, as well as the extent of various land-ownerships, are shown on figure 1.1-1. The facilities are more fully described in section 2.1 of this EIS.

1.1.3 Major Differences Between the Original and Current Proposals

The major difference between Jordan Cove's original proposal in Docket No. CP07-444-000 and its current proposal in Docket No. CP13-483-000 is the change from an LNG import terminal to an export terminal based on changes since 2007 in the availability of domestic natural gas. The switch to LNG export rather than import resulted in some design changes at the terminal. For example, the vaporizers which were critical elements for an LNG import terminal would be unnecessary at an export terminal, and instead would be replaced by liquefaction trains, and the addition of refrigerant resupply and storage, and aerial cooling system. The natural gas liquids extraction facility for the LNG import proposal in Docket No. CP07-444-000 would not be necessary for the export proposal, and would be replaced by a pipeline natural gas processing plant.

While the waterway for LNG marine traffic is the same, the number of LNG vessels visiting the terminal is expected to increase from 80 vessels per year in the import proposal to 90 vessels per year for the export project. The slip for the export terminal is being redesigned to incorporate a new open cell technology sheet pile berth on the east side for LNG vessels. The new berth design would eliminate many of the previously proposed pilings to be installed in the slip.

MPs are designated with an "R." In addition, the MPs are reversed, numbered from west to east, again as a reflection of the engineering design for the original pipeline for the vacated LNG import project. Now, in Docket No. CP13-492-000, the Pacific Connector pipeline would begin at the Klamath Compressor Station at MP 228.1 and terminate at the Jordan Cove Meter Station at MP 1.5R.

¹³ A pig is an internal pipeline cleaning and inspection tool.



Figure 1.1-1
General Location of Proposed Facilities

Two excavated and dredged material disposal areas associated with the original LNG import terminal proposal would be eliminated from the current LNG export terminal proposal. This includes elimination of the Jordan Cove Excavated Material Stockpile Site on the north side of the LNG terminal, because those materials would now be placed at the former Weyerhaeuser linerboard mill site, where the newly planned South Dunes Power Plant would be located, about 1 mile east of the liquefaction facility. The firewater ponds for the LNG export terminal would now be relocated to the former site of the Jordan Cove Excavated Material Placement Site within the terminal tract. The Port Commercial Sand Stockpile Site and the slurry pipeline between the terminal and the stockpile site, proposed in Docket No. CP07-444-000, would also be eliminated for the export project, as the materials dredged during construction of the access channel would now be deposited at the former Weyerhaeuser linerboard mill site.

The 420-MW South Dunes Power Plant would take the place of the smaller 37-MW electric power plant within the import terminal tract, as planned under Docket No. CP07-444-000. A new 1-mile-long, 150-foot-wide utility corridor would be installed between the South Dunes Power Plant and the LNG export terminal.

In addition, some of the support buildings at the terminal have changed or been relocated since the original proposal. A new SORSC would be erected on the east side of Jordan Cove Road, south of the Trans-Pacific Parkway. The firewater pump building would be moved to the new location for the firewater ponds in the northwest corner of the terminal tract. A new barge dock would be located on the southeast side of the marine slip.

A number of new temporary work areas were identified that would be necessary during construction of the LNG export terminal. A temporary workers construction camp (North Point) would be located on the north side of the city of North Bend, south of the McCullough Bridge. New temporary laydown areas to be used during construction would be located north of the liquefaction trains within the LNG terminal, west of the gas processing plant, and south of the South Dunes Power Plant (see figure 2.1-2, in the next chapter of this EIS).

In addition, Jordan Cove identified three new wetland mitigation areas. They include the West Bridge site on the east side of the existing Roseburg Forest Products property, the West Jordan Cove site located southeast of the West Bridge site, and the Kentuck Slough site on the north side of Coos Bay about 3 miles east of the LNG terminal (see figure 2.1-1, in the next chapter).

Table 1.1.3-1 lists both the elements deleted from the former LNG import terminal in Docket No. CP07-444-000, and the elements added or modified for the newly proposed LNG export terminal in Docket No. CP13-483-000.

TABLE 1.1.3-1		
Major Differences Between the Previous LNG Import Proposal in Docket No. CP07-444-000 and the Current Jordan Cove Export Terminal in Docket No. CP13-483-000		
Element	Size/Location a/	Reasons for the Changes
Elements Deleted or Modified from the Formerly Proposed LNG Import Terminal in Docket No. CP07-444-000		
LNG unloading platform overwater at the vessel berth	16 acres for the LNG vessel berth and transfer pipeline on the east side of the terminal marine slip.	The LNG unloading platform over water on the east side of the marine slip would be removed for the new export terminal proposal, and replaced by new open cell technology sheet pile LNG vessel berth design and onshore loading platform for the export proposal.

TABLE 1.1.3-1

**Major Differences Between the Previous LNG Import Proposal in Docket No. CP07-444-000
and the Current Jordan Cove Export Terminal in Docket No. CP13-483-000**

Element	Size/Location a/	Reasons for the Changes
Gas vaporizers	Six submerged combustion vaporizers located within the 20-acre LNG terminal process area.	Gas vaporizers are not necessary for a liquefaction project.
Natural gas liquid extraction facilities	Less than 1 acre, to the east of the LNG terminal, within the Roseburg Forest Products property.	Natural gas liquid extraction facilities are not necessary for the liquefaction project. Replaced by pipeline natural gas conditioning facility, to be located on the west side of the South Dunes Power Plant.
37-MW power plant	Located within the 20-acre LNG terminal process area.	This small plant was replaced by the larger 420-MW South Dunes Power Plant, as more electricity would be needed for the liquefaction project.
Administration building	55-foot by 81-foot sized building, within 18 acres located along the former access road to the LNG terminal.	Replaced by new control building along new utility corridor, and new administration building on the north side of the new gas processing plant between the South Dunes Power Plant and Jordan Cove Road.
Jordan Cove excavated material placement site	149 acres on the north side of the LNG terminal.	Materials excavated during construction of the marine slip would now be placed at the South Dunes Power Plant site.
Port commercial sand stockpile site	68 acres, on the North Spit about 1.5 miles southwest of the LNG terminal.	Materials dredged during construction of the access channel would now be placed at the South Dunes Power Plant site.
Dredged material slurry pipeline to port commercial sand stockpile site	3 acres, on the North Spit extending 1.6 miles from LNG Terminal to the formerly proposed Port Commercial Sand Stockpile Site.	Elimination of the Port commercial sand stockpile site eliminates the need for the slurry pipeline to that site.
Elements Added to or Modified at the Newly Proposed LNG Export Terminal in Docket No. CP13-483-000		
90 LNG vessel visits per year	Waterway for LNG marine traffic would use existing navigation channel in Coos Bay, which is 300 feet wide and 7.5 miles long to the Jordan Cove terminal.	Increase in number of LNG vessel visits for export from 80 per year for the import proposal.
LNG vessel berth and loading platform	9 acres, including the transfer pipeline, on the east side of the marine slip.	New open cell technology sheet pile for LNG vessel berth on east side of the Marine Slip. Loading facilities would be constructed on upland shore side, rather than on a platform over water as in the former berth design.
Barge dock	3 acres on the southeast side of the marine slip.	Barge dock needed to bring equipment and materials to the terminal.
LNG storage tanks	27 acres, north of the marine slip within the LNG terminal processing area.	Two LNG storage tanks shifted slightly to the west from original import proposal, with redesigned elevation and berm, and relocated impoundment basin.
Liquefaction trains	20 acres, on the east side of the terminal processing area.	Four liquefaction trains needed for LNG export proposal. They replace six vaporizers formerly proposed for the import project.
Refrigerant storage and resupply system	2 acres, north of the LNG storage tanks within the terminal processing area.	Needed for liquefaction.
Flare	1 acre, north of the refrigerant storage area within the terminal.	Flare redesigned and location changed.
Temporary construction laydown area	21 acres, northeast of the flare within the terminal.	Reconfigured for liquefaction project.
Terminal firewater pond and new pump building	4 acres, at northwest corner of the terminal tract.	Location moved to former location of Jordan Cove excavated material placement site for import proposal.
Terminal control building and warehouse	8 acres, along the new utility corridor between the South Dunes Power Plant area and the LNG terminal.	New design for the liquefaction project.

TABLE 1.1.3-1

**Major Differences Between the Previous LNG Import Proposal in Docket No. CP07-444-000
and the Current Jordan Cove Export Terminal in Docket No. CP13-483-000**

Element	Size/Location ^{a/}	Reasons for the Changes
Industrial wastewater line relocation	13 acres, north of the terminal, parallel to the Trans-Pacific Parkway.	Existing industrial wastewater line used by Weyerhaeuser to be relocated to allow for construction of the LNG terminal.
Raw water line relocation	3 acres, north of the South Dunes Power Plant area, parallel to the Trans-Pacific Parkway.	Existing water line to be relocated for liquefaction project.
Utility corridor from South Dunes Power Plant to LNG terminal	11 acres, 1 mile long and 150 feet wide, between South Dunes Power Plant and LNG terminal.	New utility corridor, for electric power lines and access road, from power plant to LNG terminal, as more electricity is needed for liquefaction project.
Southwest Oregon Regional Safety Center	8 acres, on east side of Jordan Cove Road, west of the South Dunes Power Plant.	New facility for fire protection, Sheriff, Coast Guard, and Port offices.
Temporary gas processing plant construction laydown areas	4 acres, east of the SORSC and west of the gas processing plant.,	Newly identified areas for construction of the South Dunes Power Plant and related nearby facilities.
South Dune administration building, operations building, control building, hazardous material storage building, guard house, electrical powerhouse, and firewater pumphouse	4 acres, north of the gas processing plant.	New support buildings needed for the power plant complex.
Gas processing plant	9 acres, on the west side of the South Dunes Power Plant.	New pipeline gas conditioning facility needed for liquefaction project.
420-MW South Dunes Power Plant	58 acres, at former Weyerhaeuser linerboard mill site, 1 mile east of the LNG Terminal, on the northeast side of geographic Jordan Cove.	Replaces smaller electric power plant formerly proposed for the LNG import terminal. More electricity would be needed for liquefaction project.
South Dunes temporary construction laydown areas and stormwater pond	11 acres, south of the South Dunes Power Plant.	Newly identified as needed for construction and operation of the South Dunes Power Plant.
Temporary North Point construction workers camp	49 acres, on the North Bend side of the McCullough Bridge, about 2 miles southeast of LNG terminal.	New construction worker housing proposed for liquefaction project.
West Jordan Cove wetland mitigation site	3 acres, east of the LNG terminal and west of the power plant.	Newly identified area to be dredged to create new estuarine wetland habitat to mitigate for wetlands lost during construction and operation of the liquefaction project.
West Bridge wetland mitigation site	2 acres , on the east side of the Roseburg Forest Products property.	Newly identified area to be maintained as a wetland to mitigate for wetlands lost during construction and operation of the liquefaction project.
Kentuck Slough Wetland Mitigation Site	44 acres , on the north side of Coos Bay, about 3 miles east of the LNG terminal.	Newly identified area to be maintained as a wetland to mitigate for wetlands lost during construction and operation of the liquefaction project.

^{a/} Acres rounded to the nearest whole acre.

The Pacific Connector pipeline would be basically the same as in Docket No. CP07-441-000, except the direction of the transportation of the natural gas is reversed, now going east to west. Instead of taking natural gas from the Jordan Cove terminal at Coos Bay and delivering it to the Oregon-California border, as proposed in CP07-441-000, the new pipeline proposal in Docket No. CP13-492-000 would take gas from the Malin hub to the Jordan Cove terminal. The Tulelake, Russell Canyon, and Buck Butte Meter Stations formerly proposed under Docket No. CP07-441-000 have been eliminated from the new proposal under Docket No. CP13-492-000, because Pacific Connector would no longer be providing natural gas to GTN, PG&E, and Tuscarora to serve markets in Oregon, California, and Nevada. In their place, Pacific Connector would construct and operate the new Klamath-Eagle and Klamath-Beaver Meter Stations, at new interconnections to receive natural gas from GTN and Ruby, within the newly proposed Klamath

Compressor Station tract. The Butte Falls Compressor Station, formerly located at MP 132.1 under Docket No. CP07-441-000, would be eliminated from the new project in Docket No. CP13-492-000, as Pacific Connector would now compress gas at the eastern beginning of its pipeline, at the Klamath Compressor Station, at MP 228.1.

The Shady Cove Meter Station proposed in Docket No. CP07-441-000 has been removed from the new pipeline Project under Docket No. CP13-492-000 because Pacific Connector no longer intends to provide natural gas to the Avista system. The Clarks Branch Meter Station has been relocated to about MP 71.5 along the new realignment for the crossing of Interstate (I)-5 and the South Umpqua River. The location of the Jordan Cove Meter Station was relocated to MP 1.5R, adjacent to the newly planned South Dunes Power Plant, which is part of the Jordan Cove Liquefaction Project in Docket No. CP13-483-000. In addition, Pacific Connector has identified 17 new locations of its MLVs along the pipeline route.

The pipeline route remains relatively unchanged from that proposed under Docket No. CP07-441-000, and as analyzed in our May 2009 FEIS; however, under the current proposal in Docket No. CP13-492-000, there are four main pipeline route realignments: (1) Brunschmid Wetland Reserve (MPs 9.4R to 12.4R); (2) Weaver Ridge (MPs 42.7 to 49.8); (3) I-5 and Western South Umpqua River Crossings (MPs 67.5 to 74.8); and (4) McLoughlin Lane (MPs 187.4 to 191.1). Table 1.1.3-2 lists both the elements deleted from the former pipeline project in Docket No. CP07-441-000, and the elements added or modified for the newly proposed pipeline project in Docket No. CP13-492-000.

TABLE 1.1.3-2		
Major Differences Between the Original Pipeline Project Proposed in Docket No. CP07-441-000 and the Current Pacific Connector Project Proposed in Docket No. CP13-492-000		
Element	Acres/Location a/	Reasons for the Changes
Elements Deleted or Modified from the Formerly Proposed Pacific Connector Pipeline Project in Docket No. CP07-441-000		
Jordan Cove Meter Station	2 acres, at original pipeline MP 0.0	Relocated to MP 1.5R, adjacent to the newly planned South Dunes Power Plant for the liquefaction project.
Clarks Branch Meter Station	1 acre, at original pipeline MP 69.7	Relocated to MP 71.5 along realignment for new crossings of I-5 and South Umpqua River.
Shady Cove Meter Station	3 acres, at original pipeline MP 122.1	Eliminated, as Pacific Connector would no longer be connecting to the Avista system.
Butte Falls Compressor Station	7 acres, at original pipeline MP 132.1	Eliminated; instead the compressor station would be moved to the eastern starting point of the Pacific Connector pipeline at MP 228.1.
Tulelake, Russell Canyon, and Buck Butte Meter Stations	7 acres, at original pipeline MP 230.9	Eliminated, as natural gas would no longer be delivered to GTN, PG&E, and Tuscarora at the Oregon-California border. Instead, Pacific Connector would now connect to the existing GTN and Ruby supply pipelines within the newly proposed Klamath Compressor Station at MP 228.1.
Elements Added to or Modified for the Newly Proposed Pacific Connector Pipeline Project in Docket No. CP13-492-000		
Klamath Compressor Station	31 acres, at pipeline MP 228.1	41,000 hp of compression at the eastern beginning of the Pacific Connector pipeline.
Klamath-Eagle and Klamath-Beaver Meter Stations	Within Klamath Compressor Station tract	To interconnect with existing GTN and Ruby pipeline systems at MP 228.1.

TABLE 1.1.3-2

**Major Differences Between the Original Pipeline Project Proposed in Docket No. CP07-441-000
and the Current Pacific Connector Project Proposed in Docket No. CP13-492-000**

Element	Acres/Location ^{a/}	Reasons for the Changes
Elements Deleted or Modified from the Formerly Proposed Pacific Connector Pipeline Project in Docket No. CP07-441-000		
Clarks Branch Meter Station	1 acre, at newly proposed pipeline MP 71.5	Relocated because of route realignment for new crossing of I-5 and South Umpqua River between MPs 67.5 to 74.8.
Jordan Cove Meter Station	1 acre, at pipeline MP 1.5R	Relocated for new liquefaction project, adjacent to the South Dunes Power Plant.
17 MLVs	Total of about 2 acres outside of other proposed aboveground facilities, at MPs 1.5R, 15.7, 29.5, 48.4, 59.9, 71.5, 80.0, 94.7, 112.1, 122.2, 132.0, 150.7, 169.5, 187.4, 197.8, 214.3, and 228.1	MLVs relocated to account for realignments along pipeline route.
Major route realignments related to the (1) Brunschmid Wetland Reserve; (2) Weaver Ridge; (3) I-5 and Western South Umpqua River Crossings; and (4) McLoughlin Lane	MPs 9.4R to 12.4R; MPs 42.7 to 49.8; MPs 67.5 to 74.8; and MPs 187.4 to 191.1	See section 3.4

^{a/} Acres rounded to the nearest whole acre.

1.2 ENVIRONMENTAL SETTING

The Project is located in southwest Oregon. Jordan Cove's LNG terminal would be situated on the bay side of the North Spit of Coos Bay, near the coast of the Pacific Ocean, in Coos County, Oregon. LNG vessels would access the terminal through a waterway for LNG marine traffic, which is defined by the Coast Guard for the Project as extending from the outer limits of the U.S. territorial waters 12 nautical miles off the coast of Oregon, and up the Coos Bay navigation channel about 7.5 miles to the terminal.

The Pacific Connector pipeline would begin at the Klamath Falls Compressor Station and interconnections with Ruby and GTN near Malin in Klamath County, Oregon. The pipeline would generally trend northwest for about 232 miles to the Jordan Cove LNG terminal, crossing portions of Klamath, Jackson, Douglas, and Coos Counties, Oregon. The pipeline would traverse through the basin and range sage and juniper woodlands ecozone of the Klamath Basin, over the Southern Cascades conifer forest and oak woodlands and conifer forest ecozones of the Klamath Mountains, through Camas Valley and Douglas-fir forests of the Coastal Range, and terminate in the Coastal lowlands. Detailed descriptions of each ecozone crossed and environmental resources potentially affected by the Project are included in the respective sections of chapter 4 of this EIS.

1.3 PURPOSE AND NEED FOR THE PROPOSED PROJECT

The purpose and need for the proposed Project, as summarized below, was defined by Jordan Cove and Pacific Connector in their applications to the FERC. The Commission will more fully consider the need of this Project when making its decision on whether or not to authorize it, as documented in the Project Order.¹⁴

Under Section 3 of the NGA, the Commission considers as part of its decision to authorize natural gas facilities, all factors bearing on the public interest. Specifically, regarding whether to authorize natural gas facilities used for exportation, the Commission would authorize the

¹⁴ The Commission's Order represents its record of decision.

proposal unless it finds the proposed facilities would not be consistent with the public interest. Under Section 7 of the NGA, the Commission determines whether interstate natural gas transportation facilities are in the public convenience and necessity and, if so, grants a Certificate to construct and operate them. The Commission bases its decision on technical competence, financing, rates, market demand, gas supply, environmental impact, long-term feasibility, and other issues concerning a proposed project.

According to Jordan Cove's application, the Project is a market-driven response to the increasing availability of competitively priced natural gas from western Canadian and Rocky Mountain sources, and robust international demand for natural gas. The newly proposed liquefaction terminal is designed to produce about 6 MMTPA (equivalent to about 0.9 Bcf/d of natural gas), and Jordan Cove intends to export that LNG by loading it onto vessels for overseas transport. Jordan Cove would like to be the first LNG export terminal to be approved, constructed, and operated on the West Coast of the continental United States, and thus positioned to mainly serve markets around the Pacific Rim. In addition to meeting Asian demand, Jordan Cove could serve American customers by exporting LNG to Alaska and Hawaii.

Jordan Cove could obtain natural gas for export as LNG from Canadian and Rocky Mountain sources via existing interstate transmission pipeline systems that are currently underutilized. According to a recent posting on TransCanada's GTN Pipeline website, there was nearly 1 Bcf/d of unused capacity at Malin at the end of 2013 (Nemec 2013). In February 2014, Canada's National Energy Board granted a 25-year license to Jordan Cove allowing for the export of up to 1.55 Bcf/d of natural gas to the United States.¹⁵ On March 18, 2014, the DOE granted Jordan Cove with the authority to import from Canada up to 565.75 Bcf/year of natural gas.¹⁶

The purpose of the Pacific Connector Pipeline Project is two-fold: (1) to provide natural gas to the Jordan Cove LNG terminal; and (2) to supply additional volumes of natural gas to markets in southern Oregon. Pacific Connector can obtain supplies from Canadian and Rocky Mountain sources at the Malin hub, where North American natural gas would be competitively traded on a daily basis, through interconnections with GTN and Ruby at the proposed Klamath-Eagle and Klamath-Beaver Meter Stations. Pacific Connector intends to deliver about 40 million cubic feet of natural gas per day to Northwest's existing Grants Pass Lateral through an interconnect with the proposed Clarks Branch Meter Station. Jordan Cove needs Pacific Connector to supply firm transportation service of approximately 0.9 Bcf/d of natural gas for its LNG terminal.

Jordan Cove and Pacific Connector have entered into non-binding Heads of Agreements (HOA) with several prospective Asian customers for terminal and pipeline capacity, respectively. The HOAs indicate that pipeline precedent agreements would be executed by the end of 2014 for

¹⁵ See *Natural Gas Intelligence*, 3 March 2014, "Canada OKs Gas Exports to Supply Jordan Cove LNG Terminal." While the amount of Canadian export gas authorized by the National Energy Board exceeds the amount of gas that Jordan Cove requested for its liquefaction needs in its application to the FERC in Docket No. CP13-483-000, this is because Jordan Cove would like the option of being able to expand its terminal facilities in the future. However, Jordan Cove can only receive the amount of gas authorized by the Commission under this current proposal, and any future expansion would be subject to a new application, resulting in a new and separate environmental review of that expansion proposal by the FERC staff.

¹⁶ See *Order Granting Long-Term Multi-Contract Authorization to Import Natural Gas From Canada to the Proposed Jordan Cove LNG Terminal in the Port of Coos Bay, Oregon* in FE Docket No. 13-141-NG (DOE/FE Order No. 3412). A copy of this Order was filed with the FERC on March 25, 2014, in Docket No. CP13-483-000.

those shippers that choose to make bidding commitments. Pacific Connector expects to hold an open season in the fall of 2014, upon the execution of binding precedent agreements with shippers with whom they are currently negotiating.¹⁷

The Jordan Cove Liquefaction Project and the Pacific Connector Pipeline Project are interconnected and dependent upon one another. Jordan Cove needs the Pacific Connector pipeline to provide it with natural gas that it can liquefy into LNG for export. Pacific Connector is dependent on Jordan Cove as the main destination for the natural gas to be transported through its pipeline for prospective foreign customers. This EIS recognizes this interdependency and analyzes the environmental impacts of both projects together as a single comprehensive enterprise.

1.4 PURPOSE AND SCOPE OF THIS ENVIRONMENTAL IMPACT STATEMENT

This EIS discloses and assesses the potential environmental impacts that are likely to result from the construction and operation of the JCE & PCGP Project. If significant environmental impacts are identified, the EIS describes measures that would be implemented to avoid, reduce, or mitigate those adverse effects. In addition to complying with the NEPA, our purposes for preparing this EIS include:

- a description and evaluation of reasonable alternatives to the proposed actions that would avoid or minimize adverse effects on the environment;
- the identification and assessment of the potential direct, indirect, and cumulative impacts on the natural and human environment that would result from implementation of the proposed actions;
- the identification and recommendations for specific mitigation measures, as necessary, to avoid or minimize significant environmental effects; and
- the involvement of the public, other agencies, and interested stakeholders in the environmental review process.

The topics addressed in this EIS include a description of the Project (chapter 2); alternatives (chapter 3); existing environment and impacts (chapter 4); and the FERC staff's conclusions and recommended mitigation measures (chapter 5). Chapter 4 is divided into sections by resource topic and includes land use (in section 4.1); geology, including hazards (section 4.2); soils and sediments (section 4.3); water resources and wetlands (section 4.4); upland vegetation and timber (section 4.5); wildlife and aquatic resources, including essential fish habitat (EFH) (section 4.6); threatened, endangered, and special status species (section 4.7); recreation and visual resources (section 4.8); socioeconomics (section 4.9); transportation (section 4.10); cultural resources (section 4.11); air quality and noise (section 4.12); reliability and safety (section 4.13); and cumulative impacts (section 4.14). This EIS describes the affected environment as it currently exists, discusses the environmental consequences of the Project, and compares the Project's potential impacts to the potential impacts of a reasonable range of alternatives. The information and analyses presented in this EIS are intended to support subsequent conclusions and decisions made by the Commission and the cooperating agencies.

¹⁷ See the filing made with the FERC by Pacific Connector on May 15, 2014 in Docket No. CP13-492-000.

1.4.1 Purpose and Scope of the FERC's Action

The Commission has authority over the siting, construction, and operation of onshore LNG terminals, and pipelines engaged in the interstate transportation of natural gas. The FERC is the lead federal agency for the Project, and for the preparing of this EIS.

Our analysis in this EIS focuses on facilities and actions that are under the FERC's jurisdiction. However, this EIS also analyzes the potential environmental impacts resulting from non-jurisdictional connected actions, such as the construction and operation of the South Dunes Power Plant and the SORSC at the Jordan Cove terminal, and local utility lines to the Pacific Connector compressor station and meter station, because those facilities support the FERC jurisdictional facilities.

The Commission would consider the findings in this EIS during its review of Jordan Cove's and Pacific Connector's applications. The identification of environmental impacts related to the construction and operation of the Project, and the mitigation of those impacts, as disclosed in this EIS, would be components of the Commission's decision making process. The Commission would issue its decision in an Order. If the Project is approved, the Order would specify that the LNG terminal can be constructed and operated under the authority of Section 3 of the NGA, and a Certificate would be issued for the pipeline. The Commission may accept the applications in whole or in part, and can attach engineering and environmental conditions to the Order that would be enforceable actions to assure that the proper mitigation measures are implemented prior to the Project going into service.

1.4.2 Purpose and Scope of the Actions of the Forest Service, BLM, and Reclamation

The Forest Service, BLM, and Reclamation are cooperating with the FERC in the preparation of this EIS, which addresses impacts of the Pacific Connector Pipeline Project on lands administered by these agencies. The Pacific Connector pipeline route would cross portions of four BLM Districts (Coos Bay, Roseburg, and Medford Districts as well as the Klamath Falls Resource Area of the Lakeview District) and three National Forests (Umpqua, Rogue River, and Winema National Forests), as well as a portion of Reclamation's Klamath Basin Area (see figure 1.1-1). As cooperating agencies, the Forest Service and BLM anticipate adopting this EIS pursuant to 40 CFR 1506.3(c).

BLM land use planning requirements were established in Sections 201 and 202 of the Federal Land Policy and Management Act of 1976 (FLPMA, 43 United States Code [U.S.C.] 1711-1712) and the regulations in 43 CFR 1600. Forest Service land use planning requirements were established by the National Forest Management Act (NFMA) and the regulations in 36 CFR 219. These laws and regulations require a unit-specific LMP for each BLM administrative management unit (Resource Management Plans or RMPs) and National Forest (Land and Resource Management Plans or LRMPs).¹⁸ All projects or activities on BLM land or within a National Forest must be consistent with the governing LMP.

Representatives of the Forest Service, BLM, and Reclamation have worked cooperatively with the FERC staff and Pacific Connector during pipeline route selection over federal lands and

¹⁸ When referring to both the BLM RMPs and Forest Service and LRMPs collectively, this EIS will hereafter use the term "land management plans" or LMPs.

incorporation of best management practices (BMPs) to minimize environmental consequences. The BLM and Forest Service have determined that the linear nature of the Pacific Connector Pipeline Project would not be consistent with certain requirements of the LMPs of the BLM Districts and National Forests crossed. To address these inconsistencies, the BLM and Forest Service propose to amend the LMPs of the respective BLM Districts and National Forests to make provision for the Project. Although Reclamation's Klamath Basin Area is not subject to an LMP, the agency has also worked closely with the FERC staff and Pacific Connector to address issues related to the siting, construction, and operation of the pipeline where it would cross Reclamation lands and facilities that are part of Reclamation's Klamath Irrigation Project.

For the BLM and Forest Service, the primary purpose of this EIS is to consider and disclose the environmental consequences of construction and operation of the Pacific Connector pipeline on BLM and National Forest System (NFS) lands and to evaluate proposed LMP amendments. The Forest Service must also assess the significance of the proposed plan amendments with respect to the delivery of goods and services from the affected National Forests pursuant to 36 CFR 219.10(f) (1982 version). The BLM would utilize this EIS to consider Pacific Connector's right-of-way application and decide, with concurrence from the Forest Service and Reclamation, to grant, grant with conditions, or deny the Temporary Use Permit and the Right-of-Way Grant. The BLM and Forest Service are also using this EIS process to identify specific stipulations (including mitigation measures) related to resources within their respective jurisdictions for inclusion in the Right-of-Way Grant.

Both the BLM and Forest Service have identified suites of "Design Features" or "Project Requirements"¹⁹ the agencies deem necessary to accomplish goals and objectives of their respective LMPs. These features/requirements include reallocation of land from the Matrix land allocation to the Late Successional Reserve (LSR) land allocation, placement of large woody debris (LWD), snag creation, stand density/fuels reduction, road resurfacing and decommissioning, culvert replacement, stream crossing repairs, invasive weed control, precommercial thinning, fire suppression facilities development, and meadow restoration. In addition, Pacific Connector would be required to acquire timber producing lands to replace those BLM Matrix lands proposed for reallocation to LSR by the BLM. The design features or requirements plans specific to the pipeline crossing of BLM and NFS lands each include a monitoring element to ensure that the wide array of actions are implemented and assess the effectiveness of the actions relative to the goals and objectives of the respective LMPs. These plans would be included in the Right-of-Way Grant, if the grant is approved, as attachments to Pacific Connector's Plan of Development (POD).²⁰ As an attachment to the POD, these plans are included in the description of the proposed action (sections 2.1.6 and 2.6 of this EIS). Reclamation has not identified measures specific to its lands or facilities beyond the procedures outlined in the POD, including Pacific Connector's *Klamath Project Facilities Crossing Plan*

¹⁹ The BLM and Forest Service use the term "Design Features" or "Project Requirements" rather than "mitigation" to describe elements of a plan that occur within a project area and are standard requirements of a project. The BLM and Forest Service reserve the term "mitigation" to describe measures taken to reduce or compensate for otherwise unavoidable impacts. The term "mitigation" as used elsewhere in this EIS refers to the full range of activities designed to reduce adverse effects of the Project.

²⁰ Pacific Connector filed its POD as a stand-alone document with the Environmental Report attached to its June 2013 application to the FERC

(Attachment 15 of the POD); and its *Winter Construction Plan for the Klamath Basin* (Appendix 1E attached to Resource Report 1 of Pacific Connector’s application to the FERC).

Although these actions (which are described in the BLM and Forest Service plans; see chapter 2) are specific in terms of activity and location, this EIS addresses these in a programmatic fashion. Many of these actions may require additional analyses and surveys before final decisions can be made by the federal land managing agencies. The BLM and Forest Service anticipate that this EIS would provide the basis for tiering subsequent site-specific NEPA analyses, in accordance with the CEQ regulations at 40 CFR 1508.28(b). The BLM and Forest Service will conduct supplemental environmental analysis and consultation efforts with various federal, state, and local entities, as well as tribal governments, prior to authorizing future site-specific actions related to the design features or requirements for the Project.

The BLM Oregon State Director is the authorized officer for decisions related to amendments of the respective BLM LMPs, issuance of the Temporary Use Permit, and issuance of a Right-of-Way Grant, if authorized. The Forest Supervisor for the Umpqua National Forest is the authorized officer for decisions related to amendments of Forest Service LMPs and issuance of a concurrence letter to BLM, if warranted. The Responsible Official for Reclamation regarding concurrence on issuance of the Right-of-Way Grant is the Area Manager of Reclamation’s Mid-Pacific Region Klamath Basin Area Office.

1.4.3 Purpose and Scope of the Actions of Other Federal Cooperating Agencies

1.4.3.1 Coast Guard

The Coast Guard is a cooperating agency for the production of this EIS, serving as a subject matter expert for, and providing recommendations on, the maritime safety and security aspects of, the Project. The Coast Guard does not issue a permit, license, order, or record of decision in this context, and is responsible for assessing the suitability of the waterway, and issuing a Waterway Suitability Report (WSR) and a Letter of Recommendation (LOR). The laws and regulations underpinning the Coast Guard review of this Project are further discussed below in section 1.5.3.1.

The Coast Guard is responsible for the safety and security of the waterway that LNG vessels would use to reach the Jordan Cove terminal. The recommendations of the Coast Guard that would make the waterway suitable for LNG marine traffic were contained in the WSR and LOR issued by the Captain of the Port (COTP).

Jordan Cove submitted a Waterway Suitability Assessment (WSA) to the Coast Guard for its original LNG import project in 2006. The Coast Guard issued a WSR on July 1, 2008, and provided an LOR on April 24, 2009, which are still considered valid. The Coast Guard stated in a February 21, 2012 response to a February 10, 2012 inquiry from Jordan Cove’s consultant²¹ that waterway impacts associated with export operations from Jordan Cove’s terminal should be similar to those previously identified for the import proposal as outlined in Jordan Cove’s original WSA, and as analyzed in the FERC’s May 2009 FEIS for Docket No. CP07-444-000. However, the Coast Guard advised Jordan Cove to amend and update its Letter of Intent and Emergency Response Plan, and the WSA, for the export proposal, for Coast Guard review. Export operations should also be included in an amended

²¹ This correspondence was attached to Appendix A.1 in Resource Report 1 of Jordan Cove’s May 2013 application to the FERC in Docket No. CP13-483-000.

and updated Operations Manual and Facility Security Plan to be prepared by Jordan Cove. On December 28, 2012, Jordan Cove submitted its amended and updated Letter of Intent to the Coast Guard for the export project. Jordan Cove acknowledged in its annual review of the WSA (dated October 2012) that the terminal was to be used to export LNG and made appropriate corrections to the various sections of the WSA. On January 13, 2014, Jordan Cove forwarded its most recent annual review of the WSA to the Coast Guard, who responded on February 14, 2014, with the following statement: “we have no objection to your conclusion that the minor changes do not change the risk associated with the waterway or the facility as originally evaluated in your 2007 WSA.” On February 27, 2014, the Coast Guard accepted the annual review of the WSA for the Jordan Cove Project. The WSA is considered Sensitive Security Information and is therefore not publicly releasable. Public documents related to the Coast Guard’s determination can be found in appendix B of this EIS.

1.4.3.2 U.S. Army Corps of Engineers

The COE exerts regulatory authorities over waters of the United States pursuant to Section 10 of the Rivers and Harbors Act of 1899 (RHA), Section 404 of the Clean Water Act (CWA), and Section 103 of the Marine Protection, Research and Sanctuaries Act of 1972 (MPRSA). The laws and regulations underpinning the COE’s actions are further discussed below in section 1.5.3.3.

The COE is a cooperating agency in the production of this EIS. The agency’s purpose for participating in the development of the EIS is to streamline the Section 10 and Section 404 permitting process by working with the FERC to eliminate duplication of efforts. The EIS can reduce duplications of efforts in permit reviews for the Project by allowing the FERC to be the lead federal agency and fulfill obligations for compliance with a variety of federal environmental laws, including the NEPA, Endangered Species Act (ESA), Migratory Bird Treaty Act (MBTA), Magnuson-Stevens Fishery Conservation and Management Act (MSA), Marine Mammal Protection Act (MMPA), and National Historic Preservation Act (NHPA), on behalf of the cooperating agencies, as further discussed in section 1.5. The COE intends to adopt the EIS for the purposes of exercising its regulatory authorities. On October 15, 2013, Jordan Cove and Pacific Connector submitted a single comprehensive Joint Permit Application (JPA) for the Project to the COE, to satisfy the requirements of Section 10 of the RHA and Section 404 of the CWA.²² The COE indicated that it would use its standard individual permit review process, and would issue its own public notice of the JPA submitted by Jordan Cove and Pacific Connector; separate from the FERC’s Notice of Intent (NOI) and our Notice of Availability (NOA) for the draft EIS (DEIS).²³

1.4.3.3 U.S. Department of Energy

The DOE, a cooperating agency in the preparation of this EIS, may adopt this EIS to consider the environmental impacts associated with its decision whether to authorize the export of LNG, as proposed by Jordan Cove. The DOE must meet its obligations under Section 3 of the NGA, to authorize the import and export of natural gas, including LNG, unless it finds that the proposed import or export would not be consistent with the public interest. The purpose and need for the DOE action is to respond to the applications filed by Jordan Cove with the DOE. In accordance

²² A copy of the JPA was filed with the FERC on November 6, 2013, replacing Appendix G.2 of Resource Report 2 in Jordan Cove’s May 21, 2013, application to the FERC.

²³ This was articulated in a September 11, 2013, letter to the FERC from the COE Eugene Field Office.

with 40 CFR 1506.3, after an independent review of the FERC's EIS, the DOE may adopt it prior to issuing its ROD.

On September 22, 2011, Jordan Cove filed an application with the DOE seeking authorization to export up to 1.2 Bcf/d of natural gas converted to LNG from its proposed terminal at Coos Bay, Oregon to FTA nations.²⁴ The DOE issued its *Order Granting Long-Term Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel from the Jordan Cove LNG Terminal to Free Trade Agreement Nations* on December 7, 2011, in DOE/FE Docket No. 11-127-LNG (DOE/FE Order No. 3041).

On March 23, 2012, Jordan Cove filed an application with the DOE, in FE Docket No. 12-32-LNG, seeking authorization to export LNG to non-FTA nations. DOE issued its *Order Conditionally Granting Long-Term Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel From the Jordan Cove LNG Terminal in Coos Bay, Oregon to Non-Free Trade Agreement Nations* (DOE/FE Order No. 3413) on March 24, 2014. This Order would allow Jordan Cove to export up to 6 MTPA of LNG (equivalent to 292 Bcf/year of natural gas) for 20 years after either the first shipment or seven years after the date of the Order. The LNG may be exported to any country with which the United States does not have a FTA, which currently has or in the future could develop the capacity to import LNG, and with whom trade is not prohibited. The authorization is conditioned on the completion of the environmental review process to comply with the NEPA, and Jordan Cove must also comply with the mitigation measures required by federal and state agencies for the Project. In addition, Jordan Cove must file with the DOE copies of long-term contracts for both natural gas supply and the export of LNG.

Because the Project may involve actions in floodplains, in accordance with 10 CFR Part 1022, *Compliance with Floodplain and Wetland Environmental Review Requirements*, this EIS includes a floodplain assessment. A floodplain statement of findings would be included in any DOE determinations. Section 4.4 of this EIS discusses elements of the Project that may be within floodplains, so that the FERC, as lead federal agency, can document compliance with Executive Order (EO) 11988.²⁵

1.4.3.4 U.S. Environmental Protection Agency

The EPA is a cooperating agency in the production of this EIS. The EPA has responsibilities under the NEPA, Clean Air Act (CAA), CWA, and MPRSA (see section 1.5.3.4 of this EIS). The EPA shares responsibility for administering and enforcing Section 404 of the CWA with the COE, and has authority to veto COE permit decisions.

The EPA also co-administers the MPRSA with the COE. Section 103 of the MPRSA authorizes the COE to issue permits for the ocean disposal of dredged material. That permit decision would be made using the EPA's environmental criteria, and subject to EPA's concurrence. If disposal

²⁴ DOE/FE Docket No. 11-127-LNG, a copy of which was filed with the FERC by Jordan Cove in Docket No. CP13-483-000 on September 23, 2011.

²⁵ EO 11988, *Floodplain Management*, requires federal agencies to avoid adverse impacts associated with the occupancy and modification of floodplains, and to avoid floodplain development wherever there is a practicable alternative. The objectives of the EO include the minimization of impacts from floods resulting from agency actions, and the preservation of floodplains where possible.

is proposed at an EPA-designated site under Section 102 of the MPRSA, that disposal must be consistent with that site's Site Management and Monitoring Plan.

In addition, Section 309 of the CAA directs the EPA to review and comment in writing on the environmental impact associated with all major federal actions. This obligation is independent of its role as a cooperating agency under the NEPA regulations. Consistent with this direction, EPA evaluates all federally issued EISs for adequacy in meeting the procedural and public disclosure requirements of the NEPA.

1.4.3.5 U.S. Department of Transportation

The DOT is a cooperating agency in the production of this EIS. The DOT has authority to enforce safety regulations and design standards for the LNG terminal (see section 4.13.10 of this EIS), as well as safety regulations and standards related to the design, construction and operation of natural gas pipelines, under the Natural Gas Pipeline Safety Act (49 U.S.C. 1671 et seq.). In a June 18, 2014, letter to the FERC, PHMSA stated that it had reviewed the criteria used by Jordan Cove in identifying credible leakage scenarios and establishing the siting for the LNG terminal to confirm compliance with 49 CFR 193, and had no objections to Jordan Cove's methodologies.²⁶ The DOT would also monitor the construction and operation of the natural gas facilities to determine compliance with its design and safety standards.

1.4.4 Issues Considered Outside the Scope of this EIS

During the pre-filing public scoping period (see section 1.6 below), some citizens and organizations raised issues that are considered outside the scope of this EIS. Those issues will not be addressed in this EIS, because we do not consider them to be environmental in nature. Examples of out-of-scope issues include the need to export LNG; horizontal hydraulic drilling through shale formations during exploration for natural gas (often referred to as "fracking"); induced production of natural gas; "life-cycle" cumulative environmental impacts associated with the entire LNG export process; the concept of a "programmatic" EIS to cover LNG export terminals throughout the United States; and administrative information technology system operations at the FERC.

With regard to the public benefit or need to export LNG from the United States to foreign nations, that decision rests with the DOE, and is therefore outside of the jurisdiction of the FERC. The Commission explained the background behind the different authorities that the United States Congress has assigned to the FERC in comparison to the DOE in its *Order Granting Section 3 Authorization* to Sabine Pass Liquefaction LLC issued on April 16, 2012, in Docket No. CP11-72-000.²⁷ While the Commission has the authority to site and approve or disapprove the construction and operation of onshore LNG terminals, the DOE retains the ability to approve or disprove the import or export of the commodity itself. In the case of the Jordan Cove Project, the DOE granted authority to export LNG to FTA nations in December 2011 and to non-FTA nations in March 2014.

Neither does the FERC have any authority over activities related to the exploration, production, and gathering of natural gas in the United States or Canada. Those activities, in the United

²⁶ This letter was filed in the FERC public record under Docket No. CP13-483-000 on June 19, 2014.

²⁷ 139 FERC § 61,039 (2012), III, pages 9-12.

States, would be regulated by individual states. Pacific Connector can obtain natural gas from Canadian and Rocky Mountain supplies at the Malin hub, through interconnections with GTN and Ruby. However, there is no reasonable way to determine the exact sources of the natural gas transported in the GTN and Ruby pipelines; nor is there a reasonable way to identify the well-specific exploration and production methods used to obtain those gas supplies.²⁸

Some commenters claim that the export of LNG from the Jordan Cove terminal would result in the indirect impact of inducing additional drilling activities or stimulating natural gas production in the United States.²⁹ The Commission has previously taken the position that it is virtually impossible to estimate export volumes that may come from future shale natural gas production, and that the number and location of future natural gas wells is unknowable at this time. The Project does not depend on additional United States production, because much of the gas may come from Canadian sources, and existing transmission pipelines in the western states are underutilized. It is speculative to assume that the Jordan Cove export proposal would cause increased natural gas production because other factors, unrelated to the Project, over which the Commission has no control, such as regional domestic market demands, permitting for new gas wells, or technologies and efficiencies in exploration, may also influence production. Therefore, induced or additional natural gas production is not a “reasonably foreseeable” indirect effect of the Project, and is not addressed in this NEPA document.³⁰

The “life-cycle” cumulative environmental impacts, from exploration, production, and gathering of natural gas; transportation to Pacific Connector; and shipment of LNG overseas from the Jordan Cove terminal are far beyond the jurisdictional authority of the FERC or the activities directly related to the Project.³¹ Nor can those impacts be easily or reasonably calculated, given the number of unknown elements in the chain, and actions by entities other than Pacific Connector and Jordan Cove. As mentioned above, the number and location of wells producing natural gas in Western Canada and the Rocky Mountain regions are unknown, as are the gathering systems that would ultimately transport that gas to GTN and Ruby. Jordan Cove has not identified the specific vessels that would ship the LNG abroad or the exact customers for the LNG. Without knowing the final destination of the LNG, it would not be possible to calculate the environmental impacts associated with its overseas shipping.³²

²⁸ The Commission addressed this issue in its *Order Granting Section 3 Authorization* to Sabine in Docket No. CP11-72-000 (139 FERC § 61,039 [2012], IV, pages 31-33), and also in *Central New York Oil and Gas Company* (137 FERC § 61,121 [2011], page 98).

²⁹ Letters to the FERC from the EPA dated October 29, 2012, and the Sierra Club on June 21, 2013.

³⁰ This issue was also discussed in Jordan Cove’s Answer to Motions to Intervene, pages 6-7, filed on July 3, 2013 in Docket No. CP13-483-000, and Combined Answers of LNG Development Company and Oregon Pipeline Company, pages 4-10, filed on August 26, 2013 in Docket Nos. CP09-6-001 and CP09-7-001. They cite *Cheniere Creole Trail Pipeline*, 142 FERC § 61,137 (2013), page 19, and *Sabine Pass Liquefaction*, 140 FERC § 61,076 (2012), pages 9-10.

³¹ According to former FERC Chairman Jon Wellinghoff, there is no legal basis for the FERC to consider the cumulative environmental impacts of shale gas drilling activities when reviewing a proposed LNG export terminal. On January 10, 2014, Mr. Wellinghoff was quoted in the industry press as saying: “The FERC does not have the statutory authority to look at impacts all the way back to the wellhead.”

³² The Commission’s September 18, 2008 *Order Granting Authority Under Section 3 of the Natural Gas Act and Issuing Certificates* for the proposed Bradwood Landing LNG import project in Docket No. CP06-365-000 (124 FERC § 61,257 [2008], Section D, pages 25-26) indicated that different studies of life-cycle greenhouse gas emissions for imported LNG, including long distance ship transport, came up with conflicting figures and

In the recent past, the Commission has not produced any “programmatic” environmental studies for natural gas projects. The Commission does not intend to conduct a nation-wide analysis of proposed LNG export terminals. As stated above, it is the DOE that determines the public benefits of exporting LNG from terminals in the United States. The FERC’s review and approval of individual projects under the NGA does not constitute a coordinated federal program. In a previous case, the Commission stated that it “does not direct the development of the gas industry’s infrastructure, either on a broad regional basis, or in the design of specific projects.”³³ As articulated in the September 18, 2008, Commission Order for the Bradwood LNG import project in Docket No. CP06-365-000, the FERC does not engage in regional planning exercises that would result in the selection of one terminal location over another.³⁴ Instead, it is the Commission’s historic policy to allow market forces to influence where LNG terminals should be situated; assuming that the locations are environmentally acceptable based on the analysis contained in a project-specific EIS. Companies select the location of their proposed facilities based on market and other factors, and the Commission staff analyzes the environmental impacts of construction and operation of those facilities at the selected locations. Companies would be at risk for the costs of constructing and operating an LNG terminal, as influenced by their own research into economic conditions and market needs.

There were also some comments on administrative issues raised during pre-filing scoping that are not environmental topics and will not be addressed in this EIS. Those comments were mainly about the FERC’s information management system, including eComment. Those issues are outside the scope of this EIS.

1.5 PERMITS, APPROVALS, AND CONSULTATIONS

1.5.1 Other Federal Environmental Laws

Besides the NGA, EPCRA, and the NEPA, the FERC and cooperating agencies are required to comply with other federal laws that involve consideration of the Project’s potential impact on a range of environmental resources. This includes compliance with the ESA, MSA, MMPA, MBTA, and the NHPA. As the lead federal agency for the JCE & PCGP Project, the FERC has undertaken the lead role for consultations under these statutes for itself and on behalf of the cooperating agencies. The status of compliance with those acts is described in this EIS.

There are other federal agencies that must be consulted, or would issue permits or approvals based on these federal environmental laws, before this Project could be constructed. For example, the FWS must be consulted regarding compliance with the ESA and MBTA, and the U.S. Department of Commerce National Oceanic and Atmospheric Administration (NOAA) National Marine Fisheries Service (NMFS) must be consulted regarding compliance with the ESA, MSA, and MMPA. In order to comply with Section 106 of the NHPA, the FERC must afford the Advisory Council on Historic Preservation (ACHP) an opportunity to comment on the undertaking.

conclusions. A recent study for the DOE by the National Energy Technology Laboratory (NETL 2014) estimated the 20-year global warming potential of life cycle GHG emissions of exporting LNG from New Orleans, Louisiana to Shanghai, China to use as fuel to burn in an electric power plant would be 824 kgCO₂e/MWh, which is lower than using coal from China or natural gas transported by pipeline from Yamal, Russia; however, NETL did not model exporting LNG from the West Coast of the United States to Asian markets.

³³ See *Texas Eastern Transmission, LP & Algonquin Gas Transmission, LLC* (2012) 141 FERC § 61,043, page 25.

³⁴ 124 FERC § 61,257, Section D, pages 29-30.

Other federal laws or regulations that require permits and approvals before this Project could be constructed include compliance with the RHA, CWA, CAA, Coastal Zone Management Act (CZMA), and Coast Guard regulations relating to LNG waterfront facilities. Some of these federal permits or approvals, such as Section 401 of the CWA, CAA, and CZMA, have been delegated to state agencies, as discussed below. For example, the ODEQ has been delegated CWA 401 and 402 responsibilities under the CWA and CAA, and the Oregon Department of Land Conservation and Development (ODLCD) has delegated responsibilities under the CZMA.

In accordance with Section 313(d) of the EPAct, the FERC is required to keep a complete consolidated record of all actions or decisions made by agencies undertaking federal authorizations. On October 19, 2006, in Order No. 687, the FERC issued implementing regulations regarding the maintenance of a consolidated record. Section 313(c) of the EPAct requires that the FERC establish a schedule for federal authorizations. Pursuant to Order No. 687, the FERC issued an initial Notice of Schedule for *Environmental Review of the Jordan Cove Liquefaction and Pacific Connector Pipeline Projects* on July 16, 2014. That notice stated that the FERC's target goal for producing the FEIS for the Project would be February 27, 2015, with the 90-day deadline for other federal authorizations projected to be May 28, 2015.

While the EPAct amended the NGA to give exclusive authority to the FERC to approve or deny an application for the siting, construction, expansion, or operation of an LNG terminal, it specified that nothing in the Act was intended to overrule other federal authorities. This includes the protection of the rights of states with federally delegated responsibilities under the CZMA, CAA, and CWA.

Table 1.5.1-1 lists the major federal, state, and local permits, approvals, and consultations identified for the Project.

TABLE 1.5.1-1			
Major Permits, Approvals, and Consultations for the JCE & PCGP Project			
Agency	Authority/Regulation/Permit	Agency Action	Initiation of Consultations and Permit Status
FEDERAL			
Federal Energy Regulatory Commission (FERC)	Sections 3 and 7 of the Natural Gas Act (NGA) [Title 15 United States Code [U.S.C.] 717]	Order Granting Section 3 Authorization and Issuing Certificate of Public Convenience and Necessity.	On May 21, 2013, Jordan Cove filed an application with the FERC under Section 3 of the NGA.
	Section 311 of the Energy Policy Act of 2005 (EPAct)		On June 6, 2013, Pacific Connector filed an application with the FERC under Section 7 of the NGA.
	Title 18 Code of Federal Regulations (CFR) 153, 157, 375, and 385		The FERC's decision is pending until after the FEIS is issued.
	Order No. 687 National Environmental Policy Act (NEPA) 42 U.S.C. 4321 et seq. 40 CFR 1500-1508 18 CFR 380.12	Produce Environmental Impact Statement (EIS).	On August 2, 2012, the FERC issued Notice of Intent (NOI) to Prepare an EIS. On July 16, 2014, the FERC issued its Notice of Schedule for Environmental Review with a projected FEIS date of February 27, 2015.

TABLE 1.5.1-1

Major Permits, Approvals, and Consultations for the JCE & PCGP Project

Agency	Authority/Regulation/ Permit	Agency Action	Initiation of Consultations and Permit Status
Advisory Council on Historic Preservation (ACHP)	Section 106 of the National Historic Preservation Act (NHPA) 16 U.S.C. 470 36 CFR 800	Opportunity to comment on the undertaking.	On August 30, 2011, the FERC submitted its Memorandum of Agreement (MOA) to the ACHP for original Pacific Connector project in Docket No. CP07-441-000. If the newly proposed Pacific Connector Project (Docket No. CP13-492-000) is authorized by the FERC, the MOA would be amended.
Federal Communication Commission	License for fixed microwave stations and service 47 U.S.C. 303 47 CFR 101	Review proposals for new or additions to existing communication towers.	Pending.
U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS)	Farmland Protection Policy Act 7 U.S.C. 4201-4209 7 CFR Part 658	Determine if the Project would result in the permanent conversion of prime farmland.	On August 30, 2012, the NRCS commented on the FERC's NOI. NRCS comments on impacts on prime farmland pending review of EIS.
USDA Forest Service (Forest Service)	Mineral Leasing Act (MLA) 30 U.S.C. 181 et seq. 43 CFR 2882	Concur with Right-of-Way (ROW) Grant.	On April 17, 2006, Pacific Connector submitted its initial SF 299 ROW Grant application. On February 25, 2013, Pacific Connector amended that application. Decision on ROW Grant pending until after issuance of FEIS.
	36 CFR 219.17	Amend Land and Resource Management Plans (LRMP).	On September 21, 2012, Forest Service and BLM issued a Supplemental NOI. Amendments pending review of EIS.
U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NMFS)	Section 7 of the Endangered Species Act (ESA) 16 U.S.C. 1531 et seq. 50 CFR 222 50 CFR 224 50 CFR 402	Provide a biological opinion (BO) if the Project is likely to adversely affect federally listed threatened or endangered aquatic species or their habitat.	Concurrent with issuance of draft EIS (DEIS), the FERC would submit its biological assessment (BA) and essential fish habitat (EFH) assessment to the NMFS. The NMFS would issue its BO pending review of the FERC's BA and EFH Assessment.
	Marine Mammal Protection Act (MMPA) 16 U.S.C. 1361 et. seq. 50 CFR 82 50 CFR 216	Consult on protected marine mammals.	On October 8, 2014, Jordan Cove and Pacific Connector submitted their draft application for incidental harassment authorization to the NMFS. Review pending.
	Magnuson-Stevens Fishery Conservation and Management Act (MSA) 16 U.S.C. 1801-1884 50 CFR 600	Provide conservation recommendations if the Project would adversely impact EFH.	Pending review of the FERC's EFH Assessment.
U.S. Department of Defense (DOD)	Section 311(f) of the EPA Act and Section 3 of the NGA 15 U.S.C. 717b 18 CFR 153, 157, 375, and 385 MOU between FERC and DOD	Consult with the Secretary of Defense to determine whether an LNG facility would affect the training or activities of an active military installation.	On September 27, 2012, the FERC sent a letter about the Project to the DOD Siting Clearinghouse. On November 2, 2012, the DOD replied that the Project would have minimal impact on military operations in the area.

TABLE 1.5.1-1

Major Permits, Approvals, and Consultations for the JCE & PCGP Project

Agency	Authority/Regulation/ Permit	Agency Action	Initiation of Consultations and Permit Status
U.S. Department of the Army, Corps of Engineers (COE)	Section 10 of the Rivers and Harbors Act (RHA) 33 U.S.C. 403 33 CFR 320 to 330	Process permit application for structures or work in or affecting navigable waters of the United States.	On June 13, 2013, and July 8, 2013 Jordan Cove and Pacific Connector respectively submitted separate Joint Permit Applications (JPA) with the COE. On August 15, 2013, COE requested that a single comprehensive JPA be resubmitted for the complete Project. On October 15, 2013, Jordan Cove and Pacific Connector submitted a single comprehensive JPA. Permit pending review of JPA.
	Section 404 of the Clean Water Act (CWA) 33 U.S.C. 1344 33 CFR 320 to 330	Process permit application for the placement of dredged or fill material into waters of the United States.	On June 13, 2013, and July 8, 2013 Jordan Cove and Pacific Connector respectively submitted separate JPAs with the COE. On August 15, 2013, COE requested that a single comprehensive JPA be resubmitted for the complete Project. On October 15, 2013, Jordan Cove and Pacific Connector submitted a single comprehensive JPA. Permit pending review of JPA. Between March 2013 and March 2014, Jordan Cove submitted various wetland delineation reports to the COE. On March 13, 2014, the COE concurred with the boundaries and extent of Waters of the U.S. depicted in the Jordan Cove wetland delineation report. On June 26, 2013, Pacific Connector submitted its wetland delineation report to the COE. On August 5, 2014, the COE concurred with the boundaries and extent of Waters of the U.S. depicted in the Pacific Connector wetland delineation report.
	Section 103 of the Marine Protection, Research, and Sanctuaries Act (MPRSA) 33 U.S.C. 1401 et. seq. 33 CFR Part 324	Issue a permit for the ocean disposal of dredged material under MPRSA consistent with EPA criteria and subject to EPA concurrence.	Jordan Cove included a dredged material management plan with its JPA to the COE. Permit pending review of JPA.

TABLE 1.5.1-1

Major Permits, Approvals, and Consultations for the JCE & PCGP Project

Agency	Authority/Regulation/ Permit	Agency Action	Initiation of Consultations and Permit Status
U.S. Department of Energy (DOE) Office of Fossil Energy	Section 3 of the NGA 15 U.S.C. §717b 18 CFR 153, 157, 375, and 385	Authority to export LNG to Free Trade Agreement (FTA) Nations.	On September 22, 2011, Jordan Cove filed an application with the DOE in FE Docket No. 11-127-LNG. On December 7, 2011, DOE issued DOE/FE Order No. 3041 granting authority for Jordan Cove to export LNG to FTA Nations.
	Section 3 of the NGA 15 U.S.C. §717b 18 CFR 153, 157, 375, and 385	Authority to export LNG to Non-FTA Nations.	On March 23, 2012, Jordan Cove filed an application with the DOE in FE Docket No. 12-32-LNG. On March 24, 2014, DOE issued DOE/FE Order No. 3413 granting authority for Jordan Cove to export LNG to non-FTA Nations.
DOE, Bonneville Power Administration (BPA)	Encroachment permit for electric transmission line crossings	Permit review.	Decision Pending.
U.S. Environmental Protection Agency (EPA)	Section 404 of the CWA 33 U.S.C. 1412 40 CFR 227, 228	Co-administers CWA 404 program with the COE. EPA retains veto authority for wetland permits issued by the COE.	On October 29, 2012, EPA commented on the FERC's NOI. Review pending issuance of COE permit.
	Section 103 of the MPRSA 33 U.S.C. 1344, and 40 CFR Part 230	COE issues a permit for the ocean disposal of dredged material under MPRSA consistent with EPA criteria. The permit is subject to EPA concurrence if disposal is proposed at an EPA ocean dredged material disposal site designated under Section 102 of the MPRSA.	Jordan Cove included a dredged material management plan with its JPA to the COE. EPA concurrence pending issuance of permit by COE.
	Section 309 of the Clean Air Act (CAA) 42 U.S.C. 7401 et seq. 40 CFR 1503.1(a)	Reviews and evaluates EIS for adequacy in meeting the procedural and public disclosure requirements of the NEPA.	Review of EIS pending.
U.S. Department of Homeland Security, Coast Guard	Ports and Waterway Safety Act 33 U.S.C. 1221 33 U.S.C. 1231 33 CFR 160 33 CFR 127	Captain of the Port (COTP) issues a Letter of Recommendation (LOR) and Waterway Suitability Report (WSR) recommending the suitability of the waterway for LNG marine traffic. Review Emergency Manual.	On July 1, 2008, COTP issued a WSR. On April 24, 2009, the Coast Guard issued an LOR.
		Review Operations Manual.	On June 25, 2010, Coast Guard reviewed document and marked it "Examined."
	33 CFR 165	Establish safety and security zones for LNG vessels in transit and while docked.	Pending. Must be completed prior to receiving first LNG vessel.
	Maritime Transportation Security Act 46 U.S.C. 701 33 CFR 105	Review and Approve Facility Security Plan.	On May 17, 2011, Security Zone noticed in 76 FR 28317. Pending. Must be completed 60 days prior to receiving first LNG vessel at the facility

TABLE 1.5.1-1

Major Permits, Approvals, and Consultations for the JCE & PCGP Project

Agency	Authority/Regulation/ Permit	Agency Action	Initiation of Consultations and Permit Status
	Navigation and Vessel Inspection Circular – Guidance related to Waterfront Liquefied Natural Gas (LNG) Facilities NVIC 05-05 NVIC 05-08 NVIC 01-11	Develop LNG Vessel Transit Management Plan. Validate WSA and produce WSR.	Pending. Must be completed prior to receiving first LNG vessel. On July 1, 2008, the Coast Guard issued a WSR for original LNG import project. On February 21, 2012, the Coast Guard acknowledged validity of the current WSR when the facility changed from import to export. The WSA was updated as part of Jordan Cove's annual review in October 2012 and was updated to change the proposed terminal from import to export. On January 13, 2014, Jordan Cove submitted its most recent annual review of the WSA to the COTP. On February 24, 2014, COTP stated that the risk associated with the waterway and facility has not changed since the Project was originally evaluated.
U.S. Department of the Interior (USDOL), Bureau of Land Management (BLM)	Section 28 of Mineral Leasing Act of 1920 (MLA) 30 U.S.C. 181 43 CFR 2880	Issue ROW Grant for crossing federal lands.	On April 17, 2006, Pacific Connector submitted its initial SF 299 ROW Grant application. On February 25, 2013, Pacific Connector amended that application.
	Federal Land Policy and Management Act of 1976, as amended 43 CFR 1610	Resource Management Plan Amendments.	On September 21, 2012, BLM and Forest Service issued a Supplemental NOI. Decision pending review of EIS.
USDOI Bureau of Reclamation	MLA 30 U.S.C. 181 et seq. 43 CFR 288.23(i)	Concur with issuance of the ROW Grant	On April 17, 2006, Pacific Connector submitted its initial SF 299 ROW Grant application. On February 25, 2013, Pacific Connector amended that application.
USDOI Fish and Wildlife Service (FWS)	Section 7 of the ESA 16 U.S.C. 153 et seq. 50 CFR 402.02	Provide a BO if the project is likely to adversely affect terrestrial federally-listed threatened and endangered species or their habitat.	On September 4, 2012, FWS commented on FERC's NOI. Concurrent with issuance of DEIS, the FERC would submit its BA to FWS. FWS would issue its BO pending review of the FERC's BA.
	Fish and Wildlife Coordination Act (FWCA) 16 U.S.C. 661-667(d) 23 CFR Part 773	Provide comments to prevent loss of and damage to wildlife resources.	FWS generally addresses FWCA issues via comments on FERC NEPA and COE 404 permit processes.
	Migratory Bird Treaty Act (MBTA) 16 U.S.C. 703 Executive Order 13186	Consultation regarding compliance with the MBTA.	Pending review of this EIS and review of applicants' Migratory Bird Conservation Plan.

TABLE 1.5.1-1			
Major Permits, Approvals, and Consultations for the JCE & PCGP Project			
Agency	Authority/Regulation/ Permit	Agency Action	Initiation of Consultations and Permit Status
U.S. Department of Transportation (DOT), Pipeline and Hazardous Materials Safety Administration (PHMSA)	Natural Gas Pipeline Safety Act (NGPS) 49 U.S.C. 601 49 CFR Parts 190-199	Administer national regulatory program to ensure the safe transportation of natural gas.	On September 19, 2013, Jordan Cove submitted to PHMSA data related to the analysis of a potential LNG leak source. On June 18, 2014, PHMSA stated it had no objections to Jordan Cove's methodologies for identifying credible leakage scenarios in siting its LNG terminal.
DOT, Federal Aviation Administration (FAA)	18 CFR Subchapter E Federal Aviation Regulations (FAR) Part 77 IAW FAA Order 7400.2G, 6-1-6	Aeronautical Study of Objects Affecting Navigable Airspace. Feasibility Study for Hazard Determination.	On May 8, 2007, the FAA issued an aeronautical study for the communication tower at the Jordan Cove Meter Station proposed under Docket No. CP07-444-000. On November 1, 2008, the FAA issued a limited aeronautical review of the LNG tanks proposed in Docket No. CP07-444-000. Continuing consultations with FAA are pending.
U.S. Department of the Treasury, Bureau of Alcohol, Tobacco, and Firearms	Explosives User Permit 27 CFR 555	Issue permit to purchase, store, and use explosives during project construction.	Permits to be obtained by Jordan Cove and Pacific Connector, as necessary, before construction.
STATE – OREGON			
Oregon Department of Agriculture (ODA)	Oregon Endangered Species Act Oregon Senate Bill 533 and Oregon Revised Statute (ORS) 564	Consult on Oregon listed plant species, and ODA would review botanical survey reports covering non-federal public lands prior to ground-disturbing activities where state listed botanical species are likely to occur.	On September 15, 2008, ODA informed Jordan Cove that it was in compliance with state laws, and no species should be adversely affected. On July 24, 2006, ODA provided Pacific Connector with a list of state listed species. In September 2007 and November 2008 Pacific Connector submitted botanical survey reports to ODA. ODA's review of these botanical reports is pending.
Oregon Department of Energy (ODE)	State Authorities under Section 311 of the EPCAct	Furnish an advisory report on state safety and security issues to the FERC regarding the Jordan Cove LNG Terminal proposal, and conduct operational safety inspections if the facility is approved and built.	On October 29, 2012, ODE filed environmental comments as part of the State of Oregon's response to the FERC's NOI issued August 2, 2012. On June 20, 2013, ODE filed a motion to intervene in response to the FERC's Notice of Application (NOA) issued May 30, 2013. ODE did not submit a State Safety Report to the FERC within 30 days of the NOA. On June 14, 2014, ODE entered into an MOU with Jordan Cove regarding LNG emergency preparedness at the export terminal. Safety inspections pending operation of facilities.

TABLE 1.5.1-1			
Major Permits, Approvals, and Consultations for the JCE & PCGP Project			
Agency	Authority/Regulation/ Permit	Agency Action	Initiation of Consultations and Permit Status
ODE – Energy Facility Siting Council (EFSC)	Oregon State Siting Standards ORS 469.300 Oregon Administrative Rule (OAR) 345	Authority to review proposals for power plants generating more than 25 MW and issue a Site Certificate.	On November 30, 2012, Jordan Cove filed amended Notice of Intent for the South Dunes Power Plant. On February 14, 2013, EFSC issued Project Order. Site Certificate Pending.
	OAR 345-21 & 22	Enforce Oregon's CO ₂ Standards. Enforce Oregon's Retirement Bond Requirements.	On June 10, 2014, ODE entered into a Memorandum of Understanding (MOU) with Jordan Cove regarding CO ₂ and Facilities Retirement.
Oregon Department of Environmental Quality (ODEQ)	Water Quality Certification Section 401 of the CWA ORS 468B OAR 340-48	Issue a license or permit to achieve compliance with state water quality standards.	Pacific Connector submitted water quality information to ODEQ concurrent with its JPA to the COE. Review pending.
	Section 402 of CWA ORS 468B OAR 340-45	Issue National Pollutant Discharge Elimination System (NPDES) permits for discharge of stormwater.	On July 22, 2014, Jordan Cove submitted its modified NPDES permit application to ODEQ. Review pending. One year prior to construction, Pacific Connector intends to submit its NPDES permit applications to ODEQ.
	Ballast Water Management ORS 620-992 OAR 340-143	Review liabilities and offences connected to shipping and navigation.	Pending review of this EIS.
	CAA – Title V 40 CFR 98 ORS 468A OAR 340-215, 216, 218, 222, & 228	Issue Title V Air Quality Operating permit. Issue Title V Acid Rain permit. Enforce Greenhouse Gas (GHG) Reporting Requirements.	In March 2013, Jordan Cove submitted an air quality permit application to the ODEQ. Pacific Connector anticipates submitting an air quality permit application to ODEQ in 2014. GHG analysis pending review of this EIS.
	Prevention of Significant Deterioration CAA ORS 468B OAR 340-224 & 225	Review Best Available Control Technologies to minimize discharges from new major sources, and review air quality analyses to ensure compliance with National Ambient Air Quality Standards.	In March 2013, Jordan Cove submitted an air quality permit application to the ODEQ. Pacific Connector anticipates submitting an air quality permit application to ODEQ in 2014. Pending review of this EIS.
	Hazardous Waste Activity ORS 466 OAR 340-102	Review plans for storage and management of hazardous waste	Pending review of this EIS.
Oregon Department of Fish and Wildlife (ODFW)	Fish and Wildlife Coordination Act and the Oregon Endangered Species Act under ORS 496, 506, and 509 OAR 635	Consult on sensitive species and habitats that may be affected by the Project and, in general, regarding conservation of fish and wildlife resources.	In June 2014, Jordan Cove produced its latest revision of its Wildlife Habitat Mitigation Plan. ODFW Review pending. Pacific Connector has not yet submitted its Wildlife Habitat Mitigation Plan to ODFW.
	Fish and Wildlife OAR 345-22 & 60	Consult on and approve fish and wildlife mitigation plan.	On January 29, 2014, Jordan Cove submitted its Draft Wildlife Salvage Plan to ODFW. Review pending.

TABLE 1.5.1-1

Major Permits, Approvals, and Consultations for the JCE & PCGP Project

Agency	Authority/Regulation/ Permit	Agency Action	Initiation of Consultations and Permit Status
	Fish Screening Criteria at Stream Crossings OrS 509-580 through 910 OAR 635-412-5 through 40	Review stream crossing plans for consistency with Oregon fish passage law and ODFW fish passage rules	Pacific Connector submitted its Fish Passage Waiver Application and Fish Passage Plan for Road and Stream Crossings. ODFW review pending.
	ORS 509-140, et al.	Consider issuance of in-water blasting permits.	Pacific Connector submitted In-Water Blasting Permit Application. ODFW review pending.
Oregon Department of Forestry (ODF)	Easement on State lands Oregon Forest Practices Act OAR 629 ORS 477 ORS 527	Management of State Forest lands for Greatest Permanent Value, develops Forest Management Plans, stewardship under State's Land Management Classification System, monitors harvests of timber on private lands, and protects non-federal public and private lands from wildfires.	Pacific Connector anticipates submittal of final plans to ODF during the first quarter of 2015.
Oregon Department of Geology and Mineral Industries (DOGAMI)	Building Code Section 1802.1 ORS 455-446 OAR 517	Review of structural designs in tsunami zones. Review of geotechnical investigations for geological hazards. Review of mining and reclamation activities.	Review and decision pending.
State Historic Preservation Office (SHPO)	Section 106 of the NHPA 36 CFR 800 ORS 338-920	Review cultural resources reports and comments on recommendations for National Register of Historic Places eligibility and project effects. Issue permits for excavation of archaeological sites on non-federal lands.	On June 3, 2011, the Oregon SHPO signed the FERC's MOA for the original Pacific Connector project in Docket No. CP07-441-000. If the FERC authorizes the newly proposed Pacific Connector Project (in Docket CP13-492-000) the MOA would be amended. SHPO review of future cultural resources investigations reports pending.
Oregon Department of Land Conservation and Development (ODLCD)	Coast Zone Management Act (CZMA) 15 CFR Part 930 ORS 196.435	Determine consistency with CZMA program policies.	On August 1, 2014, Jordan Cove and Pacific Connector submitted their applications for Certification of Consistency to the ODLCD. The six-month review period regarding federal consistency provisions of the CZMA began on August 1, 2014 and will end on February 1, 2015.
Oregon Department of State Lands (ODSL)	Submerged and Submersible Land Easement OAR 141-122	Grant submerged land easements.	On May 15, 2014, Pacific Connector submitted its easement Application. ODSL Review pending.
	Joint Removal-Fill Law ORS 196-795-990 OAR 141-85	Approve removal or fill of material in waters of the state.	On February 19, 2013, ODSL issued Amended Proposed Order allowing dredging of Jordan Cove access channel and slip. On December 2, 2013, ODSL found Pacific Connector's application to be complete.
	Compensatory Wetland Mitigation Rules OAR 141-85-121	Review and approve wetland mitigation plans.	On July 15, 2013, Pacific Connector filed an application with ODSL. Decision Pending.

TABLE 1.5.1-1

Major Permits, Approvals, and Consultations for the JCE & PCGP Project

Agency	Authority/Regulation/ Permit	Agency Action	Initiation of Consultations and Permit Status
Oregon Department of Transportation (ODOT)	Section 303(c) DOT Act 49 CFR 303	Consultation and clearance letter regarding recreational land disturbance and construction-related traffic impacts.	On August 2, 2012, ODOT commented on Jordan Cove's Traffic Impact Analysis. ODOT's review of Pacific Connector's Transportation Management Plans is pending.
	State Highway ROW ORS 374-305 OAR 734- 55	Permits to be issued from each DOT District Office to allow construction within State Highway ROW and use of State Highways for Project access.	Applications for ODOT road crossing permits would be submitted prior to and during construction on an as-needed basis.
Oregon Department of Water Resources (ODWR)	New Water Rights ORS 537 OAR 690-310	Issue permits to appropriate surface water and groundwater.	Pacific Connector submitted an application for a license to temporarily use surface waters for pipeline construction and testing. ODWR review pending.
	Temporary Water Use ORS 537 OAR 690-340	Issue limited licenses for temporary use of surface waters.	Pacific Connector anticipates submitting an application during the first quarter of 2015.
Oregon Public Utilities Commission (OPUC)	OAR 860-031	Authorize intrastate electric transmission lines. Inspect the natural gas facilities for safety.	Pending Pacific Connector's submittal of appropriate applications to OPUC. Pending operation of facilities.
LOCAL – COUNTIES			
Coos County	Coos County Zoning and Land Development Ordinance, Coos County Comprehensive Plan, and Coos Bay Estuary Management Plan (CBEMP) ORS 197.015(10)(b)(H)	Issue Conditional Use Permits. Zoning Changes and Verifications. Issue Land Use Compatibility Statement (LUCS) under Statewide Planning Goals.	On December 5, 2007, Coos County issued a Conditional Use Permit for the Jordan Cove LNG terminal. On January 3, 2008, Coos County approved conditional use of Jordan Cove's access channel and marine slip. On August 21, 2009, Coos County approved conditional use of Jordan Cove's upland terminal facilities, after remand from Oregon's Land Use Board of Appeals (LUBA). On September 23, 2009, Coos County approved Comprehensive Plan amendment and Zoning Map amendment for Jordan Cove's future use of the former Kentuck Golf Course for wetland mitigation. On December 16, 2009, Coos County approved a correction of maps of wetlands within CBEMP zoning district 6-WD for Jordan Cove's terminal. March 22, 2012, Coos County partly approved a correction of the Coastal Shoreline Boundary in the 7-D zone at the former Weyerhaeuser linerboard property.

TABLE 1.5.1-1

Major Permits, Approvals, and Consultations for the JCE & PCGP Project

Agency	Authority/Regulation/ Permit	Agency Action	Initiation of Consultations and Permit Status
			<p>On July 25, 2012, Coos County approved Jordan Cove's Notice of Planning Directors Decision – Administrative Boundary Interpretation for 6-WD and Administrative Conditional Use Request for Fill in 6-WD. On September 17, 2012, Coos County approved Jordan Cove's Notice of Planning Directors Withdrawal and Reissuance of Administrative Conditional Use and Boundary Interpretation ABI for CBEMP/To Allow Fill. On October 4, 2012, Coos County approved Jordan Cove's Notice of Planning Directors Decision – To Allow Fill in IND Zone, To Allow Fill in CBEMP 7-D Zone, Vegetative shoreline Stabilization in CBEMP 7-D. On December 13, 2012, Coos County approved Jordan Cove's Site Plan Review for Integrated Power Generation and Process Facility. On September 8, 2010, Coos County issued a Conditional Use Permit to Pacific Connector. On June 14, 2013, Coos County issued a LUCS to Pacific Connector.</p>
	Section 311 of EPAct	Review and provide consultation regarding Jordan Cove's Emergency Response Plan.	On July 16, 2009, Jordan Cove signed concept agreements with the Coos County Sheriff's Office, Emergency Management, and Health Department.
Douglas County	Douglas County Comprehensive Plan and Douglas County Land Use and Development Ordinance ORS 197.015(10)(b)(H)	Issue Conditional Use Permits Issue LUCS	On December 11, 2009, Douglas County issued a Conditional Use Permit to Pacific Connector. On March 20, 2014, Douglas County Planning Commission approved a Major Amendment to its 2009 decision to allow the Pacific Connector pipeline to cross 7.3 miles within the Coastal Zone in Douglas County. That decision was affirmed by the Board of Commissioners for Douglas County on April 30, 2014. Douglas County then issued a revised LUCS on June 2, 2014 for the 7.3-mile portion of the pipeline within the Coastal Zone Management Area within Douglas County.

TABLE 1.5.1-1			
Major Permits, Approvals, and Consultations for the JCE & PCGP Project			
Agency	Authority/Regulation/ Permit	Agency Action	Initiation of Consultations and Permit Status
Jackson County	Jackson County Comprehensive Plan and Jackson County Land Development Ordinance ORS 197.015(10)(b)(H)	Issue Conditional Use Permits Issue LUCS	On June 18, 2013 Jackson County provided a LUCS for the Project. The LUCS indicated that the Project was not subject to the land development standards of the Jackson County Land Development Ordinance because it would be authorized by the FERC. Therefore, no conditional use permits would be necessary.
Klamath County	Klamath County Land Development Code ORS 197.015(10)(b)(H)	Issue Conditional Use Permits Issue LUCS	On August 21, 2012, Klamath County responded to the FERC NOI with a list of local permits that Pacific Connector should apply for. On June 10, 2013, Klamath County provided a LUCS for the Project. The LUCS indicated that if not authorized by FERC the Project would require county applications and review. Therefore, no conditional use permits would be necessary.
All Counties	Road Crossing Permits	Review permits to cross county roads.	To be submitted prior to construction.
	Grading Permits	Review permits for excavation and grading activities.	To be submitted prior to construction.
	Solid Waste Disposal	Review permits for disposal of solid waste generated by construction.	To be submitted prior to construction.
LOCAL – CITIES			
City of Coos Bay	CBEMP	Issue Conditional Use Permit Zoning Verification	On June 15, 2007, the City approved the establishment of a 2-acre eelgrass mitigation site in aquatic unit 52-NA.
City of North Bend	North Bend Comprehensive Plan	Conditional Use Permit Amend Chapters 18.04 and 18.44	On October 8, 2013, the City approved Jordan Cove's request to amend the M-H Heavy Industrial Zone to allow conditional use for temporary work force housing.
City of North Bend	North Bend City Code	Conditional Use Permit Amend Chapter 18.80	On February 14, 2014, the City approved variances to allow vehicle parking at drainage at Jordan Cove's proposed temporary work force housing site.
City of North Bend	North Bend City Code	Conditional Use Permit Amend Chapters 18.84 and 18.88	On March 25, 2014, the City approved an amendment to North Bend Shorelands Management Unit 48 to allow for bridge at Jordan Cove's temporary work force housing site.

1.5.1.1 Endangered Species Act

Section 7 of the ESA, as amended, states that “Federal agencies shall, in consultation with and with the assistance of the Secretary, utilize their authorities in furtherance of the purposes of this Act by carrying out programs for the conservation of endangered species and threatened species listed pursuant to Section 4 of this Act,” and any project authorized, funded, or conducted by a federal

agency should not “jeopardize the continued existence of any endangered species or threatened species or result in the destruction or adverse modification of habitat of such species which is determined...to be critical” (16 U.S.C. Section 1536(a)(2)(1988)). The lead federal agency, or the applicant as a non-federal party, is required to consult with the FWS and the NMFS to determine whether any federally listed or proposed endangered or threatened species or their designated critical habitat occur in the vicinity of the Project. If, upon review of existing data, or data provided by the applicant, one (or both) of the Services find that any federally listed species or critical habitats may be affected by the Project, the FERC is required to prepare a biological assessment (BA) to identify the nature and extent of adverse impacts, and to recommend measures that would avoid, reduce, or mitigate impacts on habitats and/or species.

The FWS provided a Conservation Framework for the northern spotted owl (NSO; *Strix occidentalis caurina*) and marbled murrelet (MAMU; *Brachyramphus marmoratus*) to the applicants, to assist with their development of an applicant-prepared draft biological assessment (APDBA). The Conservation Framework identified impact analyses and categorization methods, as well as compensatory mitigation guidance for impacts on these species and their critical habitats. Jordan Cove and Pacific Connector filed their APDBA with the FERC on September 19, 2013, and revised it on April 7, 2014. The FERC reviewed the APDBA, and after updating information,³⁵ we will submit our own BA for the Project to the NMFS and FWS at about the same time that this DEIS is issued. Because our BA finds that the Project is likely to adversely affect some federally listed species, the FWS and NMFS should each develop a biological opinion (BO) as to whether authorizing the Project may jeopardize the continued existence of any species under their jurisdiction or adversely modify or destroy designated critical habitat. See section 4.7 of this EIS for a summary of our ESA analysis.

1.5.1.2 Magnuson-Stevens Fishery Conservation and Management Act

The MSA, as amended by the Sustainable Fisheries Act of 1996 (Public Law 104-267), established procedures designed to identify, conserve, and enhance EFH for those species regulated under a federal fisheries management plan. The MSA requires federal agencies to consult with the NMFS on all actions or proposed actions authorized, funded, or undertaken by the agency that may adversely affect EFH (MSA Section 305(b)(2)). Although absolute criteria have not been established for conducting EFH consultations, the NMFS recommends consolidated EFH consultations with interagency coordination procedures required by other statutes, such as the NEPA, the Fish and Wildlife Coordination Act, or the ESA to reduce duplication and improve efficiency (50 CFR 600). As part of the consultation process for this Project, we will consolidate an EFH Assessment with the BA, on behalf of the federal cooperating agencies for this Project. The FERC will submit its BA and EFH Assessment for the JCE & PCGP Project to the NMFS at about the same time that this DEIS is issued. See section 4.6 of this EIS for the status of the MSA review.

1.5.1.3 Marine Mammal Protection Act

All marine mammals are protected under the MMPA of 1972. This act was amended by the U.S. Congress in 1994. The MMPA prohibits, with certain exceptions, the taking of marine mammals

³⁵ After review of the APDBA, the FERC issued a data request to the applicants on December 13, 2013, to fill in information gaps. The applicants responded to that data request with filings on December 23, 2013, and February 7 and April 7, 2014.

in U.S. waters and by U.S. citizens on the high seas and the importation of marine mammals and marine mammal products into the United States. The term “take,” as defined in Section 3 of the MMPA, means “to harm, hunt, capture, or kill, or attempt to harass, hunt, capture or kill any marine mammal” (16 U.S.C. Section 1362(13)). “Harassment” is also defined in the MMPA and in regulations promulgated by the NMFS.

Sections 101(a)(5)(A) and (D) of the MMPA direct the U.S. Secretary of Commerce, through the NMFS, to allow, upon request, the incidental, but not intentional, taking of small numbers of marine mammals of a species or population stock by U.S. citizens who engage in a specified activity (other than commercial fishing) within a specific geographic region if certain findings are made and either regulations are issued or, if the taking is limited to harassment, a notice of authorization is provided to the public for review. Authorization would be granted by the NMFS if it finds that the taking will have a negligible impact on the species or stock, will not have an unmitigatable adverse impact on the availability of the species or stock for subsistence uses (where relevant), and it prescribes permissible methods of taking, and requirements pertaining to the mitigation, monitoring, and reporting of such taking. NMFS has defined “negligible impact” as “an impact resulting from the specified activity that cannot be reasonably expected to, and is not reasonably likely to, adversely affect the species or stock through effects on annual rates of recruitment or survival.”

The NMFS may use relevant portions of this EIS during its review, and may adopt measures to protect marine mammals outlined in this EIS. It may also require additional mitigation and monitoring measures to ensure that the taking result in the least practicable adverse impact on affected marine mammal species or stocks. The public would have an opportunity to comment to the NMFS in response to its Notice of Receipt of an application for an Incidental Harassment Authorization, or a request for the implementation of regulations governing incidental taking, and following the publication of the proposed rule.

On October 8, 2014, Jordan Cove and Pacific Connector submitted their draft application for Incidental Harassment Authorization (IHA) under the MMPA to the NMFS.³⁶ Impacts from the JCE & PCGP Project on marine mammals are discussed in sections 4.6 and 4.7 of this EIS. In addition, marine mammals listed under the ESA are discussed in detail in our BA and EFH Assessment.

1.5.1.4 Marine Protection, Research and Sanctuaries Act

In 1972, Congress enacted the MPRSA (also known as the Ocean Dumping Act) to prohibit the dumping of material into the ocean that would unreasonably degrade or endanger human health or the marine environment. Virtually all authorized materials dumped today are dredged materials (sediments) removed from the bottom of water bodies in order to maintain navigation channels and berthing areas.

Ocean dumping cannot occur unless a permit is issued under the MPRSA. In the case of dredged material, the decision to issue a permit is made by the COE, using the EPA’s environmental criteria and subject to EPA’s concurrence. EPA is also responsible for designating ocean dumping sites for dredged material, or sites for disposal of other materials.

³⁶ The IHA was filed with FERC on October 10, 2014, under Docket No. CP13-492.

Jordan Cove proposed to dump materials dredged during maintenance of its access channel and marine slip at Site F, an existing EPA-approved offshore placement site located in the Pacific Ocean about 1.8 miles from the mouth of Coos Bay (see section 2.1.1.12). Jordan Cove included a *Dredge Material Management Plan* with its JPA for review by the COE.

1.5.1.5 National Historic Preservation Act

Section 106 of the NHPA requires that federal agencies take into account the effects of their undertakings on historic properties, and afford the ACHP an opportunity to comment. Historic properties include prehistoric or historic sites, districts, buildings, structures, objects, landscapes, or properties of traditional religious or cultural importance listed on or eligible for listing on the National Register of Historic Places (NRHP). Jordan Cove and Pacific Connector, as non-federal parties, can provide cultural resources data, analyses, and recommendations to the FERC, as allowed by the ACHP's regulations for implementing Section 106, at 36 CFR 800.2(a)(3). However, the FERC remains responsible for all determinations.

As the lead federal agency, it is the FERC's responsibility, under Section 106 and its implementing regulations, to consult with the Oregon State Historic Preservation Office (SHPO), identify historic properties within the area of potential effect (APE), and make determinations of NRHP eligibility and project effects, on behalf of all the federal cooperating agencies. In order to comply with Section 101(d)(6)(B) of the NHPA, and the Native American Religious Freedom Act, the FERC is consulting with Indian tribes that may attach religious or cultural significance to historic properties in the APE,³⁷ also on behalf of the federal cooperating agencies. The BLM and Forest Service are proposing to amend their respective LMPs to make provision for the pipeline, and are responsible for consulting with affected tribes on those actions.

To resolve adverse effects at historic properties identified along the pipeline route that cannot be avoided, and outline additional phased cultural resources investigations, a Memorandum of Agreement (MOA)³⁸ was produced, and submitted to the ACHP on August 30, 2011. If the FERC authorizes the newly proposed Jordan Cove LNG export terminal and associated Pacific Connector pipeline, the MOA would be amended to account for the differences between the original projects under Docket Nos. CP07-441-000 and CP07-444-000 and the newly proposed activities under Docket Nos. CP13-483-000 and CP13-492-000. See section 4.11 of this EIS for a discussion of the status of compliance with the NHPA.

1.5.1.6 Rivers and Harbors Act

Section 10 of the RHA (33 U.S.C. Section 403) prohibits the unauthorized obstruction or alteration of any navigable water of the United States. This section provides that the

³⁷ See 36 CFR Part 800.2(c)(2)(ii). Indian tribes are defined in Part 800.16(m) as "...an Indian tribe, band, nation, or other organized group or community, including a native village, regional corporation, or village corporation, as those terms are defined in Section 3 of the Alaska Native Claims Settlement Act (43 U.S.C. 1602), which is recognized as eligible for special programs and services provided by the United States to Indians because of their status as Indians."

³⁸ July 2011 Memorandum of Agreement Between the Federal Energy Regulatory Commission, U.S. Bureau of Land Management, U.S. Bureau of Reclamation, U.S. Forest Service, and the Oregon State Historic Preservation Office Regarding the Jordan Cove Liquefied Natural Gas Terminal and Pacific Connector Gas Pipeline Project (FERC Docket Nos. CP07-441-000 and CP07-444-000), with Jordan Cove, Pacific Connector, Confederated Tribes of the Coos, Lower Umpqua, and Siuslaw, and the Coquille Indian Tribe as concurring parties.

construction of any structure in or over any navigable water of the United States, or the accomplishment of any other work affecting the course, location, condition, or physical capacity of such waters is unlawful unless the work has been authorized by the COE. Jordan Cove and Pacific Connector submitted a JPA to the COE to obtain a permit under the RHA, as discussed in section 4.4 of this EIS.

1.5.1.7 Clean Water Act

The CWA (33 U.S.C. Section 1251 et seq.) establishes the basic structure for regulating discharges of pollutants into the waters of the United States and regulating quality standards for surface waters. Section 404 of the CWA outlines procedures by which the COE can issue permits (after notice and opportunity for public hearings) for the discharge of dredged or fill material into waters of the United States at specified disposal sites. The EPA has the authority to review and veto COE decisions on Section 404 permits. The FWS and NMFS use their Fish and Wildlife Coordination Act authorities to review and comment during the 404 permitting process. Jordan Cove and Pacific Connector submitted a JPA to the COE to obtain a permit under Section 404 of the CWA.

The authority to issue Water Quality Certifications pursuant to Section 401 of the CWA and National Pollutant Discharge Elimination System (NPDES) permits pursuant to Section 402 of the CWA has been delegated to the ODEQ. Jordan Cove and Pacific Connector would submit their JPA to the ODEQ to obtain Water Quality Certifications under Section 401 of the CWA. The applicants intend to submit their applications to ODEQ for NPDES permits under Section 402 of the CWA to allow for the discharge of stormwater about one year prior to the start of Project construction. Section 4.4 of this EIS discusses impacts on water resources that may be applicable to compliance with the CWA.

1.5.1.8 Clean Air Act

The primary objective of the CAA, as amended, is to establish federal standards for various pollutants from both stationary and mobile sources, and to provide for the regulation of polluting emissions via state implementation plans. In addition, the CAA was established to prevent significant deterioration in certain areas where air pollutants exceed national standards and to provide for improved air quality in areas that do not meet federal standards (non-attainment areas).

The EPA has regulatory authority under the CAA. Section 309 of the CAA directs EPA to review and comment in writing on environmental impacts associated with all major federal actions. The EPA has delegated permitting authority under the CAA to the ODEQ. Emissions from all phases of construction and operation of the proposed LNG terminal and pipeline would be subject to applicable federal and state air regulations.

Jordan Cove submitted an air quality permit application to the ODEQ in March 2013. Pacific Connector would submit its air quality permit application later in 2014. Section 4.12.1 of this EIS has a detailed discussion of air quality issues.

1.5.1.9 Coastal Zone Management Act

In 1972, Congress passed the CZMA to “preserve, protect, develop, and where possible, to restore or enhance, the resources of the nation’s coastal zone for this and succeeding generations” and to “encourage and assist the states to exercise effectively their responsibilities

in the coastal zone through the development and implementation of management programs to achieve wise use of the land and water resources of the coastal zone” (16 U.S.C. Section 1452, Section 303 (1) and (2)).

Section 307 (c)(3)(A) of the CZMA states that “any applicant for a required federal license or permit to conduct an activity, in or outside the coastal zone, affecting any land or water use or natural resource of the coastal zone of that state shall provide a certification that the proposed activity complies with the enforceable policies of the state’s approved program and that such activity will be conducted in a manner consistent with the program.” In order to participate in the coastal zone management program, a state is required to prepare a program management plan for approval by the NOAA Office of Coast and Ocean Resource Management (OCRM). Once the OCRM has approved a plan and its enforceable program policies, a state program gains “federal consistency” jurisdiction. This means that any federal action (e.g., a project requiring federally issued licenses or permits) that takes place within a state’s coastal zone must be found to be consistent with state coastal policies before the federal action can occur.

All components of the Jordan Cove LNG terminal, and the Pacific Connector pipeline from MP 0.0 to approximately MP 46 are within the designated Oregon coastal zone and are subject to federal CZMA review. The ODLCD is the state’s designated coastal management agency and has established the Oregon Coastal Management Program (OCMP). The program’s mission is to work in partnership with coastal local governments, state and federal agencies, and other stakeholders to ensure that Oregon’s coastal and ocean resources are managed, conserved, and developed consistent with statewide planning goals. To accomplish this mission, the program combines various state statutes for managing coastal lands and waters into a single, coordinated package. These include: (1) the 19 Statewide Planning Goals, which are Oregon’s standards for comprehensive land use planning; (2) city and county comprehensive land use plans; and (3) state agencies and natural resource laws such as the Oregon Beach Bill and the Removal-Fill Law.

Under the provisions of the CZMA, Jordan Cove and Pacific Connector must provide a certification to the FERC, COE, and the ODLCD that their projects comply with and would be conducted in a manner consistent with the state’s approved management program (15 CFR 930.50 Subpart D). On August 1, 2014, Jordan Cove and Pacific Connector submitted their applications for Certification of Consistency to the ODLCD. The six-month period during which the ODLCD would review the applications would end on February 1, 2015. See section 4.1.1.2 of this EIS for further information regarding compliance with the CZMA.

1.5.1.10 Migratory Bird Treaty Act

Migratory birds are species that nest in the United States and Canada during the summer and migrate south to the tropical regions of Mexico, Central and South America, and the Caribbean for the nonbreeding season. Migratory birds are protected under the MBTA (16 U.S.C. Section 703–711). EO 13186 (66 Federal Register [FR] 3853) discusses federal agency responsibilities for conservation of migratory birds and their habitats. Destruction or disturbance of migratory bird nests, or any eggs or young contained within it, is a violation of the MBTA. The MBTA also prohibits other forms of taking of migratory birds. For certain limited circumstances, the FWS may authorize certain types of migratory bird take.

As directed by EO 13186, on March 30, 2011, the FERC and FWS entered into an MOU that focuses on migratory birds and strengthening conservation through enhanced collaboration between the agencies. This voluntary MOU does not waive legal requirements under the MBTA, Bald and Golden Eagle Protection Act, ESA, or any other statutes, and does not authorize the take of migratory birds. Section 4.6 discusses migratory bird species that inhabit the project area, and measures the applicants would implement to avoid, reduce, or mitigate impacts on migratory birds.

1.5.2 Review and Use of the FERC EIS by the BLM, Forest Service, and Reclamation

As cooperating agencies, BLM and Forest Service are responsible for the sections of this EIS that are relevant to their proposed actions (i.e., evaluation of plan amendments and issuance of a Right-of-Way Grant), and issuing independent RODs. Each agency independently decides whether to adopt the EIS as a basis for agency decisions pursuant to 40 CFR 1506.3.

The BLM Oregon/Washington State Director would be able to make the following decisions and determinations upon adoption the analysis in this EIS:

- Whether to amend the RMPs for the BLM Coos Bay, Roseburg, and Medford Districts and the Klamath Falls Resource Area of the Lakeview District as proposed or in an alternative; and
Whether to issue a Right-of-Way Grant with conditions to the Project application or deny the application (Mineral Leasing Act of 1920, Section 185(f) and in accordance with 43 CFR 2882.3(i)). BLM cannot issue the Right-of-Way Grant without concurrence from the Forest Service and Reclamation.

The Forest Supervisor of the Umpqua National Forest would be able to make the following decisions and determinations based on the analysis in this EIS, if adopted:

- Whether to amend the LRMPs for the Umpqua, Rogue River, and Winema National Forests as proposed or in an alternative pursuant to 36 CFR 219.10(f) (1982 version);
- Determine the significance of the proposed amendments pursuant to 36 CFR 219.10(f) (1982 version), using criteria in Forest Service Manual - Land Management Planning (Section 1926.5);³⁹ and
Determine whether the Forest Service would concur to the granting of a Right-of-Way Grant by the BLM, and, if so, issue a letter of concurrence upon amendment of the respective National Forest LRMPs to make provision for the Project.

For the Forest Service, changes to their LMPs that are not significant can result from:

1. Actions that do not significantly alter the multiple-use goals and objectives for long-term land and resource management;
2. Adjustments of management area boundaries or management prescriptions resulting from further on-site analysis when the adjustments do not cause significant changes in the multiple-use goals and objectives for long-term land and resource management;
3. Minor changes in standards and guidelines; and
4. Opportunities for additional projects or activities that will contribute to achievement of the management prescription.

³⁹ The BLM does not have a similar requirement.

The criteria by which the Forest Service determines if an amendment is significant are as follows:

- The change would significantly alter the long-term relationship between levels of multiple-use goods and services originally projected; and
- The change may have an important effect on the entire LMP or affect land and resources throughout a large portion of the planning area during the planning period.

In accordance with 36 CFR 219.17(b)(2), the Forest Service has elected to use the 1982 planning rule procedures to amend LRMPs, as provided in the transition procedures of the 2000 planning rule.

Reclamation's Mid-Pacific Region Klamath Basin Area Office Manager would be able to make the following decision and determination based upon the analysis in this EIS:

- Determine whether Reclamation would concur by issuance of a letter of concurrence to the granting of a Right-of-Way Grant by the BLM.

Before BLM can issue the Right-of-Way Grant that allows the Project to occupy federal lands, the applicant is required to submit a complete POD to address all relevant construction and post-construction activities, including off-site mitigation plans. If upon adoption of the EIS and issuance of a ROD, the BLM issues a Right-of-Way Grant with concurrence of the Forest Service and Reclamation, that grant will stipulate specific conditions, including those described in the approved POD, related to lands, facilities, and easements within its respective jurisdiction.

1.5.2.1 Consistency with Federal Land Management Plans

Approximately 71 miles of the Pacific Connector pipeline route would cross federal lands administered by the BLM or the Forest Service. The pipeline route would cross portions of four BLM Districts and three National Forests. Land within each BLM District is managed in accordance with the District's RMP, while land within each National Forest is managed according to the National Forest's LRMP. Under these plans, BLM and NFS lands are divided into land allocations, each of which has specific goals and objectives as well as corresponding standards and guidelines (Forest Service LRMPs) or management direction (BLM RMPs). Before BLM can issue a Right-of-Way Grant for the Project, the BLM and the Forest Service must determine that the Project is consistent with all applicable BLM and Forest Service LMPs.

In 1994, the ROD for the Northwest Forest Plan (NWFP) amended LMPs for federal lands within the range of the NSO including the LRMPs of the Umpqua, Rogue River, and Winema National Forests. Subsequently in 1995, the RMPs of the BLM's Coos Bay, Roseburg, Medford Districts, and Klamath Falls Resource Area of the Lakeview District, were revised to incorporate the requirements of the NWFP. Thus the elements of the NWFP have been incorporated into the LMPs of all seven administrative units of the BLM and Forest Service that may be included in the BLM Right-of-Way Grant. The NWFP represented a major shift in focus for federal land management agencies in the affected area from an emphasis on intensive timber management to an emphasis on the maintenance of biodiversity and habitat for species dependent on late-successional and old-growth (LSOG) forests. The NWFP provided a comprehensive conservation strategy for managing late-successional and old-growth forests and promoting the long-term health of the rich diversity of plant and animal communities and species that are an integral part of that ecosystem.

The core components of the NWFP conservation strategy are: (1) a network of mapped and unmapped LSRs distributed across the landscape where management actions must protect or enhance late-successional forest conditions; (2) an aquatic conservation strategy providing for the delineation of Riparian Reserves and other measures to maintain and restore aquatic and riparian habitats; and (3) a series of broadly stated standards and guidelines to guide development of on-the-ground projects for implementation of the conservation strategy. The NWFP also addresses the need to protect rare and poorly known plant and animal LSOG species broadly referred to as Survey and Manage (S&M) species. The standards and guidelines for S&M species were amended in 2001.

When projects comply with the standards and guidelines or management direction of a LMP, they are “consistent” with that plan. Conversely, projects that are not consistent with these standards and guidelines are generally not consistent with the plan. When a project is not consistent with the governing LMP(s) where the action occurs, the following three options are available to the land management agency:

- The agency does not approve the project and it is not implemented;
- The applicant modifies the project to make it compliant with the underlying LMP(s); or
- The agency amends the underlying LMP to make provision for the project to go forward.

This EIS documents actions that would be taken by Pacific Connector to avoid, reduce, or mitigate impacts by incorporating a wide range of conservation measures and BMPs, including adopting the May 2013 versions of the FERC’s *Erosion Control and Revegetation Plan* (FERC’s *Plan*) and our *Wetland and Waterbody Construction and Mitigation Procedures* (FERC’s *Procedures*), and various attachments to the POD. Taken in whole, these actions are intended to ensure that the Project may ultimately conform to the governing BLM and Forest Service LMPs. Collectively, these actions, including all elements of the POD, would become enforceable conditions of the Right-of-Way Grant, if issued.

The linear nature of the pipeline corridor makes it impossible to avoid every circumstance that would be inconsistent with the stringent management requirements and standards and guidelines of RMPs and LRMPs for federal lands within the range of the NSO. As proposed, the Pacific Connector Pipeline Project is not consistent with some aspect of each of the relevant LMPs at some locations, and amendments to these plans are required in order to make provision for the Project to proceed. The BLM process for amending an RMP is set forth in 43 CFR 1610.5, while the complementary Forest Service process for amending an LRMP is set forth in 36 CFR 219, Subpart B. These amendments have environmental consequences that are evaluated in this EIS. Some of the environmental issues directly related to amendment of elements of these LMPs include:

- Effects on S&M species and their habitat and the degree to which the pipeline project may threaten the continued persistence of affected species within the range of the NSO (approximately 448 sites of 78 species could be affected by the pipeline project, including approximately 369 sites of 67 species within the clearing limits of the pipeline corridor, 94 of which are occupied by *Arborimus longicaudus* [red tree vole]);
- Effects on LSR functionality and the degree to which mitigating effects of “Matrix to LSR” land reallocations and other mitigations render the Pacific Connector Pipeline Project neutral or beneficial to the creation and maintenance of late-successional habitat

(approximately 408 acres of LSR would be cleared with project construction and 1,896 acres of Matrix would be reallocated as LSR);

- Effects on contiguous existing or recruitment habitat of MAMUs within 0.5 mile of occupied sites (approximately 39 acres of habitat would be cleared with construction of the pipeline project), the impact of these habitat losses on LSR network functionality; and Effects on habitat at three Known Owl Activity Centers (KOACs), and the impact of the approximately 7 acres of habitat removal on LSR network functionality.

The loss of BLM General Forest Lands through “Matrix to LSR” reallocation would be offset by the applicant acquiring timber-producing lands so the BLM can maintain their timber-producing base.

Other issues associated with Forest Service plan amendments that must be evaluated in the context of their significance to the delivery of goods and services or attainment of LRMP goals and objectives include:

- Effects of removal of effective shade on perennial streams on the Umpqua National Forest;
- Effects of crossing approximately 2 acres of the Management Area (MA) 26, Restricted Riparian land allocation on the Rogue River National Forest and of running parallel to riparian areas on the Umpqua National Forest for approximately 0.1 mile;
- Effects on changes in visual quality objectives on the Rogue River and Winema National Forests; and Effects of detrimental soil conditions caused by soil displacement and compaction on the Winema, Rogue River, and Umpqua National Forests.

With the exception of the boundary changes resulting from the reallocation of Matrix land to LSR, these proposed BLM and Forest Service amendments to BLM and Forest Service LMPs are Project-specific, and apply only to the Pacific Connector Pipeline Project, if authorized.

Appendix E of this EIS contains an assessment regarding the Project’s consistency with federal LMPs. Table 1.5.2.1-1 categorizes the proposed amendments by these major issues and BLM/Forest Service administrative unit. The designations of the various proposed amendments refer to the NOI published by the Forest Service and BLM in the *Federal Register* on September 21, 2012.

As is evident in table 1.5.2.1-1, amendments associated with S&M species are relevant to all land allocations on each of the seven BLM and Forest Service administrative units, while those associated with LSR impacts (and related mitigation) are relevant to only the BLM Coos Bay and Roseburg Districts and the Umpqua and Rogue River National Forests. For the BLM Medford District and the Klamath Falls Resource Area, only S&M species amendments are relevant. S&M species and LSR-related amendments are the only amendments relevant to any of the BLM districts. On the National Forests, many other issues, including soil displacement/compaction and visual quality objectives (VQOs), require plan amendments for the Project to be a conforming use under the governing LRMPs.

TABLE 1.5.2.1-1

BLM and Forest Service Land Management Plan Consistency and Proposed Amendments

Standards and Guidelines or Management Direction ^{a/}	Proposed Plan Revision (Amendment)	BLM District				National Forest		
		Coos Bay	Roseburg	Medford	Lakeview (KFRA)	Umpqua	Rogue River	Winema
Requirement to protect Survey and Manage species habitat	Site-specific waiver of management recommendations for protection of known sites of Survey and Manage species	BLM/FS-1	BLM/FS-1	BLM/FS-1	BLM/FS-1	BLM/FS-1	BLM/FS-1	BLM/FS-1
Requirement to protect habitat in contiguous existing or recruitment habitat for marbled murrelet (MAMU) within 0.5 mile of occupied sites	Site-specific exemption of requirement to protect MAMU habitat	BLM-1	BLM-1					
Requirement to protect habitat in Known Owl Activity Centers (KOACs)	Site-specific exemption of requirement to retain habitat in KOACs		BLM-2					
Requirement to mitigate for impacts to Late-Successional Reserves (LSRs)	Reallocation of Matrix Lands to LSR	BLM-4	BLM-3			UNF-4	RRNF-7	
Forest-wide Standards and Guidelines for fisheries prohibit removal of effective shade on perennial streams	Site-specific amendment to allow removal of effective shade on perennial streams					UNF-1		
Standards and Guidelines for riparian land allocation require that transmission corridors be located outside these areas	Site-specific amendment to allow utility corridors in riparian areas					UNF-2	RRNF-5	
Standards and Guidelines for Management Area (MA) 3 do not allow new utility corridors in the management area	Site-Specific Amendment to allow utility corridors in MA 3							WNF-1
Standards and Guidelines for soils allow only a certain amount (10-20 percent) of displacement and compaction, depending on the land allocation	Site-specific amendment to waive limitations on detrimental soil conditions					UNF-3	RRNF-6	WNF-4 WNF-5
Visual quality objectives (VQO) must be met within a specified timeframe	Site-specific amendment of VQOs						RRNF-2 RRNF-3 RRNF-4	WNF-2 WNF-3
^{a/} BLM RMPs use the term "Management Direction" for on-the-ground requirements that projects must meet on BLM lands. Forest Service LRMPs use the term "Standards and Guidelines" for on-the-ground requirements that projects must meet on NFS lands.								

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1.5.2.2 BLM Review and Approval Requirements

Adopt FERC EIS

As a cooperating agency, the BLM would consider adopting the EIS for the Project pursuant to 40 CFR 1506.3(c) if, after an independent review of the document, the BLM Oregon/Washington State Director concurs that the analysis provides sufficient evidence to support agency decisions and is satisfied that agency comments and suggestions have been addressed.

Issue ROD that Amends RMPs

If the EIS for the Project is adopted by the BLM, the agency may issue a ROD that would document the Oregon/Washington State Director's decision regarding approval of amendments to the RMPs to make provision for the Project to move forward.

Issue ROD for Award of a Right-of-Way Grant to Authorize Occupancy of Federal Lands

Concurrent with amendment of RMPs, the Oregon/Washington State Director may issue a ROD to award a Right-of-Way Grant for the Project. The BLM would consult with the Forest Service and Reclamation before making a decision regarding issuance of the Right-of-Way Grant.

Issue Right-of-Way Grant

Prior to occupancy of federal lands by the Project, a Right-of-Way Grant must be issued by the BLM. If issued by the BLM, the Right-of-Way Grant would include: (1) a POD, which would contain, among other requirements: conditions and mitigation measures identified in the EIS; (2) standards and site-specific stipulations (including mitigation measures) developed by BLM and Forest Service; and (3) terms and conditions from the BOs issued by the FWS and NMFS.

1.5.2.3 Forest Service Review and Approval Requirements

Adopt FERC EIS

As a cooperating agency, the Forest Service would consider adopting the EIS for the Project pursuant to 40 CFR 1506.3(c) if, after an independent review of the document, the Forest Supervisor of the Umpqua National Forest concurs that the analysis provides sufficient evidence to support agency decisions and is satisfied that agency comments and suggestions have been addressed.

Issue ROD that Amends LRMPs

If the EIS for the Project is adopted by the Forest Service, the agency may issue a ROD that would document the decision of the Forest Supervisor of the Umpqua National Forest regarding approval of amendments to LRMPs to make provision for the Project. The ROD would include statements of plan consistency and determinations of significance of effects of plan amendments on the delivery of goods and services under the plan.

Issue Letter of Concurrence to BLM

The Forest Service would use the NEPA process to issue a letter of concurrence to BLM regarding the issuance of a Right-of-Way Grant for the portion of the route crossing NFS lands administered by the Forest Service.

1.5.2.4 Reclamation Review and Approval Requirements

Issue Letter of Concurrence to BLM

Reclamation would use the NEPA process to issue a letter of concurrence to the BLM regarding the issuance of a Right-of-Way Grant for the portion of the pipeline route crossing lands and facilities of the Klamath Project administered by Reclamation's Mid-Pacific Region Klamath Basin Area Office.

1.5.3 Reviews by Other Federal Agencies

1.5.3.1 Coast Guard Review

The Coast Guard exercises regulatory authority over LNG facilities that affect the safety and security of port areas and navigable waterways under EO 10173; the Magnuson Act (50 U.S.C. Section 191); the Ports and Waterways Safety Act of 1972, as amended (33 U.S.C. Section 1221 et seq.); and the Maritime Transportation Security Act of 2002 (46 U.S.C. Section 701). The Coast Guard is responsible for matters related to navigation safety, vessel engineering and safety standards, and all matters pertaining to the safety of the facilities or equipment located in or adjacent to navigable waters up to the last valve immediately before the LNG storage tanks. The Coast Guard also has authority for LNG facility security plan review, approval, and compliance verification as provided in 33 CFR 105, and siting as it pertains to the management of vessel traffic in and around the LNG facility. As required by its regulations, the Coast Guard is responsible for issuing an LOR as to the suitability of the waterway for LNG marine traffic.

In accordance with 33 CFR 127.007, each applicant must submit a Letter of Intent (LOI) to the local COTP to begin the LOR process. Jordan Cove submitted an LOI to the Coast Guard for its original LNG import Project in 2006. The Coast Guard has informed Jordan Cove that the previous LOI is suitable for the current Project provided it is amended to address any operating changes required for the change from an import to export terminal.

On June 14, 2005, the Coast Guard issued a *Navigation and Vessel Inspection Circular – Guidance on Assessing the Suitability of a Waterway for Liquefied Natural Gas (LNG) Marine Traffic* (Navigation and Carrier Inspection Circular [NVIC] 05-05). The purpose of the NVIC 05-05 is to provide Coast Guard COTPs/Federal Maritime Security Coordinators, members of the LNG industry, and port stakeholders with guidance on assessing the suitability of a waterway for LNG marine traffic that takes into account conventional navigation safety/waterway management issues contemplated by the existing LOI/LOR process, but in addition, will also take completely into account maritime security implications. In accordance with this guidance, each LNG project applicant is to submit a WSA to the cognizant COTP. On December 22, 2008, the Coast Guard published a second NVIC, *Guidance Related to Waterfront Liquefied Natural Gas (LNG) Facilities* (NVIC 05-08; Coast Guard 2008). The purpose of NVIC 05-08 is to revise the format of the LOR to conform to its intended effect of being a recommendation of the waterway suitability to the FERC. The NVIC 05-08 is further discussed in section 4.13. On January 24, 2011, the Coast Guard published a third NVIC: *Guidance Related To Waterfront Liquefied Natural Gas (LNG) Facilities* (NVIC 01-2011). The purpose of NVIC 01-2011 is to revise the format of the LOR to conform to its intended effect of being a recommendation to FERC as to the suitability of the waterway. In this NVIC, the Coast Guard has added guidance on release of the LOR and message management, and provides an updated template for the LOR analysis. The WSR was issued pursuant to NVIC 05-05. The final review and LOR were issued

pursuant to NVIC 05-08, which replaced NVIC 05-05. NVIC 05-08 eliminated the term WSR and replaced it with “Letter of Recommendation (LOR) Analysis.” For the purpose of clarity, the WSR is equivalent to the LOR Analysis. Section 813 of the Coast Guard Authorization Act of 2010 requires the Coast Guard to consider recommendations made by the States prior to making a recommendation to FERC on the suitability of the waterway for marine traffic associated with an LNG facility. Although this law was effective after the WSR and LOR were issued, the ODE (as lead State agency) was an active participant in the WSA validation committee and concurred with the verbiage of the WSR and LOR.

Jordan Cove submitted a WSA to the Coast Guard for its original LNG import project in 2006. The Coast Guard issued a WSR on July 1, 2008, and issued a LOR on April 24, 2009, which are both still valid. The Coast Guard acknowledged the validity of the WSR and LOR in their letter to Amergent Techs (Jordan Cove’s contractor) on February 21, 2012. Jordan Cove submitted to the Coast Guard on January 13, 2014 its most recent annual review of the WSA. On February 14, 2014, the COTP indicated that the risks associated with the waterway and the terminal facility as originally evaluated did not substantially change for the newly proposed LNG export Project. The public portions of the Coast Guard’s WSR and LOR are attached to this EIS as appendix B. See section 4.13 of this EIS for additional discussion of marine safety.

1.5.3.2 U.S. Department of Defense Consultation

As required by Section 311(f) of the EPAct and Section 3 of the NGA, we have consulted with the U.S. Department of Defense (DOD) to determine if there would be any impacts associated with the Project on military training or activities on any active military installations. On September 27, 2012, we sent a letter to the DOD Siting Clearinghouse informing them of the Project, and requesting comments. Colonel Suzanne Johnson, Military Assistant to the Executive Director of the DOD Siting Clearinghouse responded, in a letter to the FERC dated November 2, 2012, that the Project would have minimal impact on military operations in the area. Therefore, the DOD does not oppose construction of the Project.

1.5.3.3 U.S. Army Corps of Engineers Review

The COE is the primary federal agency responsible for reviewing and processing applications for permits pursuant to Section 404 of the CWA and Section 10 of the RHA. Jordan Cove and Pacific Connector submitted their single comprehensive JPA to the COE in October 2013. The COE would process the JPA in accordance with its regulations at 33 CFR Parts 320 through 330 and supporting guidance.

In an October 9, 2012, letter to the FERC responding to our NOI, the COE requested that this EIS address the following topics:

- purpose and need for the Project;
- characterization of waterbodies and wetlands (including high tide line, mean high water, ordinary high water, and wetland boundaries);
- classifications of fisheries in waterbodies;
- waterbody and wetland construction drawings;
- potential to encounter contaminated sediments;
- modifications to the FERC’s Plan and Procedures; and
- proposed compensatory mitigation measures.

The COE can adopt the FERC's EIS for its NEPA purposes, and to document compliance with other federal laws, including the ESA, MSA, and NHPA. The purpose and need for the Project are briefly summarized in section 1.3 above. We discuss issues pertaining to impacts on water resources and wetlands, including contaminated sediments and proposed mitigation measures, in section 4.4 of this EIS. Fisheries are discussed in section 4.6. Modifications to the FERC's *Plan* and *Procedures* are addressed in sections 4.4 and 4.6.

1.5.3.4 U.S. Environmental Protection Agency Review

The EPA shares responsibility for administering and enforcing Section 404 of the CWA with the COE. The COE administers the day-to-day program, including individual permit decisions and jurisdictional determinations; develops policy and guidance; and enforces Section 404 provisions. The EPA develops and interprets environmental criteria used in evaluating permit applications, identifies activities that are exempt from permitting, reviews/comments on individual permit applications, enforces Section 404 provisions, and has authority to veto COE permit decisions.

The EPA also co-administers the MPRSA with the COE. Section 103 of the MPRSA authorizes the COE to issue permits for the ocean disposal of dredged material. That permit decision is made using the EPA's environmental criteria and is subject to EPA's concurrence if disposal is proposed at an EPA-designated site, under Section 102 of the MPRSA. Use of an EPA site must also meet the requirements of the site's Site Management and Monitoring Plan.

In addition, the EPA has an obligation under Section 309 of the CAA to review and comment in writing on the environmental impact associated with all major federal actions. This obligation is independent of its role as a cooperating agency under the NEPA regulations. Consistent with this direction, EPA evaluates all federally issued EISs for adequacy in meeting the procedural and public disclosure requirements of the NEPA.

1.5.3.5 U.S. Fish and Wildlife Service and National Marine Fisheries Service Review

The FWS and NMFS have the authority under the ESA to work with federal agencies and applicants to conserve ESA-listed species and their critical and other habitats. The FWS and NMFS will consult with lead federal agencies for actions that may affect ESA-listed species and/or critical habitats. The FWS and NMFS have the authority under the Fish and Wildlife Coordination Act (FWCA) to review applications for CWA Section 404 and Section 401 permits. The FWS has authority under the MBTA and EO 13186 and its associated MOUs with federal agencies to conserve migratory birds and their habitats. NMFS has the authority under the MSA and MMPA to review a project's impacts to essential fish habitats and to protect marine mammals. Concurrent with the issuance of this EIS, the FERC would submit its BA and EFH Assessment for this Project to the FWS and NMFS. In response, the Services would enter into formal consultations and produce their individual BOs for the Project. In addition, the NMFS would review the draft application for IHA under the MMPA submitted by Jordan Cove and Pacific Connector in October 2014, and would issue a Letter of Authorization under Section 101(a)(5) of the MMPA and 50 CRF 216 subpart 1.

1.5.3.6 U.S. Department of Energy Review

DOE's authority to regulate the export of the natural gas commodity arises from Section 3 of the NGA. By law, under Section 3(c) of the NGA, applications to export natural gas to countries

with which the United States has FTAs that require national treatment for trade in natural gas are deemed to be consistent with the public interest and the Secretary must grant authorization without modification or delay.

In the case of LNG export applications to non-FTA nations, NGA Section 3(a) requires DOE to conduct a public interest review and to grant the applications unless DOE finds that the proposed exports will not be consistent with the public interest. Additionally, the NEPA requires DOE to consider the environmental impacts of its decisions on non-FTA nations export applications. In this regard, DOE acts as a cooperating agency with the FERC as the lead agency in this EIS pursuant to the requirements of the NEPA. The DOE authorized Jordan Cove to export LNG to FTA Nations and non-FTA Nations in Orders issued in December 2011 and March 2014, respectively.

1.5.3.7 U.S. Department of Transportation Review

The DOT is a cooperating agency in the production of this EIS. The DOT would review the design and construction of the Project under 49 CFR 193. In June 2014, PHMSA accepted Jordan Cove's methodologies for modeling credible leak scenarios at the terminal. This is discussed in more detail in section 4.13 of this EIS.

1.5.4 State Agency Permits and Approvals

In addition to the federal permitting authorities that have been delegated to the states, as discussed above, various laws and regulations promulgated by the state of Oregon pertain to the JCE & PCGP Project. The Coast Guard also worked with representatives of the state of Oregon in reviewing the WSA for the Project.

The FERC encourages cooperation between applicants and state and local authorities, but this does not mean that state and local agencies, through application of state and local laws, may prohibit or unreasonably delay the construction or operation of facilities approved by the FERC. Any state or local permits issued with respect to FERC regulated facilities must be consistent with the conditions of any Certificate the FERC may issue.⁴⁰

Oregon permits, authorizations, and consultations with state agencies relevant to the Project are listed in table 1.5.1-1. Reviews by Oregon state agencies are discussed below.

1.5.4.1 Oregon Department of Agriculture

The Oregon Department of Agriculture (ODA) maintains the state list of endangered and threatened species, in accordance with Oregon Administrative Rule (OAR) Chapter 603, Division 73, and reviews reports of botanical surveys under Oregon Senate Bill 533 and its corresponding Oregon Revised Statute (ORS) 564. These state laws and regulations require surveys for state listed species on non-federal public lands prior to ground-disturbing activities, unless habitat for the species does not exist in the project area. Furthermore, the ODA Noxious Weed Control Program and the Oregon State Weed Board maintain the State Noxious Weed List for the State of Oregon.

⁴⁰ See, e.g., *Schneidewind v. ANR Pipeline Co.*, 485 U.S. 293 (1988); *National Fuel Gas Supply v. Public Service Commission*, 894 F.2d 571 (2d Cir. 1990); and *Iroquois Gas Transmission System, L.P., et al.*, 52 FERC 61,091 (1990) and 59 FERC 61,094 (1992).

Botanical surveys for special status species, including state listed species under the jurisdiction of the ODA, were conducted by the applicants' contractors where access was granted. On September 15, 2008, the ODA indicated that no state listed plant species would be adversely affected at the LNG terminal, based on Jordan Cove's original botanical survey results.⁴¹ Because areas where access was previously denied along the proposed pipeline route cannot be surveyed by Pacific Connector until after a Certificate is issued by the FERC, providing the company with the power of eminent domain, complete botanical survey reports would be submitted to ODA prior to construction that document all suitable habitat and state listed plant species that may be affected by the Project. Potential Project-related impacts on upland plant species are discussed in section 4.5 of this EIS, while wetland plant species are discussed in section 4.4.

1.5.4.2 Oregon Department of Energy

According to the EPAct, the Governor of a state in which an LNG terminal is proposed is to designate an appropriate state agency to consult with the Commission. That state agency should provide the FERC with an advisory report on state and local safety concerns, within 30 days of the FERC's notice of an application for an LNG terminal, for the Commission to consider prior to making a decision. The ODE has been designated by the Governor of Oregon as the state agency to coordinate the review of proposed LNG projects by other state agencies and consult with the FERC. However, the ODE did not submit a State Safety Advisory Report to the FERC in response to our Notice of Application issued on May 30, 2013, for Jordan Cove's LNG export terminal under Docket No. CP13-483-000.⁴²

In addition, the ODE's EFSC would have authority to approve or disapprove Jordan Cove's South Dunes Power Plant, and if approved, the EFSC would issue a site certificate. The types of facilities under EFSC's jurisdiction are defined in ORS 469.300. The rules and procedures for review of an Oregon-jurisdictional energy facility by EFSC are outlined in OAR Chapter 345, Divisions 1,11,15,20, 21-24, 26-28, and 30-95. During the review process, the company would file a Notice of Intent, EFSC would issue a Project Order, the company would file its Application for a Site Certificate, and EFSC would issue its Final Order, which is the decision document, after hearings in consideration of a Draft Order.

Jordan Cove filed its original Notice of Intent for the South Dunes Power Plant with the EFSC on August 1, 2012, and amended that notice on November 30, 2012. EFSC issued a public notice, and took comments on the amendment up through January 4, 2013. On February 14, 2013, EFSC issued its Project Order for the South Dunes Power Plant. Jordan Cove has not yet filed its Application for a Site Certificate with the EFSC. We discuss the South Dunes Power Plant under non-jurisdictional facilities in section 2.2.1 of this EIS.

The ODE also is the state agency that would enforce Oregon's carbon dioxide (CO₂) emission standards, and would enforce the state's requirements for retirement bonds. Our analysis of CO₂ emissions can be found in section 4.12.1 of this EIS. The ODE signed an MOU with Jordan

⁴¹ Jordan Cove updated the botanical survey report as Appendix B.3 of Resource Report 3 filed with its May 2013 application to the FERC. Jordan Cove has not yet documented ODA review of the 2013 report.

⁴² Oregon state agencies filed environmental comments with the FERC about the proposed Jordan Cove LNG export terminal on October 29, 2012, in response to our NOI issued on August 2, 2012. On June 20, 2013, the ODE filed with the FERC a motion to intervene and statement of position, but we do not consider that statement to represent the State Safety Advisory Report.

Cove on June 10, 2014 regarding compliance with the state's CO₂ standards and its Retirement and Financial Assurance Standard for the LNG terminal.⁴³ We discuss future potential abandonment of facilities in section 2.9 of this EIS.

1.5.4.3 Oregon Department of Environmental Quality

The ODEQ is responsible for protecting and enhancing Oregon's water and air quality, managing the proper disposal of hazardous and solid waste, overseeing clean-ups of spills or releases of hazardous materials, and enforcing Oregon's environmental laws and regulations. The agency's duties to regulate sewage treatment and disposal systems are found in ORS Chapter 454, for solid waste management in Chapter 459, hazardous materials in Chapters 465 and 466, air and water quality in Chapter 468, and ballast water in Chapter 783. EPA has delegated authority to ODEQ under both the CWA and CAA. The state rules for administration of those authorities can be found in OAR 340, Division 40 for groundwater quality protection; Divisions 41, 42, and 48 for water quality; Division 45 for NPDES permits; Division 44 for waste disposal wells; Divisions 49-50, 53, and 55 for wastewater; Divisions 93-98 for solid waste; Divisions 100-104 for hazardous waste; Division 143 for ballast water; and Divisions 2002, 202, 204, 208, 210-216, 218, 220, 222-226, 228, 232, 236, 238, 240, 244, 246, and 250 for air quality.

Under its delegated responsibilities, the ODEQ issues CWA Section 401 Removal and Fill Water Quality Certificate permits, Water Pollution Control Facility permits, and NPDES permits under Section 402 of the CWA. Pacific Connector stated that it provided the ODEQ with water quality information when it submitted its JPA to the COE. The company also applied for coverage under ODEQ's general NPDES permit for discharge of construction stormwater. Water quality issues are addressed in detail in section 4.4 of this EIS.

Under its delegated responsibilities required by the CAA, ODEQ administers the Title V Air Permit program and the acid rain program, and issues air contaminant discharge permits (ACDP). The agency is also responsible for enforcing greenhouse gas (GHG) reporting requirements, and collecting data on GHG emissions for certain facilities that hold Title V or ACDP operating permits. In addition, ODEQ makes determinations about the Prevention of Significant Deterioration (PSD) of air quality from new major sources or major modifications at existing sources, and reviews air quality analyses completed to comply with National Ambient Air Quality Standards (NAAQS).

Jordan Cove submitted its air quality permit application to the ODEQ in March 2013, and its multisource air quality modeling protocol to the ODEQ in April 2013. Pacific Connector is still consulting with the ODEQ regarding the requirements of an air quality permit and modeling protocol, but has not yet provided ODEQ with anything official. Air quality issues are addressed in section 4.12.1 of this EIS.

1.5.4.4 Oregon Department of Fish and Wildlife

The ODFW is responsible for keeping the state sensitive fish and wildlife list and developing the state's Wildlife Diversity Plan. The purpose of the Fish and Wildlife Habitat Mitigation Policy (OAR 345-22-60) developed by the ODFW is to apply consistent goals and standards to mitigate impacts on fish and wildlife habitat caused by land and water development actions. The policy

⁴³ The MOUs between the State of Oregon and Jordan Cove were filed with the FERC on July 1, 2014 in Docket No. CP13-483-000.

provides goals and standards for general application to individual development actions, and for the development of more detailed policies for specific classes of development actions or habitat types. In implementing this policy, the ODFW will recommend or require mitigation for losses of fish and wildlife habitat resulting from development actions. Priority is given to native species. Both Jordan Cove and Pacific Connector have voluntarily agreed to categorize habitat on lands affected by the Project and seek mitigation of impacts on wildlife in a manner consistent with the ODFW's policies. Both applicants consulted with the ODFW regarding habitat categorization during 2008 and 2009. Jordan Cove filed with the FERC its latest revision of its *Wildlife Habitat Mitigation Plan* on July 1, 2014, that is supposed to address ODFW comments on an earlier version. Pacific Connector has not yet submitted its *Wildlife Habitat Mitigation Plan* to ODFW for review.

ODFW would also review fish screening at water intakes under ORS 498-306. Under ORS 509 and OAR 635, ODFW has responsibilities for review of stream crossing plans to provide for passage of native migratory fish. Pacific Connector has applied to the ODFW for approval of fish passage measures at waterbodies crossed by the pipeline route. On January 29, 2014, Jordan Cove submitted its *Draft Wildlife Salvage Plan* to ODFW (filed with its application to the FERC as Attachment 12 of its POD). Pacific Connector also applied to the ODFW for a permit to conduct in-water blasting at waterbodies with exposed bedrock. Further discussions of fish and wildlife issues can be found in section 4.6 of this EIS.

1.5.4.5 Oregon Department of Forestry

The ODF manages State Forests for the Greatest Permanent Value. The ODF has created a Forest Management Plan to provide strategic direction and guide management activities. Part of the plan is to identify multi-purpose objectives, and protect sensitive resources according to the state's Land Management Classification System. The ODF also monitors the commercial harvest of forest products from private timber lands, according to the Oregon Forest Practices Act. The ODF is responsible for protection of non-federal and private forest lands from wildfires. Pacific Connector would prepare and submit to the ODF State Forester for approval a written plan, describing how the pipeline would be in compliance with the Forest Practices Act (OAR 629-605-170), prior to harvesting activities. Pacific Connector's June 2013 application to the FERC contained a *Right-of-Way Clearing Plan*, a *Fire Prevention and Suppression Plan*, and a *Prescribed Burning Plan* as part of its POD. This EIS discusses potential Project-related impacts on timber in section 4.5.2.

1.5.4.6 Oregon Department of Geology and Mineral Industries

The mission of the Oregon Department of Geology and Mineral Industries (DOGAMI) is to provide earth science information for the citizens of Oregon. DOGAMI identifies and quantifies natural hazards, and works to minimize potential impacts of earthquakes, landslides, and tsunamis. Its administrative rule at OAR 632, includes the identification of Tsunami Inundation Zones under Division 5. The agency is also the steward of Oregon's mineral resources, and it regulates mining activities, and oil and gas exploration and production on non-federal lands. Jordan Cove and Pacific Connector obtained baseline information about geological hazards from DOGAMI.

Jordan Cove has prepared a Tsunami Hydrodynamic Modeling Methodology. DOGAMI has reviewed this modeling effort, and recommended using their rupture Scenario L1 to best

represent the 2,475-year hazard level design criteria outlined in the revised FERC seismic design criteria. This EIS addresses geological hazards in section 4.2.

1.5.4.7 Oregon State Historic Preservation Office

The FERC, as the lead federal agency, on behalf of the federal cooperating agencies, would consult with the Oregon SHPO regarding the identification of historic properties and determination of Project-related effects, in accordance with 36 CFR 800, in order to comply with Section 106 of the NHPA. On June 3, 2011, the SHPO signed the MOA for the original Jordan Cove LNG import terminal and Pacific Connector sendout pipeline under Docket Nos. CP07-441-000 and CP07-444-000 regarding the resolution of adverse effects and providing for a phased approach to future investigations. If the new proposals under Docket Nos. CP13-483-000 and CP13-492-000 are approved by the Commission, we would amend the MOA, with SHPO concurrence.

The SHPO also has authorities under ORS 358-920 to issue permits for cultural resources surveys on non-federal public land, and for the excavation of archaeological sites on non-federal lands. Jordan Cove and Pacific Connector would obtain applicable permits from the SHPO prior to conducting other archaeological work related to the Project. Consultations with the SHPO and the status of compliance with the NHPA are discussed in section 4.11 of this EIS.

1.5.4.8 Oregon Department of Land, Conservation, and Development

The ODLCD assists communities and citizens in improving the built and natural environment. Under Oregon's statewide land use planning program, the ODLCD provides protection for farm and forest lands, conservation of natural resources, plans for orderly development, and coordinates among local governments. Comprehensive land use planning coordination is required under ORS 197. All cities and counties have adopted plans that meet state standards and adhere to 19 Statewide Planning Goals and Guidelines, as articulated in OAR 660-15.

In addition, NOAA has delegated to the state of Oregon the finding of consistency with the CZMA, under 15 CFR Part 930. In accordance with ORS 196.435, the ODLCD's Ocean and Coastal Services Division has been designated the state's coastal zone management agency, and administers the CZMA federal consistency review program under OAR 660-035. Applicants for certification of CZMA consistency are encouraged by the ODLCD to obtain state and local permits and other authorizations required by enforceable policies.

On August 1, 2014, Jordan Cove and Pacific Connector submitted their applications for Certification of Consistency to the ODLCD. The six-month review period regarding federal consistency provisions of the CZMA began on August 1, 2014, and will end on February 1, 2015. The CZMA consistency process is discussed in section 4.1.1.2 of this EIS.

1.5.4.9 Oregon Department of State Lands

Under Oregon's Removal-Fill Law (ORS 196-800-990), permits are issued by the ODSL for:

- projects requiring the removal or fill of 50 cubic yards or more of material in waters of the state;
- the removal or fill of any material regardless of the number of cubic yards affected in a stream designated as essential salmon habitat; and

the removal or fill of any material from the bed and banks of scenic waterways regardless of the number of cubic yards affected.

An application to the ODSL should demonstrate independent utility, best use of waters, and outline measures to minimize impacts on water resources. To meet the requirements of OAR Division 85, compensatory mitigation should be offered to replace all lost functions and values of wetlands and waterbodies impacted by a project. We discuss impacts on water resources and wetlands, and proposed measures to avoid, reduce, or mitigate those impacts in section 4.4 of this EIS.

ODSL requested the opportunity to concur with the applicants' delineations of waters of the state; this would occur as part of and jointly with the COE review. The applicants provided survey reports to ODSL in June of 2013.

The applicants would also need to obtain easements or rights-of-way to cross lands owned or managed by ODSL, including state waters. Jordan Cove indicated that it would be submitting two applications to the ODSL: (1) for the LNG terminal; and (2) another for the South Dunes Power Plant. Jordan Cove and Pacific Connector would submit its JPA to ODSL to obtain permits under the state's Joint Removal-Fill Law.

On February 19, 2013, the ODSL issued an Amended Proposed Order that would allow the dredging of Jordan Cove's proposed access channel and the portion of the marine slip in Coos Bay, under the state's Submerged and Submersible Land Easement regulations (OAR 141-122). ODSL accepted Pacific Connector's application for construction-associated dredging/disturbance in the bay under Permit Number 54484-RF on December 2, 2013. Pacific Connector submitted its application to ODSL for removal-fill permits for the remainder of the proposed pipeline route as part of its JPA with the COE.

1.5.4.10 Oregon Department of Water Resources

The mission of the ODWR is to address the state's water supply needs through the restoration and protection of stream flows and watersheds. ODWR is charged with administering state laws and regulations governing surface and groundwater resources, such as the Ground Water Act under ORS 537-505. Its core functions include collecting water resources data, and enforcing water rights, under OAR Chapter 690. All water is publicly owned in Oregon, and users must obtain a permit or water right from ODWR, including water withdrawals from underground wells, streams, or lakes.

ODWR maintains a database of water well locations, and a database for stream flows and lake levels. The applicants utilized the 2008 database for their application to FERC; however, FERC updated the analysis using the revised 2012 database.

Pacific Connector applied to the ODWR for a license for temporary use of surface waters during pipeline construction and testing. Water resources are discussed in section 4.4 of this EIS.

1.6 PUBLIC REVIEW AND COMMENTS

The environmental review of the JCE & PCGP Project began with the initiation of the FERC's Pre-filing Review Process. On February 29, 2012, Jordan Cove requested that the FERC initiate the Pre-filing Review Process for its newly proposed LNG export project, and we accepted that request on March 6, 2012, assigning it Docket No. PF12-7-000. On June 7, 2012, Pacific

Connector requested that the FERC initiate the Pre-filing Review Process for its newly proposed pipeline project, and we accepted that request on June 8, 2012, assigning it Docket No. PF12-17-000.

In their requests to initiate the Pre-filing Review Process, Jordan Cove and Pacific Connector documented that they had previously contacted stakeholders, including federal, state, and local agencies, and some non-governmental organizations, about the newly proposed projects. In addition, both companies established project-specific webpages. Jordan Cove held an Open House meeting in Coos Bay on March 27, 2013. The Open House was advertised to the public through notices published in local newspapers. FERC staff attended the Open House, and organized a site visit to the proposed LNG terminal and the planned South Dunes Power Plant.⁴⁴

Pacific Connector held additional Open House meetings in Roseburg, Coos Bay, Klamath Falls, and Medford, Oregon during the week of June 25 through 28, 2012. Pacific Connector published notices about these Open Houses in local newspapers. FERC staff attended the Open Houses and were available to answer questions from the public.

On August 2, 2012, the FERC issued a *Notice of Intent to Prepare an Environmental Impact Statement for the Planned Jordan Cove Liquefaction and Pacific Connector Pipeline Projects, Request for Comments on Environmental Issues, and Notice of Public Scoping Meetings*.⁴⁵ The NOI was sent to affected landowners; federal, state, and local government agencies; elected officials; environmental and public interest groups; interested Indian tribes; and local libraries and newspapers. The NOI described the Project, listed currently identified environmental issues, outlined the proposed actions of the DOE, BLM, and Forest Service, discussed the scoping and environmental review process, announced the date, location, and time of four public scoping meetings, and explained how the public could participate and comment.

During the week of August 27-30, 2012, the FERC, BLM, and Forest Service held joint public scoping meetings in Coos Bay, Roseburg, Klamath Falls, and Medford to take comments about the Project, which were recorded by a court reporter.⁴⁶ FERC staff also conducted site visits to spots along the proposed route of the Pacific Connector pipeline and alternatives, and to the Klamath Compressor Station location on August 28 and 29, 2012.⁴⁷

The original FERC NOI indicated that the scoping period would end on September 4, 2012. On August 28, 2012, the FERC issued a *Notice of Extension of Comment Period and Additional Public Scoping Meetings for the Jordan Cove Liquefaction and Pacific Connector Pipeline Projects*. The scoping period was extended until October 29, 2012. On September 21, 2012, the FERC issued a *Notice of Additional Public Scoping Meetings for the Jordan Cove Liquefaction and Pacific Connector Pipeline Projects*. That notice announced additional public meetings, held October 9-11, 2012 in North Bend, Canyonville, and Malin. Also on September 21, 2012,

⁴⁴ The FERC announced staff attendance at the site visit and Open House in a *Notice of Onsite Environmental Review* issued March 16, 2012. Staff notes from the site visit were placed in the FERC public record on April 17, 2012.

⁴⁵ The FERC's NOI was also published in the *Federal Register* on August 13, 2012 (vol. 77, no. 156, pp. 48138-48145).

⁴⁶ Transcripts of all of the public scoping meetings for this Project were placed into the FERC public record for the proceedings.

⁴⁷ The FERC issued a *Notice of Onsite Environmental Review* on August 10, 2012, informing the public about the site visits. Staff notes of the site visits were placed in the FERC public record on September 20, 2012.

the BLM and Forest Service published a supplemental NOI⁴⁸ that addressed Pacific Connector’s application for a Right-of-Way Grant over federal lands, and proposed amendments to BLM and Forest Service District and Forest LMPs to make provisions for the pipeline.

In addition to the public notice and scoping process discussed above, the FERC staff conducted agency consultations and participated in interagency meetings with other key federal and state agencies to identify issues that should be addressed in this EIS. Five interagency meetings were held between March 2012 and April 2013: two at the BLM District Office in Roseburg on March 26, 2012, and March 12, 2013; and three meetings at the BLM District Office in Medford on June 27, August 30, and October 11 of 2012. A meeting was also held with Oregon state agencies on August 27, 2012 in Salem, organized by the ODE (see table 1.6-1). In addition, the cooperating agencies participated in bi-weekly NEPA-status telephone conference calls.⁴⁹

TABLE 1.6-1

Public and Interagency Meetings for the JCE & PCGP Project Attended by FERC Staff

Date	Location	Purpose	Attendees
3/26/12	Roseburg, OR	Interagency Meeting	FERC, BLM, Forest Service, EPA, COE, ODEQ
3/27/12	Coos Bay, OR	Open House/Site Visit	FERC, Jordan Cove, public
6/25/12	Roseburg, OR	Open House	FERC, Pacific Connector, public
6/26/12	Coos Bay, OR	Open House	FERC, Pacific Connector, public
6/27/12	Klamath Falls, OR	Open House	FERC, Pacific Connector, public
6/27/12	Medford, OR	Interagency Meeting	FERC, BLM, Forest Service, EPA, COE, FWS, ODEQ, Coast Guard, Jordan Cove, Pacific Connector
6/28/12	Medford, OR	Open House	FERC, Pacific Connector, public
8/27/12	Coos Bay, OR	Public Scoping Meeting	FERC, BLM, Forest Service, public
8/27/12	Salem, OR	State Agency Meeting	FERC, BLM, Forest Service, ODE, ODA, ODFW, ODSL, ODLCD, DAGAMI, SHPO, ODOT, Oregon Department of Justice, and Oregon Governor’s Office
8/28/12	Roseburg, OR	Public Scoping Meeting	FERC, BLM, Forest Service, public
8/28/12	Douglas County, Oregon	Site Visit	FERC, BLM, Forest Service, Cow Creek Tribe, Pacific Connector, public
8/29/12	Klamath Falls, OR	Public Scoping Meeting	FERC, BLM, Forest Service, Reclamation, public
8/29/12	Malin, OR	Site Visit	FERC, Pacific Connector, public
8/30/12	Medford, OR	Public Scoping Meeting	FERC, BLM, Forest Service, public
8/30/12	Medford, OR	Interagency Meeting	FERC, BLM, Forest Service, Reclamation, NMFS, FWS, COE, Pacific Connector, public
10/9/12	North Bend, OR	Public Scoping Meeting	FERC, BLM, Forest Service, public
10/10/12	Canyonville, Or	Public Scoping Meeting	FERC, BLM, Forest Service, public
10/11/12	Malin, OR	Public Scoping Meeting	FERC, BLM, Forest Service, Reclamation, public
10/11/12	Medford, OR	Interagency Meeting	FERC, BLM, Forest Service, Reclamation, EPA, COE, Jordan Cove, Pacific Connector
3/12/13	Roseburg, OR	Interagency Meeting	FERC, BLM, Forest Service, Reclamation, EPA, COE, FWS, Coast Guard, Jordan Cove, Pacific Connector

Throughout the Pre-filing Review Process, we received comments on a wide variety of environmental issues. Between March 6, 2012, when pre-filing was initiated for the Jordan Cove Project, and August 2, 2012, when we issued our NOI, the FERC received 7 letters. From August 3, 2012, to October 29, 2012 (the end of the announced scoping period), we received 170 discrete documents commenting on the Project, including 130 letters from individuals,⁵⁰ 26 letters from non-governmental organizations, 5 letters from federal agencies, 4 letters from state

⁴⁸ *Federal Register* (vol. 77, no. 184, pp. 58570-58575).

⁴⁹ Staff notes for all interagency meetings and the bi-weekly NEPA-status telephone conference calls have been placed into the FERC public record for these proceedings.

⁵⁰ Not including form letters.

and local agencies, 3 letters from private companies, and 2 letters from members of the U.S. Congress. In addition, 429 form letters were filed. Between October 30, 2012, and September 30, 2014 (when much of the text for this EIS was written), the FERC received an additional 26 comment letters. All comments received prior to the writing of this EIS were considered and we addressed all relevant environmental topics included in the analysis.

Table 1.6-2 categorizes the relevant environmental issues raised in letters to the FERC prior to our writing this EIS. The table does not account for the out-of-scope issues discussed above in section 1.4.4. The most frequently mentioned environmental topics were impacts on biological resources; safety and security; FERC's approach to the NEPA process; and socioeconomics.

Specific Issue/Comment	EIS Section Where Comments are Addressed
Purpose and Need (3 percent of comments)	1.0
Project Description (3 percent of comments)	2.0
Life of Project, decommissioning	
Concerns over temporary work areas (TEWAs), uncleared storage areas	
BLM, Forest Service, and FERC process	
Alternatives (6 percent of comments)	3.0
Comments urging that investments be redirected towards renewable, domestic energy sources such as wind, solar and wave power.	
Request rigorous analysis of pipeline route alternatives (evaluate more than action/no-action)	
Geologic Hazards (5 percent of comments)	4.2
Regional seismic activity (earthquake and/or tsunami) on the export terminal or pipeline.	
Soils and Minerals (2 percent of comments)	4.3
Concerns over erosion of sensitive soils.	
Sedimentation of streams as a result of soil disruption	
Soil and slope stability along the pipeline route.	
Water Resources (8 percent of comments)	4.4.1
Impacts of construction and operation of the project elements, including export terminal facilities and pipeline crossings, on surface water and groundwater, including drinking water and salmon spawning habitat, and especially that of the Rogue River.	
Concerns over horizontal directional drilling under streams and rivers along the pipeline route.	
Concerns over hydrostatic testing of the pipeline.	
Wetlands and Riparian Areas (1 percent of comments)	4.4.2
Impacts to sensitive wetlands in the vicinity of the export terminal and pipeline.	
Biological Resources (13 percent of comments)	4.6 and 4.7
Impacts to threatened and endangered species.	
Impacts to fisheries and EFH.	
Impacts to wildlife habitat, including connectivity.	
Impacts of pipeline construction on forestlands, including sensitive forest types.	
Introduction and propagation of noxious weeds in the pipeline right-of-way.	
Land Use and Recreation (25 percent of comments)	4.1 and 4.8
Location of access roads, hydrostatic test locations, uncleared storage areas, cleared areas.	
Impact on recreational opportunities, recreation-based tourism.	
Opposition to use of eminent domain to acquire pipeline easements, especially when some land uses would not be allowed or practicable once the pipeline is installed.	
Comments supporting and opposing the use of federal lands for the pipeline corridor.	
Comments making specific pipeline alignment adjustments (generally to avoid private properties, also to avoid resources.	
Concerns over BLM and Forest Service LMP revisions.	
BLM and Forest Service Plan Revisions, and associated mitigation/restoration requirements	
Visual Resources (1 percent of comments)	4.8
Concerns over specific views, typically from private properties.	
Socioeconomics (10 percent of comments)	4.9
Comments supporting and opposing the creation of local jobs; reconcile with environmental impacts and safety risks involved.	
Impacts to the local economy, including anticipated drop in tourism (fishing, birding).	
Concerns over application of eminent domain.	
Concerns over decreased property values.	

TABLE 1.6-2	
Environmental Issues Identified During the Pre-filing Public Scoping Process for the JCE & PCGP Project	
Specific Issue/Comment	EIS Section Where Comments are Addressed
Transportation (1 percent of comments) Impacts, risks of proximity to the Southwest Oregon Regional Airport.	4.10
Cultural Resources (2 percent of comments) Impacts to tribal lands and lands traditionally used by tribal members, especially fishing. Request outreach to the tribes.	4.11
Air Quality and Noise (4 percent of comments) Impacts to climate change, both as direct impact of the South Dunes power plant as well as the eventual consumption of the natural gas transported by the pipeline. Concerns over operations emissions of the LNG vessels and terminal on local communities (respiratory health).	4.12
Safety and Security/Public Health/Monitoring and Accountability/Siting (15 percent of comments) Risk of catastrophic events, either accidental, intentional (terrorism) or as a result of a natural disaster on the export terminal, LNG vessels or the pipeline. Availability and readiness of emergency response personnel in the event of a catastrophic incident, especially in remote areas. Concerns over the health impacts of spilled or leaked gas on nearby communities. Emergency response planning (tsunami, earthquake). Concerns over pipeline weakness, potential for leak or explosion leading to wildfire. Concerns over rural pipeline safety, including non-odorized gas and construction standards. Monitoring and mitigation; accountability and responsibility.	4.13
Cumulative Impacts (1 percent of comments) Impacts of increased marine traffic. Impacts from other energy projects.	4.14

The Pacific Connector Pipeline Project was previously proposed to transport imported natural gas (FERC Docket No. CP07-441-000). On June 15, 2009, the Forest Service published an NOI (74 [113] FR 27214–28217) for proposed LRMP amendments related to that proposal. Most of the proposed amendments associated with FERC Docket No. CP07-441-000 remain largely unchanged because the current Pacific Connector Pipeline Project follows nearly the same route on NFS lands. Comments received by the Forest Service in response to the Forest Service NOI published in 74 FR 27214–28217 were considered by the Forest Service in this scoping process if they were related to the current proposed forest plan amendments. A total of 77 comments were received by the Forest Service between June 15 and July 31, 2009, in response to the June 2009 Forest Service NOI and were considered by the Forest Service in the analysis in this EIS of environmental consequences of the Pacific Connector Pipeline Project on NFS lands.