

Puget Sound Energy Proposed Tacoma Liquefied Natural Gas Project Draft Environmental Impact Statement

Prepared for:



Comments on DEIS due
August 6, 2015



July 7, 2015

Prepared by:



Puget Sound Energy
Proposed Tacoma Liquefied Natural Gas Project
Draft Environmental Impact Statement

July 7, 2015

Prepared for:

City of Tacoma
Planning and Development Services Department
747 Market St., Room 345
Tacoma, WA 98402

Prepared by:

ECOLOGY AND ENVIRONMENT, INC.
333 SW 5th Ave.
Portland, OR 14086

SEPA Fact Sheet

Name of Proposal Proponent

Tacoma LNG
Puget Sound Energy
10885 NE 4TH Street PSE-095
Bellevue, WA 98009-9734

Location

The proposed Tacoma Liquefied Natural Gas (LNG) Facility would be located in the Port of Tacoma with access to Puget Sound. The project site is generally located north of East 11th Street, east of Alexander Avenue, south of Commencement Bay, and on the west shoreline of the Hylebos Waterway. The Tacoma LNG facility site is in an area zoned as Port Maritime Industrial. It is primarily developed for industrial maritime use and has been in industrial use for at least 75 years. The site is composed of four separate parcels owned by the Port of Tacoma: Pierce County tax parcels 2275200502, 2275200532, 5000350021, and 5000350040.

The boundaries for these parcels include both in-water and upland areas, reflecting a total area of approximately 33 acres. The upland portion of the site is approximately 30 acres, and the aquatic area is approximately 3 acres.

Proposed Action

The Proposed Action is to construct and operate an LNG liquefaction, storage, and marine bunkering facility, referred to herein as the Project. The Proposed Action would include construction and operation of a small-scale LNG facility to fuel marine vessels and provide LNG fuel to various customers in the Puget Sound area via LNG bunkering barges and tanker trucks. The liquefaction facility would cool natural gas into a liquid state at -280° Fahrenheit (cryogenic) for on-site storage. The facility would also have the capability to vaporize LNG back to its gaseous state from a storage tank for injection into the Puget Sound Energy (PSE) Natural Gas Distribution System during periods of high demand (referred to as peak shaving). The Project would consist of the following main components:

- *Tacoma LNG Facility:* Liquefies natural gas, stores LNG, and includes facilities to transfer LNG to the adjacent TOTE Marine Vessel LNG Fueling System, bunkering barges in the Hylebos or Blair waterways, or tanker trucks on site. It also includes facilities to re-gasify stored LNG and inject natural gas into the PSE Natural Gas Distribution System.
- *TOTE Marine Vessel LNG Fueling System:* Conveys LNG by cryogenic pipeline from the Tacoma LNG Facility to the TOTE site and includes transfer facilities, and an in-water trestle and loading platform in the Blair Waterway to fuel vessels or load bunker barges.
- *PSE Natural Gas Distribution System:* Conveys natural gas to and from the Tacoma LNG Facility. However, this system will require upgrades, including two new distribution pipeline segments with a total length of 5.0 miles, a new limit station (Golden Given Limit Station), and an upgrade to the existing Frederickson Gate Station.

The Tacoma LNG Facility and Totem Ocean Trailer Express (TOTE) Marine Vessel LNG Fueling System would be located in the Port of Tacoma within the City of Tacoma. Two new distribution pipeline

segments would be constructed in the City of Tacoma, and the City of Fife (Pipeline Segment A) and unincorporated Pierce County (Pipeline Segment B). The new pipeline segments would be constructed within the dedicated road rights-of-way currently used for vehicular traffic. In addition, the Golden Given Limit Station would be constructed on a developed parcel owned by PSE in unincorporated Pierce County, and modifications to the Frederickson Gate Station would be also located in unincorporated Pierce County.

EIS Alternatives

The *No Action Alternative* and the *Proposed Action Alternative* are evaluated in this Draft Environmental Impact Statement (DEIS). Key elements of each alternative include the following:

No Action Alternative: Construction of the Project, including upgrading of the PSE natural gas distribution system, would not occur.

Proposed Action Alternative: The Tacoma LNG Facility would be constructed and produce between approximately 250,000 and 500,000 gallons of LNG per day, for use by marine customers, including TOTE, as well as regasification into the PSE natural gas distribution system for peak-shaving purposes. Additional uses would include providing LNG to other industries or merchants, such as fuel for high-horsepower trucks used in long-haul trucking or other marine transportation uses. The Tacoma LNG Facility would operate and be staffed with approximately 16 to 18 full-time employees 24 hours per day, 365 days a year.

The *Proposed Action* also includes the construction of segments of the PSE natural gas system in the City of Tacoma, the City of Fife, and unincorporated Pierce County. This includes the installation of new pipe, a new limit station, and modifications to the Fredrickson Gate Station.

SEPA Lead Agency

City of Tacoma, Planning and Development Services Department.

SEPA Responsible Official¹

Peter Huffman, Director
City of Tacoma Planning and Development Services Department
747 Market St., Room 345
Tacoma, WA 98402

EIS Contact Person

Shirley Schultz
City of Tacoma Planning and Development Services Department
747 Market St., Room 345
Tacoma, WA 98402

Telephone: 253.573.2748
Fax: 206.591.5433
Email: shirley.schultz@ci.tacoma.wa.us

¹ The Responsible Official is the designated person within the City of Tacoma's Planning and Development Services Department that is responsible for compliance with the SEPA lead agency procedural responsibilities.

ER/ITS Study

Ian Munce
 City of Tacoma Planning and Development Services Department
 747 Market St., Room 345
 Tacoma, WA 98402

Telephone: 253.573.2748
Fax: 206.591.5433
Email: Imunce@ci.tacoma.wa.us

City of Tacoma Final Actions

- Approval of the Final EIS for the Tacoma LNG Project as a document that is adequate for SEPA compliance and permit and approval decision making, including proposed mitigation;
- Determination of whether the Action Alternative or the No Action Alternative is the preferred alternative;
- Adoption of the Emergency Response/Intelligent Transportation System Study (ER/ITS)

Phased Environmental Review

No additional SEPA review will be required for site specific development that is proposed within the scope of the Proposed Action described in this DEIS.

Required Approvals and/or Permits

This DEIS evaluates the construction and operation of an LNG liquefaction and marine bunkering facility within the City of Tacoma on land leased from the Port of Tacoma, and construction of segments of a natural gas pipeline in the City of Fife and unincorporated areas of Pierce County. While Final Actions by the City are noted above, the following approvals, licenses, and permits may also be required.

AGENCIES	APPROVAL, LICENSE, or PERMIT
FEDERAL	
U.S. Department of Transportation/Pipeline and Hazardous Materials Safety Administration	Delegated to Washington Utilities and Transportation Commission for approval of design elements consistent with Federal standards
U.S. Department of the Army Corps of Engineers, Seattle District (USACE)	Section 10 Permit (Rivers and Harbors Act)
	Section 404 Permit (Clean Water Act - CWA)
	Section 106 Consultation (National Historic Preservation Act) with applicable tribes (Puyallup Tribe of Indians and the Muckleshoot Tribe).
U.S. Coast Guard (USCG)	Waterway Suitability Analysis Addresses requirements of 33 CFR Part 127: Coast Guard assessment of LNG Marine Operations
	Permission to establish Aids to Navigation required under 33 CFR Part 66
	Letter of Intent (33 CFR Part 127) recommendation to operator and develops operation plans (OPLAN) at sea ports.

AGENCIES	APPROVAL, LICENSE, or PERMIT
National Marine Fisheries Service (NMFS)	Section 7 of Endangered Species Act
	Essential Fish Habitat (EFH), Magnuson-Stevens Fishery Management and Conservation Act
	Marine Mammal Protection Act Level B harassment authorization
STATE	
Department of Ecology (WDOE)	National Pollutant Discharge Elimination System (NPDES) – Construction Stormwater General Permit
	NPDES Industrial Stormwater General Permit
	Coastal Zone Consistency Determination
	401 Water Quality Certification (CWA)
	Spill Prevention and Spill Response Plan (CWA)
	Hazardous Chemical Inventory Reporting Requirements
Department of Fish and Wildlife (WDFW)	Hydraulic Project Approval
Department of Transportation (WSDOT)	State Highway Crossing Permit
Department of Archaeology and Historic Preservation (DAHP)	Section 106 Consultation (NHPA) in coordination with lead federal agency (USACE)
LOCAL JURISDICTIONS	
City of Tacoma	SEPA Lead Agency
	Shoreline Substantial Development Permit
	Wetland/Stream/Fish and Wildlife Habitat Area Permit
	Floodplain Development Permit
	Clear and Grade Permit/Demolition Permit
	Building Permit
Pierce County	Street use or Right-of-Way Use Permit
	Conditional Use Permit
	Construction (Clear & Grade) Permit
	Building Permit
City of Fife	Right of Way permit Utility permit
	Flood permit
	Critical Areas Review
Port of Tacoma	Tenant Improvement Procedure
TRIBAL	
Puyallup Tribe of Indians	Section 106 Consultation in coordination with USACE

AGENCIES	APPROVAL, LICENSE, or PERMIT
Muckleshoot Tribe	Section 106 Consultation in coordination with USACE
REGIONAL AGENCIES	
Puget Sound Clean Air Agency	Notice of Construction Application Air Operating Permit

Authors and Principal Contributors

This Tacoma LNG Project EIS has been prepared under the direction of the Tacoma Planning and Development Services Department. Research and analysis associated with this EIS were provided by the following consulting firms:

- **Ecology and Environment, Inc.** – EIS research, analysis, and document preparation
- **Braemar Engineering, Inc.** – Review of the LNG facility design, engineering and risk analysis

For a complete list of individual contributors, see Appendix A.

Location of Background Data

Ecology and Environment, Inc.
720 Third Avenue, Suite 1700
Seattle WA 98104
Telephone: (206) 624-9537

Draft EIS Comment Period

July 7, 2015 to August 3, 2015

Draft EIS Public Meeting

- Date of the public meeting:
- Time of the public meeting:
- Meeting Location:

The purpose of the public meeting is to provide an opportunity for agencies, organizations and individuals to learn more about the proposed Tacoma LNG project and to present comments regarding the DEIS – in addition to submittal of written comments.

Date of Issuance of this Draft EIS

- July 7, 2015

Availability of this DEIS

Copies of the final EIS and Emergency Response/Intelligent Transportation System (ER/ITS) study will be made available on CD to agencies, organizations, and individuals noted on the Distribution List (Appendix B to this document). Hard copies of the DEIS, the ER/ITS study, and environmental impact statements incorporated by reference can be reviewed at the following locations:

- City of Tacoma Planning and Development Services Dept.; 747 Market St., Room 345;
- Tacoma Public Library; 1102 Tacoma Avenue S.
- City of Fife -5411 23rd Street East, Fife, WA 98424
- City of Fife Public Library - 6622 20th St. E., Fife, WA 98424
- Pierce County - County-City Building, 930 Tacoma Ave. S., Room 737 Tacoma, WA 98402
- Port of Tacoma - One Sitcum Plaza, Tacoma, WA 98421

The DEIS can also be reviewed online at: www.cityoftacoma.org/planning. In addition, a limited number of complimentary hardcopies or CDs of the DEIS and ER/ITS report will be made available (while the supply lasts) from the City of Tacoma Planning and Development Services Department.

Additional copies may be purchased at the Planning and Development Services Dept. for the cost of reproduction. The Planning and Development Services Dept. is open 8 AM to 4:30 PM Monday through Friday.

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Acronyms and Abbreviations

Term	Definition
°F	degrees Fahrenheit
µg/m ³	micrograms per cubic meter
ACQR	Air Quality Control Region
ADT	average daily traffic
AHJ	Authority Having Jurisdiction
APE	area of potential effect
ASCE	American Society of Civil Engineers
bgs	below ground surface
BLEVE	boiling liquid expanding vapor explosion
BMP	best management practice
BOG	boil off gas
BPA	Bonneville Power Administration
CB&I	Chicago Bridge & Iron
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
CFD	Computational Fluid Dynamic
CFR	Code of Federal Regulations
CH ₄	methane
CMMP	contaminated media management plan
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalent
Coast Guard	United States Coast Guard
CSA	combined statistical area
CWA	Clean Water Act
DAHP	Washington Department of Archaeology and Historic Preservation
dB	decibels
dBA	A-weighted decibels
DDT	Dichlorodiphenyltrichloroethane
DEA	David Evans and Associates
DEIS	Draft Environmental Impact Statement
DOH	Washington State Department of Health
DOR	Washington Department of Revenue
Dth	dekatherms
ECA	North American Emissions Control Area

Ecology	Washington State Department of Ecology
EDNA	environmental designation for noise abatement
EFH	Essential Fish Habitat
EIS	environmental impact statement
EMS	emergency medical services
EMT	emergency medical technician
EPA	United States Environmental Protection Agency
ER	Emergency Response
ESA	Endangered Species Act
FEMA	Federal Emergency Management Agency
FMC	City of Fife Municipal Code
ft ²	square feet
GDP	gross domestic product
GHG	greenhouse gas
gpm	gallons per minute
GWP	global warming potential
HAP	hazardous air pollutant
HDD	horizontal directional drill
HOV	high-occupancy vehicle
HPA	Hydraulic Project Approval
I-5	Interstate 5
IBC	International Building Code
ICS	Incident Command System
IRP	integrated resource plan
ITS	Intelligent Transportation System
KMMEF	Kalama Methanol Manufacturing and Export Facility
KOP	key observation point
kV	kilovolt
L&I	Washington State Department of Labor and Industries
L ₁₀	noise level that is exceeded during 10 percent of the measurement period
L ₉₀	noise level that is exceeded during 90 percent of the measurement period
L _{eq}	equivalent sound pressure level
LNG	liquefied natural gas
LOS	level of service
MAOP	maximum allowable operating pressure
MDNS	Mitigated Determination of Nonsignificance
MIC	manufacturing industrial center
MLLW	Mean Lower Low Water
MMPA	Marine Mammal Protection Act
MS4	NPDES Phase I Municipal Stormwater Permit
MSA	Magnuson-Stevens Fishery Conservation and Management Act of 1996

MTCA	Model Toxics Control Act
N ₂ O	nitrous oxide
NAAQS	National Ambient Air Quality Standards
NESHAP	National emissions standard for hazardous air pollutants
NFPA	National Fire Protection Association
NIMS	National Incident Management System
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NOC	Notice of Construction
NPDES	National Pollutant Discharge Elimination System
NPL	National Priority List
NRHP	National Register of Historic Places
NSR	new source review
NTU	nephelometric turbidity units
NWIW	Northwest Innovation Work
O&M	operation and maintenance
OBE	Operational Basis Earthquake
OD	outside diameter
OFM	Washington Office of Financial Management
OSHA	Occupation Safety and Health Administration
PAH	polycyclic aromatic hydrocarbon
PCB	polychlorinated biphenyls
PCC	Pierce County Code
PDC	Power Distribution Center
PEWS	Port Emergency Warning System
PFMC	Pacific Fishery Management Council
PHMSA	Pipeline Hazardous Materials Safety Administration
PHS	Priority Habitats and Species
PL&WCo	Parkland Light & Water Cooperative
PM _{2.5}	particulate matter less than or equal to 2.5 micrometers in diameter
PMI	Port Maritime Industrial
Port	Port of Tacoma
Project	Tacoma Liquefied Natural Gas Project
Proposed Action	Construction, operation, and decommissioning of the Tacoma LNG Project
PSCAA	Puget Sound Clean Air Authority
PSD	Prevention of Significant Deterioration
PSE	Puget Sound Energy
psi	pounds per square inch
psig	pounds per square inch gauge
PSRC	Puget Sound Regional Council
PTT	Puyallup Tribal Terminal

RCW	Revised Code of Washington
RMP	Risk Management Program
ROW	right-of-way
RPT	rapid-phase transition
SDWA	Safe Water Drinking Act
SEPA	Washington State Environmental Policy Act
SIP	State Implementation Plan
SPCC	Spill Prevention, Containment, and Countermeasure
SR	State Route
SSE	Safe Shutdown Earthquake
SWPPP	Stormwater Pollution Prevention Plan
TAP	toxic air pollutant
TIP	Transportation Improvement Program
TMC	Tacoma Municipal Code
TOTE	Totem Ocean Trailer Express
TPCHD	Tacoma-Pierce County Health Department
TWIC	Transportation Worker Identification Credentials
U.S.C.	United States Code
USFWS	United States Fish and Wildlife Service
UST	underground storage tank
VOC	volatile organic compounds
WA-99	Washington State Highway 99; Pacific Highway East
WAC	Washington Administrative Code
WDFW	Washington Department of Fish and Wildlife
WHPA	Wellhead Protection Areas
WISAARD	Washington Information System for Architectural and Archaeological Records Data
WISHA	Washington Industrial Safety and Health Act
WPG	water/propylene glycol
WRIA	Water Resources Inventory Areas
WSA	waterway suitability assessment
WSDOT	Washington State Department of Transportation
WUTC	Washington Utilities and Transportation Commission