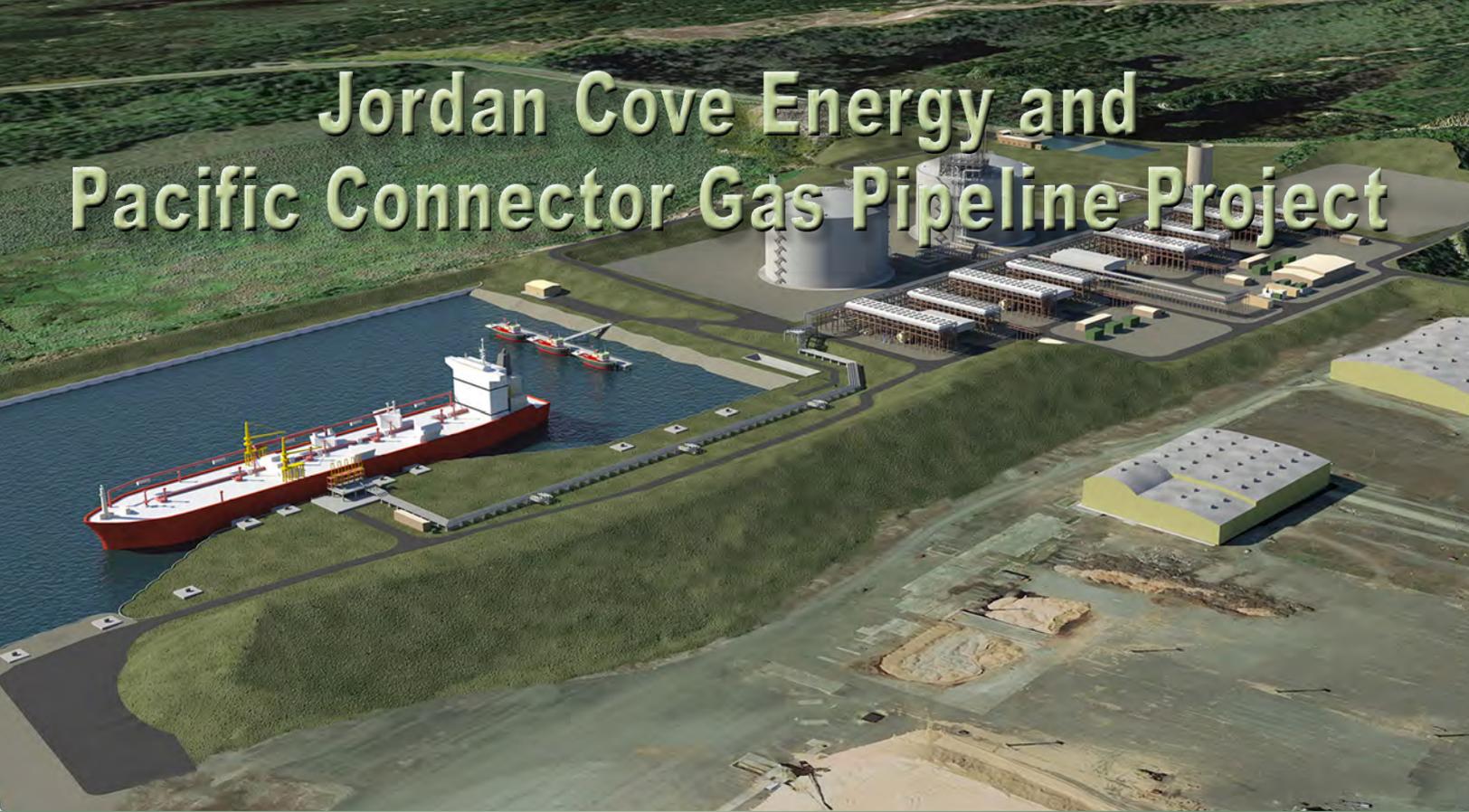


Jordan Cove Energy and Pacific Connector Gas Pipeline Project



Final Environmental Impact Statement

Jordan Cove Energy Project, L.P.

Docket No. CP13-483-000

Pacific Connector Gas Pipeline, L.P.

Docket No. CP13-492-000

DOE Docket No. FE 12-32-LNG ■ DOE/EIS-0489

FERC/EIS 0256F
September 2015

Cooperating Agencies

USDA Forest Service, Pacific Northwest Region
Department of the Army, Corps of Engineers, Portland District
US Department of Energy
US Environmental Protection Agency, Region 10
US Department of Homeland Security Coast Guard, Portland
US Department of Transportation, Pipeline and Hazardous Materials Safety Administration
US Department of the Interior Bureau of Land Management, Oregon State Office
US Department of the Interior Bureau of Reclamation, Klamath Basin Area Office
US Department of the Interior Fish and Wildlife Service, Oregon State Office



Federal Energy Regulatory Commission

Office of Energy Projects
Washington, DC 20426

Final Environmental Impact Statement

**JORDAN COVE ENERGY AND
PACIFIC CONNECTOR GAS PIPELINE
PROJECT**

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Pacific Connector Gas Pipeline Project, L.P.

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FEDERAL ENERGY REGULATORY COMMISSION
WASHINGTON, D.C. 20426

OFFICE OF ENERGY PROJECTS

In Reply Refer To:

OEP/DG2E/Gas 3

Jordan Cove Energy Project, L.P.

Docket No. CP13-483-000

Pacific Connector Gas Pipeline, L.P.

Docket No. CP13-492-000

FERC/EIS-0256D

TO THE PARTY ADDRESSED:

The staff of the Federal Energy Regulatory Commission (FERC or Commission) has prepared this final environmental impact statement (EIS) for the Jordan Cove Liquefaction Project proposed by Jordan Cove Energy Project LP (Jordan Cove) and the Pacific Connector Pipeline Project proposed by Pacific Connector Gas Pipeline LP (Pacific Connector) (collectively referred to as the JCE & PCGP Project, or the Project) in the above-referenced dockets. Under Section 3 of the Natural Gas Act (NGA), Jordan Cove requests authorization to produce a maximum of 6.8 million metric tons per annum of liquefied natural gas (LNG) at a terminal in Coos Bay, Oregon for export to overseas markets. Pacific Connector seeks a Certificate of Public Convenience and Necessity under Section 7 of the NGA to transport about 1.07 billion cubic feet per day of natural gas in a pipeline from the Malin hub to the Jordan Cove terminal, crossing portions of Klamath, Jackson, Douglas, and Coos Counties, Oregon.

The final EIS assesses the potential environmental effects of the construction and operation of the Project in accordance with the requirements of the National Environmental Policy Act (NEPA). The FERC staff concludes that approval of the Project would result in some limited adverse environmental impacts. However, if the Project is constructed and operated in accordance with applicable laws and regulations, with implementation of Jordan Cove's and Pacific Connector's proposed mitigation measures, and the additional mitigation measures recommended by the FERC staff and federal land managing agencies in this EIS, environmental impacts would be reduced to less-than-significant levels.

The United States (U.S.) Department of Agriculture Forest Service (Forest Service); U.S. Army Corps of Engineers; U.S. Department of Energy; U.S. Environmental Protection Agency; U.S. Department of Homeland Security Coast Guard; U.S. Department of the Interior Bureau of Land Management (BLM), Bureau of Reclamation (Reclamation), and Fish and Wildlife Service; and the Pipeline and Hazardous Materials Safety Administration within the U.S. Department of Transportation participated as cooperating agencies in preparation of this EIS. Cooperating agencies have jurisdiction by law or special expertise with respect to resources potentially affected by the proposal and participate in the NEPA analysis.

The BLM, with the concurrence of the Forest Service and Reclamation, would adopt and use the EIS to consider issuing a Right-of-Way Grant for the portion of the Project on federal lands. Both the BLM and the Forest Service would also use this EIS to evaluate proposed amendments to their District or National Forest land management plans to make provision for the Pacific Connector pipeline. Other cooperating agencies would use this EIS in their regulatory

process, and to satisfy compliance with the NEPA and other related federal environmental laws (including the National Historic Preservation Act). Although the cooperating agencies provided input to the conclusions and recommendations presented in the EIS, the agencies would present their own conclusions and recommendations in their respective Records of Decision for the Project.

Jordan Cove's proposed facilities would include an access channel from the existing Coos Bay navigation channel; a terminal marine slip including a single LNG vessel berth and tug boat berth; a loading platform and transfer pipeline; two LNG storage tanks; four liquefaction trains and associated refrigerant storage bullets; fire water ponds; ground flares; 420-megawatt South Dune Power Plant; support buildings; utility and access corridor between the terminal and the power plant; Southwest Oregon Resource Security Center; and a natural gas treatment plant.

Pacific Connector's proposed facilities would include a 232-mile-long, 36-inch-diameter underground welded steel pipeline between Malin and Coos Bay; the 41,000 horsepower Klamath Compressor Station; the Klamath-Eagle Receipt Meter Station and Klamath-Beaver Receipt Meter Station within the compressor station tract; the Clarks Branch Delivery Meter Station at the interconnection with Northwest Pipeline's Grants Pass Lateral; the Jordan Cove Delivery Meter Station at the interconnection with the Jordan Cove LNG terminal; 5 pig¹ launchers and receivers; 17 mainline block valves; and 11 communication towers co-located with other facilities.

The FERC mailed copies of the final EIS to federal, state, and local government representatives and agencies; elected officials; regional environmental and non-governmental organizations; Indian tribes; affected landowners; newspapers and libraries in the project area; other interested individuals and groups; and parties to the proceedings. Paper copies of this EIS were mailed to those specifically requesting them; all others on our environmental mail list received a compact disk version. In addition, the final EIS is available for public viewing on the FERC's website (www.ferc.gov) using the eLibrary link. A limited number of hard copies are available for distribution and public inspection at:

Federal Energy Regulatory Commission
Public Reference Room
888 First Street NE, Room 2A
Washington, DC 20426
(202) 502-8371

Additional information about the Project is available from the Commission's Office of External Affairs, at **(866) 208-FERC**, or on the FERC (www.ferc.gov) using the eLibrary link. Click on the eLibrary link, click on "General Search," and enter the docket number excluding the last three digits in the Docket Number field (i.e., CP13-483). Be sure you have selected an appropriate date range. For assistance, please contact FERC Online Support at FercOnline

¹ A "pig" is a tool for cleaning and inspecting the inside of a pipeline.

Support@ferc.gov or toll free at (866) 208-3676; for TTY, contact (202) 502-8659. The eLibrary link also provides access to the texts of formal documents issued by the Commission, such as orders, notices, and rulemakings.

In addition, the Commission offers a free service called eSubscription that allows you to keep track of all formal issuances and submittals in specific dockets. This can reduce the amount of time you spend researching proceedings by automatically providing you with notification of these filings, document summaries, and direct links to the documents. Go to www.ferc.gov/docs-filing/esubscription.asp.

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ACRONYMS AND ABBREVIATIONS

°C	degrees Celsius
°F	degrees Fahrenheit
µg/m ³	micrograms per cubic meter
AADT	average annual daily traffic
AAQS	ambient air quality standards
AASHTO	American Association of State Highway Transportation Officials
ACDP	air contaminant discharge permit
ACEC	Area of Critical Environmental Concern
ACFM	actual cubic feet per minute
ACHP	Advisory Council on Historic Preservation
ACS	Aquatic Conservation Strategy
AEGL	Acute Exposure Guideline Level
AGPA	Alaska Gasline Port Authority
AIA	annual instrument approach
AIRFA	American Indian Religious Freedom Act
AIS	Automatic Information System
AMSL	above mean sea level
ANFO	Ammonium Nitrate and Fuel Oil
ANS	aquatic nuisance species
ANSI	American National Standards Institute
AOC	area of concern
APDBA	applicant prepared draft biological assessment
APE	area of potential effect
API	American Petroleum Institute
Applicants	Jordan Cove Energy and Pacific Connector
AQCR	Air Quality Control Region
AQRV	Air Quality-Related Values
AR2	Second Assessment Report (IPCC)
AR4	Fourth Assessment Report (IPCC)
AR5	Fifth Assessment Report (IPCC)
ASCE	American Society of Civil Engineers
ASL	above sea level
ASME	American Society of Mechanical Engineers
ASTM	American Society for Testing and Materials
ATON	aids to navigation
ATV	all-terrain vehicle
Avista	Avista Corporation
BA	biological assessment
BACT	Best Available Control Technology
BBS	Breeding Bird Survey
BC	British Columbia
BCC	Birds of Conservation Concern
BCR	Bird Conservation Region
BE	Biological Evaluation
BFM	bonded fiber mix
bgs	below ground surface
BIA	U.S. Bureau of Indian Affairs

BLEVE	boiling-liquid-expanding-vapor explosion
BLM	U.S. Department of the Interior Bureau of Land Management
BMP	best management practice
BO	biological opinion
BOEM	Bureau of Ocean Energy Management
BOG	boil-off gas
BPA	Bonneville Power Administration
BRAR13	2013 Blue Ridge Alternative Route
Bscf	billion standard cubic feet
Bscf/d	billion standard cubic feet per day
BST	Baker-Strehlow-Tang
Btu	British thermal units
Btu/ft-hr-°F	British thermal units per foot per hour per degrees Fahrenheit
Btu/ft ² -hr	British thermal units per square foot per hour
Btu/lb-°F	British thermal units per pound per degrees Fahrenheit
Btu/kWh	British thermal units per kilowatt hour
BVA	block valve
BWT	ballast water treatment
BWE	ballast water exchange
Byram	Byram Archaeological Consulting LLC
C-2	C-2 Cattle Company
CAA	Clean Air Act
CadnaA	computer aided noise abatement
CAL	Citizens Against LNG
CBC	Christmas Bird Count
CBEMP	Coos Bay Estuary Management Plan
CBNBWB	Coos Bay-North Bend Water Board
CBRL	Coos Bay Rail Link
CCS	carbon capture and storage
CEQ	Council on Environmental Quality
Certificate	Certificate of Public Convenience and Necessity
CFD	computational fluid dynamics
CFR	Code of Federal Regulations
CH ₄	methane
CHE	Coast and Harbor Engineering
CHU	critical habitat unit
CMP	Compensatory Mitigation Plan
CMZ	Channel Migration Zone
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalent
Coast Guard	U.S. Department of Homeland Security Coast Guard
COC	Corridor of Concern
COE	U.S. Army Corps of Engineers
COI	Certificate of Inspection
Commission	Federal Energy Regulatory Commission
Coos Tribes	Confederated Tribes of Coos, Lower Umpqua, and Siuslaw Indians
COTP	Captain of the Port
Cow Creek Tribe	Cow Creek Band of Umpqua Tribe of Indians
CP	cathodic protection

CPR	cardio-pulmonary resuscitation
CRITFC	Columbia River Inter-Tribal Fish Commission
CSZ	Cascadia Subduction Zone
CTG	combustion turbine generators
CWA	Clean Water Act
CWD	coarse wood
cy	cubic yard
CZMA	Coastal Zone Management Act
DA	Development Aquatic
dB	decibel
dBA	A-weighted decibels
dBC	C-weight decibels
dbh	diameter at breast height
dB RMS	decibels root mean squared
DBV/PERC	double ball valve and powered emergency release coupling
DC	direct current
DCS	distributed control system
DE	Design Earthquake
DEA	David Evans & Associates, Inc.
DEGADIS	dense gas dispersion model
DEIS	draft environmental impact statement
Discovery Plan	<i>Plan and Procedures Addressing Unanticipated Discoveries of Cultural Resources and Human Remains</i>
DMEF	Dredged Material Evaluation Framework
DMMU	Dredged Material Management Unit
DOD	U.S. Department of Defense
DOE	U.S. Department of Energy
DOGAMI	Oregon Department of Geology and Mineral Industries
DOT	U.S. Department of Transportation
DP	Direct Pipe
DPS	Distinct Population Segments
DTR	daily timing restriction
DWSA	drinking water source area
ECA	Emissions Control Area
ECRP	Pacific Connector's Erosion Control and Revegetation Plan
ECSI	Environmental Cleanup Site Information
EEZ	economic exclusion zone
EFH	essential fish habitat
EFSC	Oregon Energy Facility Siting Council
EFU	Exclusive Farm Use
EI	environmental inspector
EIA	Energy Information Administration
EIS	environmental impact statement
EMD	electric motor driven
EO	Executive Order
EPA	U.S. Environmental Protection Agency
EPAct	Energy Policy Act of 2005
EPCM	Engineering, Procurement, and Construction Management
ERP	emergency response plan
ERPG	Emergency Response Planning Guidelines
ESA	Endangered Species Act

ESCP	Erosion and Sedimentation Control Plan
ESD	emergency shutdown
ESU	Evolutionarily Significant Units
EWMP	Estuarine Wetland/Open Water Mitigation Plan
F	Forest
FAA	Federal Aviation Administration
FDS	Fire Dynamics Simulator
FEED	front-end engineering design
FEIS	final environmental impact statement
FEMAT	Forest Ecosystem Management Assessment Team
FERC	Federal Energy Regulatory Commission
FHWA	Federal Highway Administration
FLPMA	Federal Land and Policy Management Act of 1976
FMSC	Federal Maritime Security Council
FOI	Forest Operations Inventory
Forest Service	U.S. Department of Agriculture Forest Service
fps	foot per second
FR	Federal Register
FSH	Forest Service Handbook
FSM	Forest Service Manual
ft ³	cubic feet
FTA	free trade agreement
FTE	full-time equivalent
FWCA	Fish and Wildlife Coordination Act
FWS	U.S. Department of the Interior Fish and Wildlife Service
FY	Fiscal Year
GAO	Government Accountability Office
g/hp-hr	grams per horsepower per hour
GDP	Gross Domestic Product
GHG	greenhouse gas
GIS	geographic information system
GNN	Gradient Nearest Neighbor
gpm	gallons per minute
GPS	global positioning system
Grand Ronde Tribes	Confederated Tribes of the Grand Ronde Reservation
GRI	GRI Geotechnical and Environmental Consultants
GTN	Gas Transmission Northwest Corporation
GTP	Global Temperature change Potential
GWP	global warming potential
H	horizontal
H ₂ S	hydrogen sulfide
HAP	Hazardous Air Pollutant
HAZOP	hazard and operability review
HBC	Hudson Bay Company
HCA	High Consequence Area
HDD	horizontal directional drill
HEC-RAS	Hydrologic Engineering Center-River Analysis System
HMU	Herd Management Unit
HOA	Head of Agreement
hp	horsepower
HPMP	Historic Properties Management Plan

HPS	high pressure sodium
HRA	Historical Research Associates, Inc.
HRSG	heat recovery steam generator
HU	hydrologic unit
HUC	Hydrologic Unit Code
Hz	hertz
I-5	Interstate 5
IBC	International Building Code
IHA	Incidental Harassment Authorization
IMO	International Maritime Organization
IOP	Interagency Operating Procedure
IPCC	Intergovernmental Panel on Climate Change
IRA	Inventories Roadless Area
ISA	International Society for Automation
ISO	International Organization for Standardization
ISPS Code	International Ship and Port Facility Security Code
JCE & PCGP	Jordan Cove Energy and Pacific Connector Gas Pipeline Project
Jordan Cove	Jordan Cove Energy Project L.P.
Jordan Cove's Plan	Jordan Cove's Upland Erosion Control, Revegetation, and Maintenance Plan
Jordan Cove's Procedures	Jordan Cove's Wetland and Waterbody Construction and Mitigation Procedures
JPA	Joint Permit Application
KBV	Kiewitt and Black & Veatch
kJ	kilojoules
KO	Knockout
KOAC	Known Owl Activity Center
km	kilometer
KOP	key observation point
kPa	kilopascals
kV	kilovolt
kVa	kilovolt amperes
kW	kilowatt
kWh	kilowatt-hour
L _{dn}	day-night sound level
L _{eq}	equivalent sound level
Latgawa Tribe	Latgawa Native American Indian Tribe
lb/MWh	pound per megawatt-hour
LDC	local distribution company
LEDPA	Least Environmentally Damaging Practicable Alternative
Levy	Lloyd Levy Consulting, LLC
LFL	lower flammable limit
LiDAR	light detection and ranging
LMP	land management plan
LNG	liquefied natural gas
LOI	Letter of Intent
LOR	Letter of Recommendation
LRMP	Land and Resource Management Plan
LSOG	late-successional and old-growth
LSR	Late Successional Reserve
LSRA	Late Successional Reserve Assessment

LSRMA	Late-Successional Reserve Management Area
LUCS	Land Use Compatibility Statement
LWD	large woody debris
m ²	square meter
m ³	cubic meters
m ³ /hr	cubic meters per hour
m/hr	meter per hour
m/s	meters per second
MA	Management Area
MAMU	marbled murrelet
MAOP	maximum allowable operating pressure
MARSEC	Maritime Security
MBF	thousand board feet
MBTA	Migratory Bird Treaty Act
MCE	Maximum Considered Earthquake
mcy	million cubic yards
mg/l	milligram per liter
mg/d	million gallons per day
mg/kg	milligram per kilogram
MHHW	mean higher high water
MIS	Management Indicator Species
MLLW	mean lower low water
MLRA	Major Land Resource Area
MLV	mainline block valve
mm	millimeter
MMBF	million board feet
MMBtu	million British thermal unit
MMBtu/hr	million British thermal units per hour
MMcf/d	million cubic feet per day
mmhos/cm	millimhos per centimeter
MMPA	Marine Mammal Protection Act
MMTPA	million metric tons per annum
MOA	Memorandum of Agreement
MOU	Memorandum of Understanding
MP	milepost
mph	miles per hour
MPRSA	Marine Protection, Research, and Sanctuary Act
MR	Mixed Refrigerant
MRL	Mixed Refrigerant liquid
MSA	Magnuson-Stevens Fishery Conservation and Management Act
MSL	mean sea level
MTBM	micro-tunnel boring machine
MTSA	Maritime Transportation Security Act
MVA	megavolt ampere
Mw	maximum moment magnitude
MW	megawatt
MWh	megawatt-hour
N ₂ O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NAISA	National Aquatic Invasive Species Act of 2003

NANPCA	Nonindigenous Aquatic Nuisance Prevention and Control Act of 1990
NAS	Non-indigenous aquatic species
NAVD88	North American Vertical Datum of 1988
NCA	National Climate Assessment
NCDC	National Climactic Data Center
NCM	navigation channel mile
NEB	National Energy Board
NEPA	National Environmental Policy Act
NESHAP	National Emission Standards for Hazardous Air Pollutants
NF	National Forest
NFMA	National Forest Management Act
NFPA	National Fire Protection Association
NFS	National Forest System
NGA	Natural Gas Act
NGL	natural gas liquids
NHPA	National Historic Preservation Act
NISA	National Invasive Species Act of 1996
NMFS	National Oceanic and Atmospheric Administration National Marine Fisheries Service
nmi	nautical mile
NNL	National Natural Landmark
NNSR	Nonattainment New Source Review
NO	nitrogen oxide
NO ₂	nitrogen dioxide
NOA	Notice of Availability
NOAA	National Oceanic and Atmospheric Administration
NOI	Notice of Intent
Northwest	Northwest Pipeline GP
NO _x	oxides of nitrogen
NPDES	National Pollutant Discharge Elimination System
NPH	Notice of Presumed Hazards
NPS	National Park Service
NPWHC	North Point Workforce Housing Complex
NRA	National Recreation Area
NRCS	Natural Resources Conservation Service
NRF	nesting, roosting, and foraging
NRHP	National Register of Historic Places
NSA	noise-sensitive area
NSO	northern spotted owl
NSPS	New Source Performance Standards
NSR	New Source Review
NTU	nephelometric turbidity unit
NVIC	Navigation and Vessel Inspection Circular
NWFP	Northwest Forest Plan
NWI	National Wetlands Inventory
NWS	National Weather Service
O ₂	oxygen
O&C Act	Oregon and California Lands Act
O&C Lands	Oregon and California Lands
OAR	Oregon Administrative Record

OBE	Operating Basis Earthquake
OCIMF	Oil Companies International Marine Forum
OCMP	Oregon Coastal Management Program
OCRM	National Oceanic and Atmospheric Administration Office of Coast and Ocean Resource Management
ODA	Oregon Department of Agriculture
ODE	Oregon Department of Energy
ODEQ	Oregon Department of Environmental Quality
ODF	Oregon Department of Forestry
ODFW	Oregon Department of Fish and Wildlife
ODHS	Oregon Department of Human Services
ODLCD	Oregon Department of Land Conservation and Development
ODNRA	Oregon Dunes National Recreation Area
ODOT	Oregon Department of Transportation
ODSL	Oregon Department of State Lands
OEP	FERC's Office of Energy Projects
OHWM	ordinary high water mark
OHV	Off-Highway Vehicle
OHWM	ordinary high water mark
OIMB	Oregon Institute of Marine Biology
OPRD	Oregon Parks and Recreation Department
OPS	Office of Pipeline Safety
OPT	Ocean Power Technologies
ORBIC	Oregon Biodiversity Information Center
Oregon GAP	Oregon Gap Analysis Project
Oregon LNG	LNG Development Company LLC and the Oregon Pipeline Company
ORS	Oregon Revised Statute
OSHA	Occupational Safety and Health Administration
OSMB	Oregon State Marine Board
OSMRE	Office of Surface Mining Reclamation Enforcement
OSWB	Oregon State Weed Board
OWRD	Oregon Water Resources Department
Pacific Connector	Pacific Connector Gas Pipeline L.P.
PAG	plant association group
PAH	polynuclear aromatic hydrocarbon
PAR	permanent access road
PCB	polychlorinated biphenyl
PCE	primary constituent element
PCS	Project Consulting Services, Inc.
PCT	Pacific Crest Trail
PCTA	Pacific Crest Trail Association
PES	PES Environmental, Inc.
PFMC	Pacific Fishery Management Council
PFYC	Potential Fossil Yield Classification
PG&E	Pacific Gas and Electric Company
PGA	peak horizontal ground acceleration
PHMSA	Pipeline and Hazardous Materials Safety Administration
PI	point of intersection
PILT	Payment In Lieu of Taxes
P.L.	Public Law

Plan	FERC's Upland Erosion Control, Revegetation, and Maintenance Plan
PM ₁₀	particulate matter with a diameter of less than 10 microns
PM _{2.5}	particulate matter with a diameter of less than 2.5 microns
POD	Plan of Development
Port	Oregon International Port of Coos Bay
PORTS	Physical Oceanographic Real-Time System
PP&L	Pacific Power and Light Company
ppm	parts per million
ppmvd	parts per million by volume, dry basis
PPV	peak particle velocity
Procedures	FERC's Wetland and Waterbody Construction and Mitigation Procedures
Project	Jordan Cove Energy and Pacific Connector Gas Pipeline Project
PSD	Prevention of Significant Deterioration
PSE	Puget Sound Energy
PSEL	plant site emission limit
PSHA	Probabilistic Seismic Hazard Analysis
psi	pounds per square inch
psig	pounds per square inch gauge
PST	Pacific Standard Time
psu	practical salinity unit
PWA	potential wilderness area
R.	Range
R&A	Rogers and Associates
RBC	Risk-Based Concentration
Reclamation	U.S. Department of the Interior Bureau of Reclamation
REO	Regional Ecosystem Office
RFPD	Rural Fire Protection District
RHA	Rivers and Harbors Act
RM	river mile
RML	rapidly moving landslide
RMP	Resource Management Plan
RNA	Research Natural Area
RPT	rapid phase transition
ROD	Record of Decision
RPT	rapid phase transition
RV	recreational vehicle
S&M	Survey and Manage
Sandia	Sandia National Laboratories
SAP	sampling and analysis plan
SAV	submerged aquatic vegetation
SBS	Siskiyou BioSurvey, LLC
SD	scaled distance factor
SDWA	Safe Drinking Water Act
SEL _{cum}	cumulative sound exposure level
SEP	surface emissive power
SEV	severity of ill effect
SHN	SHN Consulting Engineers & Geologists, Inc.
SHPO	State Historic Preservation Officer
SHU	SuiTable Habitat Unit

SIGTTO	Society of International Gas Tanker and Terminal Operators
Siletz Tribes	Confederated Tribes of the Siletz Reservation
SMPE	South Mist Pipeline Extension
SMS	Scenery Management System
SMU	Species Management Unit
SO ₂	sulfur dioxide
SOLAS	Safety of Life at Sea
SONCC	Southern Oregon/Northern California Coast
SORSC	Southwest Oregon Regional Safety Center
SPCCP	Spill Prevention, Containment, and Countermeasures Plan
SRMA	Special Recreation Management Area
SSA	sole or principal source aquifer
SSE	Safe Shutdown Earthquake
SSI	Sensitive Security Information
SSTEMP	Stream Segment Temperature Model
SSURGO	Soil Survey Geographic (Database)
STATSGO	State Soil Geographic (Database)
STEP	Shipboard Technology Evaluation Program
STG	steam turbine generator
SVID	Shasta View Irrigation District
SWPCP	Storm Water Pollution Control Plan
SWPPP	Stormwater Pollution Prevention Plan
t	metric ton
T.	Township
TAR	temporary access road
TCP	Traditional Cultural Property
Tetra Tech	Tetra Tech, Inc.
TEWA	temporary extra work area
t/hr	metric ton per hour
THPO	Tribal Historic Preservation Office
TIA	Traffic Impact Analysis
TMDL	Total Maximum Daily Load
TMP	Transportation Management Plan
TPY	tons per year
TR	Timberland Resource
TSS	total suspended solids
Tuscarora	Tuscarora Gas Transmission Company
TVS	total volatile solids
U.S.	United States
UCSA	uncleared storage area
UFL	upper flammable limit
UPS	uninterruptible power supply
U.S.C.	United States Code
USDOI	U.S. Department of the Interior
USGCRP	United States Global Change Research Program
USGS	U.S. Geological Survey
V	vertical
V _s	shear velocity
v/c	volume-to-capacity ratio
VFR	Visual Flight Rules
VMS	Visual Management System

VOC	volatile organic compound
VQO	Visual Quality Objective
VRM	visual resource management
WD	Water-Dependent Development Shorelands
WEP	Washington Expansion Project
WHPA	wellhead protection area
Williams Northwest	Williams Northwest Pipeline Company
Williams Pacific Operator	Williams Pacific Connector Gas Operator, LLC
Williams	Williams Companies Inc.
WNV	West Nile virus
WQC	401 Water Quality Certification
WRCC	Western Regional Climatic Center
WRP	Wetland Reserve Program
WSA	Waterway Suitability Assessment
WSR	Waterway Suitability Report