Pacific Mountain Energy Center

Application for Site Certification Agreement

Submitted to

Washington Energy Facility Site Evaluation Council

Application 2006-01

ENERGY NORTHWEST

People · Vision · Solutions

September 12, 2006

CM	Crustal Mass
CN	Canadian National Railway
CO	Carbon Monoxide
CO2	Carbon Dioxide
COD	Chemical Oxygen Demand
COE	Cost of Electricity
Co-Op	Electric Cooperative Utilities
COMS	Continuous Opacity Monitoring System
COS	Carbonyl Sulfide
CRGNSA	Columbia River Gorge National Scenic Area
CSFB	Credit Suisse First Boston
CSGP	Construction Stormwater General Permit
CSZ	Cascadia Subduction Zone
CTED	Community Trade and Economic Development, Washington State
CTG	Combustion Turbine Generator

D

DAT	Depositional Analysis Threshold
DC	Direct Connect
DCS	Distributed Control System
DGER	Division of Geology and Earth Resources, Washington State
DLN	Dry Lox-NOx
DO	Dissolved Oxygen
DPS	Distinct Population Segments

E

EFH	Essential Fish Habitat
EFSEC	Energy Facility Site Evaluation Council
EGU	Electrical Generating Units
EIS	Environmental Impact Statement
EIV	Environmental Information Volume
ENR	Engineering News Record
EPC	Engineering procurement and Construction
EPRI	Electric Power Research Institute
ESA	Endangered Species Act
ESP	Electrostatic Precipitator
ESU	Evolutionary Significant Unit
EUR	European Currency (Euro)

F

FLAG	Federal Land Managers Air Quality Related Values Workgroup
FEED	Front End Engineering Design
FEMA	Federal Emergency Management Agency
FERC	Federal Energy Regulatory Commission
FGD	Fluid Gas Desulfurization
FIRM	Flood Insurance Rate Maps

1.4

WAC 463-60-085 General—Mitigation measures.

(1) Mitigation measures summary. The application shall summarize the impacts to each element of the natural or built environment and the means to be utilized to minimize or mitigate possible adverse impacts during construction, operation, and decommissioning of the proposal, all associated facilities, and any alternatives being brought forward.

(2) Fair treatment. The application shall describe how the proposal's design and mitigation measures ensure that no group of people, including any racial, ethnic, or socioeconomic group, bear a disproportionate share of the environmental or socioeconomic impacts resulting from the construction and operation of the proposed facility.

[Statutory Authority: RCW 80.50.040 (1) and (12). 04-21-013, amended and recodified as § 463-60-085, filed 10/11/04, effective 11/11/04. Statutory Authority: RCW 80.50.040(1) and chapter 80.50 RCW. 81-21-006 (Order 81-5), § 463-42-085, filed 10/8/81.]

The potential for damages can be defined. Damages would occur only if engineered safeguards would fail. In many cases more than one simultaneous failure would be required to produce significant damages. Upon completion of plant design, insurance underwriters will evaluate the design and estimate maximum potential damages due to failure. In some cases design changes may be implemented to reduce the damages. Insurance will then be purchased to cover the maximum expected damages.

- Worker's Compensation and Washington Stop Gap Liability

  Energy Northwest will fully comply with the statutory requirements for worker's compensation as required with respect to any employees performing work on the subject property and premises. Energy Northwest will also insure for their exposure with Employer's Liability insurance (Washington Stop Gap Liability).

  Energy Northwest will require of the construction contractor and subcontractors working on the project similar compliance with the statutory requirements for worker's compensation with respect to their employees performing work on the subject property and premises. Energy Northwest also will require Employer's Liability insurance for exposure under Washington Stop Gap Liability.

Energy Northwest and its operator(s) will be responsible, as required by law, for acts of environmental impairment related to the ownership and operation of the PMEC. Such losses may, in some circumstances, be covered by general liability insurance, which Energy Northwest and the construction contractor will carry. In addition, Energy Northwest and/or its contracted operator(s) will obtain environmental impairment liability insurance to the extent such coverage is available on a commercially viable basis. This insurance will cover the acts of Energy Northwest and its operator(s) at the site, consistent with or in excess of then prevailing industry standards for such insurance in the fossil fuel power generating industry. Commercial viability will be determined by reference to the norm of the industry.

No set aside from operating funds is anticipated for site abandonment, but Energy Northwest will obtain a site closure bond in an amount to be determined by Washington State Energy Facility Site Evaluation Council (EFSEC) upon approval of an initial site restoration plan. To the extent site facilities are not otherwise removed, recycled, or salvaged, Energy Northwest will maintain ongoing responsibility for site facilities and site integrity as the site owner.

SECTION 1.3 ASSURANCES
(WAC 463-60-075)

Energy Northwest will establish and maintain several forms of insurance during the construction and operation of the Pacific Mountain Energy Center (PMEC). Insurance will be maintained as required by law, customary business practice and third-party participants and lenders. The following coverages will be included:

- Commercial General Liability Insurance:

  The construction contractor, and subcontractors, will be required to carry commercial general liability insurance, including products and completed operations in amounts sufficient to respond to liability and property damage risks arising during the construction and startup phase of the PMEC.

  Energy Northwest will obtain and maintain in full force and effect, commercial general liability insurance against claims for liability and property damage arising out of the use and occupancy of the premises.

  Energy Northwest will purchase insurance policies to cover liabilities arising from environmental, casualty and other major incident. The insurance industry views facilities such as the PMEC as low to moderate risk. Therefore, high coverage limits are available at reasonable costs.

- Pollution Liability

  Large construction projects are known to unearth pollutants that are unknown or unexpected. Contractors working on such projects also bring onto job sites chemicals and substances that can create a pollution hazard. Pollution liability insurance is available and will be obtained in an amount not less than ten million dollars.

- Automobile Insurance

  The construction contractor, and subcontractors, will be required to carry automobile liability insurance covering all owned, leased, non-owned and hired automobiles used during the construction and startup phase of the project.

  Energy Northwest will obtain and maintain in full force an effect automobile liability insurance covering owned, non-owned and hired autos.

- Property Insurance

  Energy Northwest will obtain and maintain at all times during the term of construction and operation of the facility, physical damage insurance on the buildings and all improvements that are to be erected on the premises on an “all risk” basis including coverage against damage or loss caused by earth movement and flood in an amount sufficient to cover any expected losses or damages.

1.3

WAC 463-60-075 General—Assurances

The application shall set forth insurance, bonding or other arrangements proposed in order to mitigate for damage or loss to the physical or human environment caused by project construction, operation, abandonment, termination, or when operations cease at the completion of a project's life. The application shall describe the applicant's commitment to the requirements of chapter 463-72 WAC, Site restoration and preservation.

[Statutory Authority: RCW 80.50.040 (1) and (12). 04-21-013, amended and recodified as § 463-60-075, filed 10/11/04, effective 11/11/04. Statutory Authority: RCW 80.50.040(1). 87-05-017 (Order 87-1), § 463-42-075, filed 2/11/87. Statutory Authority: RCW 80.50.040(1) and chapter 80.50 RCW. 81-21-006 (Order 81-5), § 463-42-075, filed 10/8/81.]

SECTION 1.2 DESIGNATION OF AGENT (WAC 463-60-025)

All official communications concerning this Application during the application review process should be directed to Mr. Tom Krueger, for Energy Northwest. He is the designated agent for the project and may be contacted as cited below:

Mr. Tom Krueger
Energy Northwest
P.O. Box 968
Richland, WA 99352-0968
(509) 377-4761 (phone)
(509) 372-5225 (fax)
tkrueger@energy-northwest.com

Ms. Laura Schinnell, Energy Northwest, will serve as a secondary contact. Ms. Schinnell's contact information is as follows:

Mailing Address:
Ms. Laura Schinnell, Licensing Project Manager
Energy Northwest
P.O. Box 1906
Kalama, WA 98625

Street Address:
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262 North 1st Street, Suite 5
Kalama, WA 98625
(360) 482-8649 (cell)
(360) 673-3350 (phone)
(360) 673-3351 (fax)
lschinnell@energy-northwest.com

1.2

WAC 463-60-025 General—Designation of Agent

The applicant shall designate an agent to receive communications on behalf of the applicant.

[Statutory Authority: RCW 80.50.040 (1) and (12). 04-21-013, recodified as § 463-60-025, filed 10/11/04, effective 11/11/04. Statutory Authority: RCW 80.50.040(1) and chapter 80.50 RCW. 81-21-006 (Order 81-5), § 463-42-025, filed 10/8/81. Formerly WAC 463-42-090.]

County PUD H.W. Hill Landfill Gas Power Plant and the Mason County PUD No. 3 Olympic View Project.

SECTION 1.1 DESCRIPTION OF APPLICANT (WAC 463-60-015)

1.1.1. APPLICANT

This Application for a Site Certification Agreement (Application) is made for the construction and operation of the Pacific Mountain Energy Center (PMEC). The Applicant is Energy Northwest.

This Application was professionally prepared by URS Corporation and Geomatrix, Inc. under the direction of Energy Northwest. These parties believe that the Application is substantially complete and meets the requirements established in Chapter 80.50 of the Revised Code of Washington (RCW) and Title 463 of the Washington Administrative Code (WAC).

1.2.1. ENERGY NORTHWEST

Energy Northwest, a municipal corporation and joint operating agency of the State of Washington, was organized in January 1957 pursuant to Chapter 43.52 RCW. The Energy Northwest Board of Directors is comprised of twenty members representing the following 17 public utility districts (PUDs) and three cities:

Asotin County PUD
Benton County PUD
Chelan County PUD
Cowlitz County PUD
Ferry County PUD
Franklin County PUD
Grant County PUD
Grays Harbor County PUD
Kittitas County PUD
Klickitat County PUD
Mason County PUD No. 1
Mason County PUD No. 3
Okanogan County PUD
Pacific County PUD
Skamania County PUD
Snohomish County PUD
Wahkiakum County PUD
City of Richland
City of Seattle (Seattle City Light)
City of Tacoma (Tacoma Power)

Other plants currently owned and operated by Energy Northwest include the 1157 megawatt (MW) Columbia Generating Station Nuclear Plant, the 27 MW Packwood Lake Hydroelectric Project, the 64 MW Nine Canyon Wind Project, and the 38.7 kilowatt (KW) White Bluffs Solar Station. Energy Northwest also provides operations and maintenance services to the Klickitat

1.1

WAC 463-60-015 General—Description of Applicant

The applicant shall provide an appropriate description of the applicant's organization and affiliations for this proposal.

[Statutory Authority: RCW 80.50.040 (1) and (12). 04-21-013, recodified as § 463-60-015, filed 10/11/04, effective 11/11/04. Statutory Authority: RCW 80.50.040(1) and chapter 80.50 RCW. 81-21-006 (Order 81-5), § 463-42-015, filed 10/8/81. Formerly WAC 463-42-170.]

TPD	Tons Per Day
TSS	Total Suspended Solids
TTRA	Taconite Tax Relief Area

U

UFC	Uniform Fire Code
UP	Union Pacific Railroad
USACE	United States Army Corps of Engineers
USDOE	United States Department of Energy
USDOT	United States Department of Transportation
USEPA	United State Environmental Protection Agency
UPS	Uninterrupted Power System
USGS	United States Geological Service
USC	United States Code
USLE	Universal Soil Loss Equation
UTM	Universal Transverse Mercator
UW	University of Washington

V

VOC	Volatile Organic Compounds

W

WAAQS	Washington Ambient Air Quality Standards
WAC	Washington Administrative Code
WBS	Work Breakdown Structure
WDFW	Washington Department of Fish and Wildlife
WDNR	Washington Department of Natural Resources
WOFM	Washington Office of Financial Management
WSDOT	Washington Department of Transportation
WSP	Washington State Patrol
WSU	Washington State University
WT	Weight
WUTC	Washington Utilities and Transportation Commission

Z

ZLD	Zero Liquid Discharge

PSIG	Pounds per square inch gauge
PU	Public Utility
PUD	Public Utility District

Q

QPD	Qualified Public Developer
QA	Quality Assurance
QC	Quality Control

R

RACT	Reasonably Achievable Control Technology
RBLC	RACT/BACT/LAER Clearinghouse
RCW	Revised Code of Washington
RECB	Regional Expansion Criteria and Benefits
REMSAD	Regional Modeling System for Aerosols and Deposition
RM	River Mile
RFP	Request for Proposal
ROW	Right-of-Way

S

SACTI	Seasonal Cooling Tower Impact
SBUH	Santa Barbara Urban Hydrograph
SCAQMD	South Cost Air Quality Management District
SCR	Selective Catalytic Reduction
SCPC	Supercritical Pulverized Coal Plant
SEPA	State Environmental Policy Act
SF6	Sulfur Hexafluoride
SIS	System Impact Study
SNCR	Selective Non-Catalytic Reduction
SNG	Substitute Natural Gas
SO2	Sulfur Dioxide
SPCC	Spill Prevention Control and Countermeasure
SQER	Small Quantity Emission Rate
SRU	Sulfur Recovery Unit
STG	Steam Turbine Generator
SWMMWW	Stormwater Management Manual for Western Washington, Washington Department of Ecology
SYNGAS	Synthesis Gas

T

TAP	Toxic Air Pollutant
TCEQ	Texas Commission on Environmental Quality
TDS	Total Dissolved Solids
TER	Triangle Economic Research, L.L.C
TNRCC	Texas Natural Resources Conservation Committee
TOC	Total Organic Carbon

NOI	Notice of Intent
NOX	Oxides f Nitrogen
NPDES	National Pollutant Discharge Elimination System
NPS	National Park Service
NRCS	National Resources Conservation Service
NRIS	Network Resource Interconnection Service
NSR	New Source Review
NSPS	New Source Performance Standards
NTP	Notice to Proceed
NWPCC	Northwest Power and Conservation Council
NWS	National Weather Service

O

OAAQS	Oregon Ambient Air Quality Standard
OAQPS	Office of Air Quality Planning and Standards, USEPA
OC	Organic Carbon
OFA	Overfire Air
O&M	Operations and Maintenance
OMB	U.S. Office of Management and Budget
OSBL	Outside the Battery Limits

P

PAH	Polycyclic Aromatic Hydrocarbons
PC	Pulverized Coal
PDP	Process Design Package
PEP	Project Execution Plan
PFC	Perfluorocarbons
PM	Particulate Matter
PM10	Particulate Matter of 10 microns in diameter or less
PM2.5	Particulate Matter of 2.5 microns in diameter or less
PMEC	Pacific Mountain Energy Center
PMEG, LLC	Pacific Mountain Energy Group, Limited Liability Corporation
PNUCC	Pacific Northwest Utilities Conference Committee
POI	Point of Interconnection
POTW	Publicly Owned Treatment Works
PPA	Power Purchase Agreement
PPB	Parts per Billion
PPM	Parts per Million
PPE	Personal Protective Equipment
PPMVD	Parts per million (dry basis)
PPMW	Parts per million by weight
PPSA	Power Plant Siting Act
PRB	Powder River Basin
PSD	Prevention of Significant Deterioration
PSIA	Pounds per square inch absolute
PSI	Public Service of Indiana

IWAQM	Interagency Workgroup on Air Quality Modeling

K

KFO	Kennewick Fertilizer Operations
KMC	City of Kalama Municipal Code
KPD	Kalama Police Department
KV	Kilovolt
KW	Kilowatt
KWH	Kilowatt-Hour

L

LAER	Lowest Achievable Emission Rate
LDP	Laramore, Douglass and Popham Consulting Engineers
LEPGP	Large Electric Power Generating Plant
LGIA	Large Generator Interconnect Agreement
LGIP	Large Generator Interconnection Procedure
LGTI	Louisiana Gasification Technology, Inc.
LNB	Low-NOx Burners
LNG	Liquified Natural Gas
LP	Low Pressure
LSTK	Lump Sum Turnkey

M

MIN	Mid-American Interconnected Network
MAPP	Midcontinent Area Power Pool
MAPPCOR	Mapp Services
MDEA	Methyldiethanolamine (Amine Absorbent)
MISO	Midwest Independent (Transmission) System Operator
MMBTU	Million British Thermal Units
MSDS	Material Safety Data Sheet
MSL	Mean Sea Level
MTCA	Model Toxics Control Act
MTEP	Miso Transmission Expansion Planning
MW	Megawatt
MWh	Megawatt Hour
MWLAP	Waste Land and Air Protection, British Columbia Ministry of

N

NAAQS	National Ambient Air Quality Standard
NCEA	National Center for Environmental Assessment
NEPA	National Environmental Policy Act
NETL	National Energy Technology Laboratory
NGCC	Natural Gas-Fired Combined Cycle
NH3	Ammonia
NLCD	National Land Cover Dataset
NOAA	National Oceanic and Atmospheric Administration

FLM	Federal Land Manager
FSQ	Full Slurry Quench
FT-MSL	Feet Above Mean Sea Level

G

GE	General Electric Company
GCP	Good Combustion Practice
GEP	Good Engineering Practice
GHG	Greenhouse Gas
GI	Generator Interconnection
GMA	Grown Management Act
GO	Generator Outlet
GPD	Gallons per Day
GPM	Gallons per Minute
GW	Gigawatt
GWI	Groundwater under the influence of surface water

H

H	Hydrogen
HAP	Hazardous Air Pollutant
H2S	Hydrogen Sulfide
HDD	Horizontal Directional Drilling
HHV	High Heating Value
HG	Mercury
HP	High Pressure
hP	Horse Power
HRSG	Heat Recovery Steam Generator
HV	High Voltage
HVAC	High Voltage Alternative Current
HVDC	High voltage Direct Current
HVTL	High Voltage Transmission Line

I

I-5	Interstate 5
ICF	ICF Consulting, LLC
ICT	Innovative Control Technology
IGCC	Integrated Gasification Combined Cycle
IOU	Investor Owned Utilities
IP	Intermediate Pressure
IPP	Independent Power Producers
IRP	Integrated Resource Plan
IRR	Iron Range Resources
ISBL	Inside the Boundary Limit
ISGP	Industrial Stormwater General Permit
ISO	International Organization for Standardization
ISPM	Industrial Safety Program Manual

SECTION 1.4 MITIGATION MEASURES (WAC 463-60-085)

1.4.1 MITIGATION MEASURES

The following is a summary of the mitigation measures included in Part 3.0 – Natural Environment and Part 4.0 – Built Environment of this application.

1.4.1.1 Earth

PMEC Site

The PMEC is anticipated to have minor to insignificant impacts on earth resources as described in Section 3.1 of this Application. The primary impacts of the PMEC on geologic conditions and materials at the site are foundation construction, excavation, grading, trenching, backfill and compaction associated with the site development and the natural gas pipeline.

To mitigate potential impacts due to foundation construction, grading, excavation, grading, trenching, backfill and compaction associated with the site development and the natural gas pipeline site-specific geotechnical engineering would be conducted prior to design of the PMEC to identify design methods to address the potential impacts.

Site-specific geotechnical engineering evaluations have and would be conducted prior to design of the PMEC to identify design methods to address the potential impacts presented above. The following mitigation measures would be included during construction:

- The placement of fill consisting of moisture-sensitive soils would be limited to the drier months. If the construction schedule requires backfilling during other periods, additional mitigation measures would be used. A qualified geologist or engineer would monitor the fill placement during construction and conduct appropriate field tests to verify proper compaction of the fill soils.

See Sections 2.10, Surface Water Runoff, and 2.14, Construction Methodology, for a description of construction techniques to be used in sensitive areas. As presented in these sections, Best Management Practices (BMPs) and other measures would be taken to mitigate potential erosion hazards presented to the PMEC and the natural gas pipeline.

PMEC Site

Erosion control measures for construction at the site are outlined in Sections 2.10.1.1 and 2.14.1 The sequences and methods of construction activities would be controlled to limit erosion and are summarized below:

- Site-specific BMPs for temporary erosion and sedimentation control during construction would be identified on the construction plans and construction permit applications submitted to EFSEC. BMPs would be selected from the Department of Ecology's Stormwater Management Manual for Western Washington (SWMMWW), as appropriate for the site slopes, the construction activities, weather conditions, and

- National and State Electrical Codes
- OSHA (WISHA), 29 CFR 1910.95 and 1926.52 (Occupational Noise Exposure)
- Uniform Building and Fire Codes
- American National Standards
- WAC 173-60-040, Department of Ecology Noise Regulations and WAC 296-62-09015 to 09055 Part K.

Environmental Management System (EMS)

Energy Northwest is committed to protecting the environment for current and future generations. As part of that commitment, we have implemented an Environmental Management System (EMS), which includes planning for PMEC and will include PMEC construction and operation. An EMS is a systematic approach to managing environmental hazards and potential impacts. It helps identify potential environmental risks and prevent negative impacts by putting necessary controls and programs in place. An EMS reduces risk while improving efficiency and effectiveness. Energy Northwest has received certification by an accredited registrar to the international ISO 14001 EMS standard. Energy Northwest has issued an environmental policy and has strengthened existing environmental protection programs and procedures to further integrate environmental stewardship into everything we do. Energy Northwest's Environmental Stewardship Policy expressly states: "We will provide energy services in a manner that responsibly balances the environment and social factors and business needs. We will foster a culture of environmental stewardship, promoting consideration of the environment by all employees in everything they do." The environmental stewardship policy also includes commitments to continual improvement, environmental compliance, pollution prevention, and communication about our environmental programs and performance to our employees, members, regulators, the community, and our customers.

Radiation Levels

The proposed project is not expected to use or release any radioactive materials during operation. During construction there will be a minor, controlled use of radiation. This will consist of X-rays of pipeline welds. Minor controlled use of radiation will be by qualified personnel and in accordance with state and federal standards. No other mitigation measures are proposed or are required.

Emergency Plans

The Emergency Plan for Pacific Mountain Energy Center (PMEC) will consider the actions and responsibilities of Energy Northwest personnel and off-site assistance groups during situations that may require physical corrective actions. The plan will include procedures designed to outline preventive measures for specific conditions that could evolve into an emergency situation, and outline procedural methods for mitigating an emergency should one occur.

The above ground natural gas pipeline facilities will be inspected weekly, monthly, and annually, and maintained according to the Operation and Maintenance Plan to meet or exceed all regulatory requirements.

Chances of the facility's gas pipeline failure are minimized by reducing the opportunities for failure. Pipeline appurtenances are limited to the fenced in valve station at the Deer Island Natural Gas Pressurization Station and within the fenced in areas of the plant site. The pipeline is buried in all other uncontrolled locations except for the potential suspension of the pipeline on the underneath side of the existing vehicular bridge across the Kalama River. Access to the pressurization station is fenced so it is unlikely a runaway vehicle could crash the fencing and cause damage to the facility. Pedestrian access is available only to authorized personnel. Pipeline appurtenances will be protected on the plant site by being contained within buildings or within immediate fenced-in areas. Bollards will be erected as required to ensure that on site vehicles are not able to reach critical areas. Access to critical areas will be limited to authorized personnel.

Main pipeline failure due to shifting of the supporting earth is unlikely since the pipeline route is over level ground. As discussed in Section 3.3.1.1, site soils are well-drained and very little runoff or signs of sheet and rill erosion were observed. This infers that the majority of site storm water currently infiltrates.

Releases or Potential Releases to the Environment

The following mitigation measures will be included in the construction procedures to minimize the risk of potential releases to the environment:

- Soils will be screened for environmental contaminants during geotechnical investigations (borings or test pits) conducted within the footprint of the proposed building.
- If impacted soils are encountered during excavation, they will be tested and either treated or disposed of in accordance with MCTA standards.
- Contractors involved with utility installation and site earthwork will be made aware of the potential that some of the dredged soils underlying the site may require special handling and disposal if contamination is noted.

Safety Standards Compliance

Energy Northwest and its contractors will comply with applicable local, state and federal safety, health and environmental regulations. The following are some of the primary standards that will be used in the design, construction and operation of the PMEC. A more detailed listing of codes and standards is provided in Appendix E.

- American Society of Mechanical Engineers, Boiler and Pressure Vessel Code
- API 5L, Line Pipe
- NFPA 850 Electric Generating Plants

emergency shutdowns are required and the assignment of shutdown responsibilities to qualified operators to ensure that shutdowns are done in a safe and timely manner. Also covered in the procedures will be the consequences of operational deviations and the steps required to correct or avoid the deviations.

Before they are allowed to operate the facility, employees will be presented with a facility plan, including a Health and Safety Plan, and will receive training regarding the operating procedures and other requirements of safe operation of the plant. In addition, employees will receive annual refresher training, which will include testing of their understanding of the procedures. Training and testing records will be maintained.

Natural Gas Pipeline

Causes of pipeline problems typically include ground movement/mass wasting, third-party damage, corrosion, and breaks at appurtenances. The route will be patrolled on a regular basis and checked by trained personnel (following a written qualification program as per 49 CFR Part 192) in order to catch these issues early before they become a problem. The following events are typical of those to be investigated and reported:

- Any evidence of a gas leak (dying or dead vegetation, odor)
- Actual or threatened ground movement
- Flooding or unusual erosion of roads, banks, easements, or rights-of-way
- Subsidence or cracking of land and paved surfaces
- Construction, land leveling, or excavation work by others on or adjacent to the pipeline
- Required maintenance on pipeline facilities, such as gates, fences, foot patrol roads, weed or brush removal
- Subdivision planning, surveying, or construction activity in the vicinity of the pipeline
- Missing or mutilated pipeline markers, or inadequately marked pipelines
- Evidence of gunshot damage or corrosion on exposed piping and components
- Evidence of vandalism
- Inoperative or damaged cathodic protection facilities

Monthly natural gas leak surveys will be performed by personnel walking the pipeline ROW directly above the pipeline, using appropriate natural gas instrumentation. Any time there is evidence of a natural gas leak, the individuals conducting the patrol shall use a combustible gas indicator (CGI) to determine ambient gas concentrations in the soil and air, and shall immediately notify the PMEC plant operators of the leak. The Emergency Response plan (see Section 4.6) will then be implemented.

- Dry pipe sprinkler system
- Wet pipe sprinkler system
- Yard loop hydrant system
- Preaction spray/sprinkler system for turbine generator bearings, lube oil equipment, gasifiers, air separation unit buildings, and fuel storage/transfer buildings and conveyors.
- High pressure CO2 system for the control room
- Independent smoke detection system
- Portable fire extinguishers
- Standpipes and fire hose stations at various locations throughout the buildings
- Instrumentation and control equipment for alarm, indication of equipment status, and actuation of fire protection equipment
- Fire water storage tank
- Fire water pumps
- Preaction spray/sprinkler system for combustion turbine enclosure and electrical package

Fire water will be stored on-site, sufficient to provide maximum automatic sprinkler demand plus 500 gallons per minute for a two-hour period. The fire water pumping system will consist of a primary motor-driven pump, a diesel-driven backup pump with independent fuel supply, and a pressure-maintaining jockey pump. CO_2 and other suppression systems will be provided in areas where water systems will cause damage to plant equipment.

The lubrication oil system reservoirs will be equipped with fire detectors and a water deluge system which will be initiated automatically.

The diesel generator building will be equipped with fire detectors and an automatically operated deluge system.

The ammonia storage facility will be equipped with ammonia leakage detectors and an automatically initiated water deluge system to cool the ammonia storage tank. The entire ammonia system will be designed and built per the most current ammonia system codes.

Site fire water will be stored in an on site tank. A jockey pump will keep the fire system of hydrants and deluge systems pressurized. Upon operation of a deluge system or opening of a fire hydrant, the fire pumps will start to provide fire water as required.

The facility will be operated by qualified personnel using written procedures. Procedures will provide clear instructions for safely conducting activities involved in the initial startup, normal operations, temporary operations, normal shutdowns, emergency shutdowns and subsequent startups. The procedures for emergency shutdowns will include the conditions under which

guidelines for low frequency noise. The following measures that go beyond standard equipment designs have been assessed:

- Increased thickness of the steel walls of the HRSG sections and inlet transition duct
- Increased thickness of the stack walls
- Installation of sound baffles in the HRSG exhaust stacks to reduce noise from the stack exits
- Adequate design and construction of various enclosures and buildings on the site to achieve the sound levels displayed in Table 4.1-6. The exterior sound levels should include sound emitted through the roof and walls and any intake or vent openings

Although the noise modeling analysis indicated that the above mitigation would be necessary to meet the Washington State noise limits or suggested low frequency guidelines, the PMEC is still in preliminary design, and final equipment has yet to be determined. Therefore, accurate estimates of overall and low frequency noise associated with the major on-site equipment are not yet available. Final decisions on the appropriate noise mitigation for this site should not be made until the specific equipment proposed for the site has been selected and the design is in its final stages. During final design, ongoing consideration will be given to minimizing noise with appropriate design and equipment selection of the facility to assure compliance with applicable noise standards, ordinances, or guidelines. Particular attention will be given to minimizing sound levels in the low frequencies, particularly in the 31.5 and 63 Hz octave bands.

Risk of Fire or Explosion

PMEC Facility

The risk of fire or explosion at the PMEC will be mitigated by designing, constructing and operating the facility as required in the applicable codes approved by the local authority, regulations and consensus standards. A representative list of applicable codes and regulations is presented in Appendix D. Based on the timing of construction, the most current versions of the applicable codes and regulations will be utilized.

The combustion turbine generator units will be equipped with specialized fire detection and protection systems. Gas detectors will alarm when combustible gas in the combustion turbine unit enclosures reaches 25% of the Lower Explosive Limit (LEL). Should combustible gas concentration increase to 60% of LEL the gas detectors will shut down the combustion turbine, which results in closing the gas supply trip valve to the unit. The vent fans in the turbine enclosure will help to clear the combustible gas out of the enclosure. Thermal fire detectors and smoke detectors are located throughout the combustion gas turbine generator enclosure. Excessive heat or smoke will trip the detectors which in turn will release a fire smothering gas or a dry fire extinguisher.

The Fire Protection System, including the fire water system, fixed suppression systems, detection systems, and portable fire extinguishers, will provide the required fire protection for the complex and will consist of the following major components:

- ***Avoidance:*** Impacts to wetlands will be avoided by locating most construction areas outside of delineated sensitive areas including wetlands, streams, and buffers.
- ***Minimization:*** Unavoidable impacts to wetlands will be minimized by locating construction zones within wetlands and wetland buffers as little as is practicable. In addition, Best Management Practices will be used during construction to prevent the discharge of fill material in wetlands and streams.
- ***Rectification:*** Any unintentional, unauthorized impacts to sensitive areas that may occur during construction will be repaired and rehabilitated as appropriate. Temporarily disturbed areas can be reverted to pre-construction conditions if impacts are not very extensive.
- ***Compensation:*** Unavoidable impacts to wetlands will be compensated by preserving, enhancing, and expanding on-site wetland areas that will not be directly impacted by the proposed construction.

Permanent impacts to about 3.2 acres of wetlands will be mitigated by the creation and/or enhancement of wetlands at a location set aside by the Port of Kalama or by implementing a stream restoration project in the lower Kalama River watershed. Discussions with the U. S. Army Corps of Engineers, Washington Department of Ecology, and Cowlitz County will be used to develop a conceptual wetland mitigation plan.

1.4.1.12 Energy and Natural Resources

No mitigation measures are required other than use of Best Available Control Technologies for control of air emission on scenic resources.

1.4.1.13 Environmental Health

Noise

Construction

Construction would generally occur only during daytime hours to reduce the potential for noise impacts from this activity. Construction noise is exempt from both Washington and Oregon noise limits during daytime hours.

Although the temporary nature of construction and the restriction of construction to daytime hours would reduce the potential for noise impacts, steam blows occurring near the end of the construction period could produce levels of noise much higher than other typical construction noises. Silencers could be installed on the piping vents prior to steam blows to reduce the potential for impacts from this activity.

Operation

Several measures have been included in the noise modeling analysis in order to meet the Washington State noise regulations or to reduce noise impacts based on suggested noise impact

thus further reducing potential turbidity impacts by reducing the volume of water discharging from the wetland.

Wildlife

Plant site

Best management practices would be used to minimize the temporary construction impacts. Dust reduction measures would be implemented to reduce airborne particulate matter during construction. Permanent impacts related to light pollution during facility operation would be mitigated with the installation of shielded lighting fixtures that direct light away from the wetland north of the PMEC site. Permanent impacts related to noise and visual disturbance during facility operation would be mitigated with installation of a buffer of trees and shrubs along the north edge of the property between the fence and wetland to the north.

Natural Gas Pipeline

Best management practices would be used to mitigate for temporary construction impacts. Wildlife habitat along the pipeline corridor would be restored to preconstruction conditions. The top eighteen inches of soil would be replaced using uncompacted clean native topsoil and native herbaceous vegetation. Hanging the pipe from the Hendrickson Drive bridge or using HDD under the wetlands and riparian areas associated with the Kalama River crossing would avoid temporary construction habitat loss and therefore, requires no mitigation measures.

Mitigation for habitat function losses related to permanent clearance requirements along the pipeline right-of-way parallel to the railroad would be addressed as part of the wetland mitigation required for the railroad spur impacts. Mitigation measures would be taken in wetland areas in order to preserve wildlife habitat (See 1.4.1.5, Wetland mitigation measures).

Railroad spur

Mitigation for losses associated with the approximately 5.6 acres of wetland habitat and habitat functions would be addressed in conjunction with required compensatory wetland mitigation for the 3.2 acres of permanent wetland loss from the railroad spur construction (See. 3.5.3, Wetland mitigation measures). The wetland mitigation project would address the wildlife habitat quality and functions being lost by providing cover, forage, and breeding areas for amphibians, small mammals, and various guilds of birds, particularly cavity nesting species.

1.4.1.11 Wetlands

Impacts associated with the activity under consideration will be mitigated by applying the mitigation sequence shown below. This sequencing approach to mitigation alternatives is described in a Memorandum of Agreement between the Environmental Protection Agency and the Department of the Army (Corps of Engineers, 1990). The actions listed below are in order of preference where all forms of the more preferred mitigation (i.e. avoidance) must first occur in the planning process before the less preferred forms of mitigation (i.e. compensation).

this description cannot encompass all possible approaches to clean up under all conditions. Agency staff and other experts would be consulted with to the extent practicable to develop ad hoc clean up techniques as needed. The following are standard response techniques that would be applied:

- If the bentonite material flows overland prior to entering the Kalama River, installation of silt fencing or sandbag dams at the point of entry would be used to reduce or stop the flow; if the vent is directly into the river, other means to isolate the vent site from the river would be used.
- Using a vacuum truck, with a sufficient hose, personnel would remove the bentonite, working from downstream to upstream, to allow maximum visibility. Hand tools may be used to scarify the sediments and ensure removal to maximum extent practicable.
- If necessary water may be diverted using a coffer dam to isolate the impact area. Only a portion of the river would be diverted to minimize dewatering impacts. Water would be able to pass through the site in its natural condition.
- If it is impracticable to remove the drill fluid from the Kalama River, a clear, written explanation would be submitted to the USACE. The USACE would coordinate with USFWS and/or NOAA Fisheries. Any fluids left in the stream channel would receive a written approval from the USACE.
- Any disturbed soils would be stabilized immediately.
- Exposed mineral soils would be seeded with native vegetation immediately.
- Disturbance of vegetation would be kept to a minimum and all disturbed vegetation would be restored and/or replanted with native species, to eventually recreate the functional values of the lost vegetation
- Damaged riffle and pool sediment strata would be re-contoured to the extent practicable under the direction of Agency personnel.

The loss of aquatic habitat would be compensated by mitigating at a minimum ratio of 2:1. A mitigation plan would be submitted to the USACE within 7 days of a frac-out occurring. The mitigation plan would include detailed information about the frac-out, how the drill fluid was contained and removed, the amount, if any, of drill fluid left in the Kalama River, the impact area drawn on a map, the location of the mitigation site, type of mitigation to be performed, and types of plantings.

Railroad Spur

To reduce turbidity and downstream impacts from the fill of the southeastern wetland, BMPs and sedimentation minimization measures would be implemented to reduce muddy water from flowing through the culvert and discharging into the wetland complex north of the site. Hay bales, silt fencing, or other methods effective at filtering or diverting the turbid water from discharging through the culvert would be used. In addition, removal of the debris jam at the upstream end of the culvert prior to the wetland fill would allow the wetland to partially dewater,

Environmental Inspector to determine the appropriate containment method in order to best protect the site-specific resource.

- The following entities would be contacted by phone immediately, but no later than 24 hours: the USACE, Ecology, WDFW, and EFSEC.
- NOAA Fisheries and USFWS would also be contacted in the event of impacts to federally listed species.
- Qualified fisheries biologists would be on alert to conduct fish salvage operations (under the appropriate permits to be acquired prior to construction) in the reach prior to any bentonite removal activities, and block nets would be employed to ensure no fish or other aquatic species reenter the affected area until after the sediments are removed.
    a. Before (and sometimes during) the dewatering of an isolated in-water work area, fish would be captured from the isolated area using trapping, seining, electrofishing, or other methods that minimize the risk of injury to fish. A work area isolation plan and written fish salvage plan would first be prepared and submitted with the application for a fish salvage permit from WDFW and NOAA Fisheries. A fisheries biologist experienced with work area isolation and competent to ensure the safe handling of all ESA-listed fish would conduct or supervise the fish capture and release operation. If electrofishing equipment is used to capture fish, the capture team would comply with the most recent NMFS-approved electrofishing guidelines (NMFS, 2000), and would handle ESA-listed fish with extreme care, keeping fish in oxygenated water to the maximum extent possible during seining and transfer procedures to prevent the added stress of out-of-water handling. Captured fish would be released in a location that would promote their safe recovery. ESA-listed fish would not be transferred to anyone except NOAA Fisheries or USFWS personnel, unless otherwise approved in writing by the Services.
- Commercially available non-toxic polymers may be used in an attempt to seal the fracture.
- If a fracture cannot be sealed, where practical, the drill pipe would be removed from the existing drill hole to a point where a new drill path can be attempted by drilling out of the existing hole and creating a new hole. A team of the Lead Environmental Inspector, the Chief Inspector, and the Construction Manager would review all information pertaining to the frac and then make a decision to abandon the existing hole and initiate a new bore hole. If the original drill path cannot be utilized, the drill rig would be moved to a new, adjacent location, staff would verify that the new, adjacent location meets the requirements of all applicable project permits and approvals.
- If a frac-out occurs during “pull-back”, adjustments to the pull-back operations would be made to minimize inadvertent returns.

The following approach would generally be followed after the vent (frac-out) is stopped. Due to the unpredictable nature of the location and environment in which vents may appear,

- Excavated materials would be stabilized in a manner to prevent degradation of State waters.

In the event of an unintentional release of drilling mud under pressure into the Kalama River, the following response plan would be implemented.

1. Pre-drilling.

Pipeline construction personnel and inspection staff would be adequately trained prior to construction to identify and use appropriate response materials. Prior to drilling, the following materials would be on-site and available for transport to the HDD location quickly in the event of an unintentional release of drilling mud.

- Vacuum truck with sufficient capacity for an immediate response; arrangements for additional trucks as needed prior to commencing bores,
- Certified Weed Free Straw or hay bales,
- Stakes to secure bales ,
- Silt fence,
- Sand bags,
- Leak-free hose(s) and pump(s),
- Straw logs (wattles, or fiber rolls),
- Heavy-duty push brooms,
- 55-gallon barrels or salvage drums,
- Light tower(s) (if necessary, deliver to site as soon as practicable), and
- Boat with appropriate personal safety equipment, of sufficient capacity to safely conduct clean up from (if necessary, deliver to site as soon as practicable).

A sufficient pumping system would be in place to accommodate all drilling fluids at the bore entry and exit location to contain all drilling fluids within the bore entry and exit pits. During the drilling operations a spotter would be required to visually monitor the crossing at all times. In addition to the visual monitoring, the drill operator would monitor all mud pressure gauges and would immediately cease all operations and send additional crews to assist in the detection and clean up of a frac.

2. Event response.

The following response measures would be implemented upon discovery of the loss of drilling fluid into streams or wetlands:

- Directional drilling would stop immediately.
- The drill fluids would be contained immediately. Types of containment may be straw bales, sediment fence, 55-gallon barrel, culvert, or sandbags. It is up to the

Impacts to wetland habitats from construction of the railroad spur would require mitigation. This is discussed in Section 1.4.1.5, Wetlands.

Fish

Plant Site

There are no EFA or ESA-listed species, or critical habitat on-site (assuming the completion of the Port's planned wetland fill); therefore, no mitigation measures, are necessary. Impacts from PMEC operations (i.e., ship/barge traffic, stormwater run-off, and waste water discharge) would be minor or insignificant and therefore would not require any mitigation measures outside of meeting federal and state permit requirements.

Pipeline Stream Crossing

Both crossing methods:

- All staging and equipment would occur outside of the 100-foot setback distance set to protect the riparian area of the Kalama River.
- Silt fencing would be used to protect the river from sedimentation.
- Disturbed areas would be revegetated with native vegetation.
- Activities that are potentially hazardous to aquatic habitats would not be permitted within the 100-foot restrictive area, including:
  - Fueling or servicing of equipment,
  - Storage of any petroleum products, chemicals, or other toxic or deleterious materials,
  - Washing of construction equipment, and
  - Disposal of waste materials.

For pipeline suspension under existing bridge:

- Waste material during pipeline installation would be captured to the extent possible and not allowed to enter the Kalama River; and
- If over-water equipment (i.e., barge, crane, vessel) is used to install the pipeline, then a containment mechanism (i.e., oil boom or equivalent) must be available or in place in the event of a leak or spill while working over the water.

For HDD crossing method:

- NOAA Fisheries and USFWS may recommend an in-water work window to reduce salmonid exposure to impacts from a potential frac-out during HDD. The in-water work window for the Kalama River is August 1 to August 31 (USACE, 2006).
- Excess excavated material would be removed immediately upon completion of construction to an appropriate upland location away from stream channels or wetlands.

1.4.1.6 Floodplains

The County Administrator is responsible for determining the extent of the floodplain. All developments within the floodplain require a floodplain management permit and comply with development standards outlined in Cowlitz County Code (CCC) 16.25.080 and 16.25.090.

If it is determined that the site resides within the 100-year flood plain, areas that are potentially subject to damage during periods of high water would be protected with quarry spalls, riprap, flow deflectors or other erosion control practices. Because the site is above the 100-yr floodplain, an evaluation of the change in water surface elevation created by the additional fill placed for site development would not be necessary. This has been confirmed in 1996 as the site was not flooded.

1.4.1.7 Groundwater Resources

No impacts have been identified regarding the quantity of water infiltrating the site following construction. BMPs that are recommended for site development include a wet pond and/or biofiltration swales that would allow site stormwater to collect, filter sediments and particulate matter.

In addition, the site development plan would require a Spill Prevention, Control and Countermeasures (SPCC) Plan that would protect ground water (See Section 2.9). If a spill were to occur to ground, impacted soil and ground water would be remediated in accordance with the Model Toxics Control Act (MTCA). With appropriate management practices, including bermed areas for the collection of incidental spills and oil-water separators as required, the potential for contamination of surface or ground water is unlikely. Therefore, mitigation for groundwater quality impacts is not necessary.

1.4.1.8 Public Water Supplies

No impacts to public water supplies are expected, and no mitigation measures are required.

1.4.1.9 Private Water Supplies

No adverse impacts to private water supplies (water wells) are expected, and no mitigation measures are required.

1.4.1.10 Habitat, Vegetation, Fish and Wildlife

Habitat and Vegetation

The mitigation sequence is avoidance, minimization, and compensation. Many impacts to high quality habitats have been avoided by siting the development in an area that is already largely industrial. The development would also minimize impacts to the riparian habitat adjacent to the Kalama River by either drilling under the river or suspending the pipeline from a bridge.

To minimize the spread of non-native species all machinery would be washed before working in or adjacent to sensitive habitats (wetlands and riparian area).

1.4.1.2 Air

The construction and operation of the PMEC will have insignificant to minor impacts to air quality, visibility, fogging, icing, dust, and odors. Minor impacts to air quality during construction and operation would be addressed as follows:

- During construction, water will be applied, as necessary, or access roads would be graveled or paved.
- Best Available Control Technology (BACT) would be incorporated into the PMEC design to reduce air pollution emissions. PMEC proposes to utilize Innovative Control Technology (ITC) to reduce emissions beyond that required by BACT as described in Sections 2.11, Emission Control, and 5.1, Air Emissions Permit and Authorizations, and Appendix B-1 (BACT Analsysis).
- Greenhouse gases (GHG) are required to be mitigated under Chapter 80.70 RCW. As described in Section 2.11, Energy Northwest proposes to mitigate potential impacts to potential GHGs with the PMEC efficient design, the preference of petcoke as a fuel feedstock, the installation of Selexol® or equivalent equipment, and efforts undertaken as part of the Partnership, as a combined package. This proposed approach would more than satisfy the carbon dioxide (CO_2) mitigation requirements as required in Chapter 80.70 RCW.

1.4.1.3 Water

1.4.1.4 Surface Water

Permanent BMPs would be employed to treat the water quality design storm, or the 6-month, 24-hour storm for the site. BMPs include oil-water separators, wet pond and/or biofiltration swales, and permanent vegetation. The stormwater runoff control system would comply with the SWMWW. Peak-flow control and flow duration control are not required for this site because all site stormwater runoff would be conveyed to the Columbia River through a manmade non-erodible system.

1.4.1.5 Runoff/Absorption

The required BMPs are expected to minimize erosion and control sedimentation. Construction-phase erosion and sedimentation control BMPs, as described in Section 2.10, would be implemented to mitigate the expected impacts of soil disturbance. These may include chemical source control, silt fencing, stabilized construction entrances, street sweeping, straw bale check dams, and rock check dams.

Permanent, operations-phase runoff control and water quality enhancement BMPs, also described in Section 2.10, would be implemented to mitigate the expected impacts of increased runoff rate and pollution from vehicle traffic. These BMPs would include stabilized landscaped areas, paved areas, catch basins, storm drains, vegetated ditches or swales, and a wet pond intended for water quality treatment.

potentially sensitive areas. A Construction SWPPP would be developed and would describe the surface water management system, planned BMPs, procedures for inspection, communicating deficiencies, taking corrective action, training, and record keeping.

- Clearing, excavation, and grading would be limited to the minimum areas necessary for construction of the PMEC, and would not be done far in advance of facility construction. Slopes would be graded to no steeper than 3 feet horizontal (H) to 1 foot vertical (V), where practical. Steeper slopes may require additional slope and soil stabilization during and following construction.
- Ground surface restoration would be completed within fourteen days of the area's final disturbance. Interim surface protection measures, such as erosion control matting or plastic sheeting, may also be required prior to final disturbance and restoration if warranted by the potential for erosion.
- Sediment control measures used during construction would be based on a 10-year design storm. Water quality measures (other than sediment removal) would be based on the 6-month, 24-hour duration storm.
- Erosion control measures, as discussed in Section 2.10.1.1 would be constructed and maintained as required to control runoff and erosion from construction activities

Natural Gas Pipeline

Erosion control measures for construction of the natural gas pipeline are outlined in Sections 2.10.1.2 and 2.14.2 and include:

- Site-specific BMPs would be designed and implemented for construction activities. These practices include limiting certain construction activities and installing control structures such as sediment traps, diversion ditches, and silt fences. The SWPPP would include limits on the area to be disturbed, the retention of vegetation where feasible, drainage retention during construction, soil replacement, and replanting after construction.
- The backfill soils would be properly compacted to reduce the potential for post-installation erosion and settlement.
- Excess soils may be generated as a result of the installation of pipeline and may require stockpiling prior to disposal or reuse. These would be protected from wind and water erosion prior to appropriate disposal or reuse.
- After the contours have been re-established, the topsoil or roadbed subsurface materials that had been previously segregated would be redistributed across the surface of the right-of-way. As appropriate, the roadway would be repaved to Cowlitz County standards. For areas outside of the paved roadway area, native grasses or other native vegetation would be planted and fertilized in accordance with Port of Kalama and agency requirements. Temporary fencing that was installed at the beginning of construction would be removed and any original fences re-established where appropriate.

The fundamental objective of the plan is to provide the necessary prearrangements, directions, and organizational structure such that all plant emergencies can be effectively and efficiently resolved to safeguard the public, plant personnel, and property.

In all instances associated with this Plan, the PMEC Plant Manager, or designee, will be responsible for taking immediate action to safeguard the public, plant personnel, the environment, and equipment. The protection of personnel, the public, and the environment will always take precedence; plant systems and equipment will be secondary. In any situation the more conservative approach will always be considered. See Section 4.1.6 for more information on emergency plan components.

1.4.1.14 Land and Shoreline Use

Land Use

To avoid or reduce impacts to adjacent land uses:

- Native vegetation would be retained as much as possible in the impact area.
- Landscape buffers would be installed on the perimeter of the site.

Light and Glare

Most construction would occur during daylight hours. Lights that would remain on during the night time hours would be directed towards the site and would be the minimum wattage required for safety.

Development elements, except for the emission stacks, will be painted with earth tones. The emission stacks will be painted a light, warm-tone gray or similar color. These colors will reduce surface glare from direct sunlight and minimize visual impact.

Aesthetics

To avoid impacts to the nearest residences, located northwest of the site:

- Existing trees will be used as landscape buffers and will remain on the perimeter of the site to reduce the visual presence of the PMEC itself and increase its visual compatibility with the context of the surroundings.
- If needed to mitigate the view of the plant site from residences, Energy Northwest would plant native specimen trees to screen the view of the plant site to the extent possible, as well as to plant fast-growing trees, such as poplars, to expedite the development of a mature vegetative screen.
- Landscaping will be provided in parking lots and along access roads.
- The facility will be painted with earth-tone colors.
- The emission stacks will be painted with earth tones.

In addition, the following measures may be included if needed:

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1.5

WAC 463-60-095 General—Sources of information.

The applicant shall disclose sources of all information and data and shall identify all preapplication studies bearing on the site and other sources of information.

[Statutory Authority: RCW 80.50.040 (1) and (12). 04-21-013, recodified as § 463-60-095, filed 10/11/04, effective 11/11/04. Statutory Authority: RCW 80.50.040(1) and chapter 80.50 RCW. 81-21-006 (Order 81-5), § 463-42-095, filed 10/8/81. Formerly WAC 463-42-120.]

The potential impacts of the PMEC would be from traffic, noise, air quality, visual quality and aesthetics, or safety and security. As described in Parts 2.0, 3.0 and 4.0 of this Application, these impacts are being mitigated through design features to less than significant levels.

Operation of the PMEC would result in a positive economic impact to Cowlitz County and the state due to increased tax revenues, employment, and local expenditures. Operation of the PMEC would require 80 to 100 full-time employees working in two 12-hour shifts. These new jobs will increase the opportunities for all Cowlitz County residents, including minority and low-income populations.

TABLE 1.4-1
RACE AND SEX COMPOSITION IN THE PMEC VICINITY, 2004

Jurisdiction	Population	Sex (%)		Race (%)					
		Male	Female	White	Black	Native American	Asian and Pacific Islander	Two or More Races	Hispanic
Cowlitz County	95,300	49.6	50.4	94.1	0.6	1.6	1.5	2.3	5.2
Washington State	6,167,800	49.8	50.2	85.5	3.5	1.7	6.4	2.9	8.4

TABLE 1.4-2
POPULATION LIVING UNDER THE POVERTY LEVEL, 2000

Jurisdiction	Population For Whom Poverty Level is Determined	Persons Living Below Poverty Level	Percentage of Persons Living Below Poverty Level
Cowlitz County	91,364	12,765	14.0%
Washington State	5,765,201	61,2370	10.6%

Poverty status was determined by dividing the population living below poverty by the population for whom poverty status is determined, which excludes those living in institutional housing.

Most workers would be hired locally. The approximately 10 percent of the PMEC construction workforce that would be specialized craftsmen originating outside of Washington and Oregon would likely have relatively short assignments, so few are expected to bring their families with them when they arrive to work on the PMEC. The population increase in the Kalama area and elsewhere in Cowlitz County would therefore be limited mainly to these workers for a temporary period of time, plus, during the workweek, the non-local workers who would temporarily commute on a weekly basis from the Seattle-Tacoma area.

The total estimated number of workers requiring transient housing would be 150 (average) and 420 (peak) over the four-year construction period, assuming that all of the workers from Seattle-Tacoma would commute on a weekly basis and the specialized, temporary staff would also require lodging. These construction workers are expected to seek temporary accommodation in the general vicinity of the site, and to use motels, trailers, campers, and other forms of transient housing. Table 4.4-8 in Section 4.4 of this application shows that over 1,200 hotel rooms or RV campsites exist within 12 miles of the site. Assuming 70 percent occupancy, approximately 362 of these units (195 hotel rooms) would be available at any one time. Assuming a worst-case scenario that workers would want hotel or motel lodging, the peak demand of 420 rooms (assuming, again a worst-case scenario that no workers would share rooms) would stress the lodging facilities within 12 miles. Between 12 miles and 45 miles, all Vancouver and Portland lodging facilities and RV campsites are available. At the very least, an additional 372 hotel rooms or RV campsites would be available. Due to the site's close proximity to the Interstate 5 corridor and the Portland-Vancouver metropolitan area, and the amenities offered by a large metropolitan area such as Portland-Vancouver, a portion of the workers' temporary housing needs would likely be met in the Portland-Vancouver area. Construction of the proposed PMEC is not expected to result in a significant impact on transient accommodation availability in the Kalama area.

- Construction activities would be coordinated with local police and fire departments, and emergency medical service providers to ensure access to all locations in the PMEC site vicinity and along the gas pipeline corridor in the case of an emergency.
- During construction, precautions would be taken to ensure that excavations do not damage underground utilities, including communications cables.
- To help mitigate loss of access and other traffic related impacts, adequate traffic control and signage, indicating closures and alternate routes, would be provided.
- Construction vehicle trips in and out of the immediate construction zone would be coordinated and scheduled away from peak travel periods, to minimize general traffic disruption.
- Noise and dust problems generated by construction would be mitigated through the use of properly muffled construction equipment, and by the use of approved dust control methods.

1.4.2 FAIR TREATMENT

No social or environmental justice impacts are anticipated to result from the construction and operation of the Pacific Mountain Energy Center (PMEC). There will be no land use displacements or relocations as a result of PMEC, nor will the developed area for the PMEC extend beyond the Port of Kalama Industrial Park. The construction and operation of the PMEC is not predicted to result in potential disproportionately high and adverse effects to minority or low income populations.

The demographics of the PMEC study area have been identified and a public involvement effort undertaken to reach all of the surrounding residents, including minority and low-income populations.

The overall population and minority population data for year 2004 for Cowlitz County are shown in Table 1.4-1, followed by Table 1.4-2 showing population living under the poverty level.

- Provide additional screening by including low tree/shrub plantings
- Construct screening walls around ancillary elements. Wall treatments could include aesthetic material and texture patterns.

Recreation

Impacts to recreation users would be limited to the construction phase and would primarily result from dust and noise from construction equipment. See Section 2.11 Emission Control and 4.1 Environmental Health for mitigation measures proposed for air quality and noise during construction.

Historic and Cultural Resources

If the pipeline cannot be feasibly constructed completely within areas of previous disturbance, mitigation measures would be implemented. These measures may include, but are not limited to, site avoidance, subsurface reconnaissance probing, site evaluation, data recovery, and monitoring during construction.

Agricultural Crops/Animals

No mitigation measures for agricultural crops or animals are required or proposed.

1.4.1.15 Transportation

Impacts to transportation attributable to the PMEC would be low and moderate, and therefore less than significant. Features included in the design of the proposed project that would reduce impacts include the following:

- Energy Northwest's construction contractor would provide WSDOT-approved safety signs during the construction period warning vehicles traveling along West Kalama River Road and the I-5 interchange approach ramps of upcoming truck access points.
- To the extent feasible, daily construction activity would be scheduled to avoid typical peak traffic periods, particularly for construction of the natural gas pipeline along Hendrickson Drive south of West Kalama River Road.

Energy Northwest would promote rideshare and vanpool programs for construction workers, particularly during the 12-month peak construction period, to reduce vehicle trips.

1.4.1.16 Socioeconomic Impact

Socioeconomic impacts are expected to be beneficial in the form of additional jobs, increased sales, and increased tax revenues. Temporary increases in population due to worker relocation during construction are likely to be less than significant in view of the level of nearby urban development and abundance of transient accommodations available in the region. Specific mitigation measures to lessen the impacts of the construction phase on public service providers in the PMEC vicinity include the following:

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1.5.10.1 Noise

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