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DEPARTMENT OF JUSTICE
GENERAL COUNSEL DIVISION

May 29, 2009

Ms. Kimberly D. Bose
Federal Energy Regulatory Commission
888 First St. NE, Rm 1A
Washington DC 20426

Re: Comments of the State of Oregon
Final Environmental Impact Statement
Jordan Cove Energy Project, LP Docket No. CP07-444-000
Pacific Connector Gas Pipeline, LP Docket Nos. CP07-441-000, CP07-442-000 and CP07-443-000
DOJ File No. 330-050-GN4729-07

Dear Secretary Bose:

Enclosed for filing in the above-referenced proceedings are the State of Oregon's comments on the Final Environmental Impact Statement for the Jordan Cove and Pacific Connector Project.

Sincerely,

Janet Prewitt
Assistant Attorney General
Natural Resources Section

Enclosures

JLP:/jrs/JUSTICE-#1428003
c: Mike Carrier, Governor's Office
Mark Long, Oregon Department of Energy
Tom Stoops, Oregon Department of Energy
Susan Hughs, Oregon Department of Energy
Service Lists

THEODORE R. KULONGOSKI
Governor

May 29, 2009

Ms. Kimberly D. Bose, Secretary
Federal Energy Regulatory Commission
888 First Street NE, Room 1A
Washington, DC 20426

Dear Secretary Bose:

On behalf of the State of Oregon, I am writing once again to express my frustration with the Federal Energy Regulatory Commission's (FERC or "Commission") inadequate environmental review and the lack of sufficient documentation of that review, in the siting of proposed Liquefied Natural Gas (LNG) terminals and associated pipelines within the State of Oregon. My comments in this instance focus on FERC's Final Environmental Impact Statement (FEIS) for the Jordan Cove Energy Project (JCEP) and Pacific Connector Gas Pipeline Project.

Detailed comments from Oregon agencies are attached to this letter.

This is the second LNG import terminal and natural gas pipeline project within Oregon that has reached this stage of the FERC review process. We again question the adequacy of supporting data and information relied on by the FERC staff to support its recommendation to approve these projects. Our experience with energy facility siting in Oregon is that the Energy Facility Siting Council (EFSC) applies rigorous environmental and natural resource protection standards to its decisions. During the state review process, EFSC relies on the expertise of natural resource agencies and their staff to guide its decisions. We believe FERC should apply the same high standards and document the results, given the significant environmental effects resulting from these projects. The Commission's conclusion that the projects will result in "some adverse environmental impacts" significantly understates the effects of these projects on the environment and important natural resources. The FERC staff's conclusion that "most of these impacts would be reduced to less-than-significant levels with the implementation of the applicants' proposed mitigation measures and additional measures [recommended by FERC in the FEIS]" is not supported by sufficient scientific data and evidence or by a clear explanation that justifies approval of the project.

Despite minor modifications to the Draft EIS, we remain disappointed with the level of detail in the final environmental impact statement. Much of the FEIS contains only general information and conclusions about environmental and resource effects. There is little or no

linkage between the factual information supporting the FEIS and the conclusions in the document. In some cases, the conclusions are simply assertions that do not contain important reasoning explaining why the facts lead to the conclusion.

The FEIS continues the practice of the Draft EIS of assuming away the significant environmental challenges posed by this LNG import terminal. This analytical method is woefully inadequate to license a project with such profound potential impacts on the lives of Oregonians. The FERC staff-recommended conditions of approval in the FEIS do not require mitigation plans to be fully developed before a license is issued. In fact, the FEIS contains only the barest of outlines of mitigation plans while leaving the actual and specific content of such mitigation plans to be determined after a Record of Decision and license are issued. The Commission should require that any future mitigation plan be based on specific, effective and proven technology that has been identified and analyzed at the Draft EIS stage. Consultations and recommendations are not adequate to ensure that the environmental impacts have been fully mitigated.

Additional subjects that also require imposing conditions before issuing the license include safety and design specifications for the facility, emergency planning, cost sharing, hazard design review and mitigation for impacts to fish. Unresolved issues and concerns are itemized in the attached agency comments.

There are major unresolved issues associated with the approvals for which Oregon agencies retain federally-delegated responsibility under section 311 of the Energy Policy Act of 2005, including the Coastal Zone Management Act (CZMA), the Clean Air Act (CAA) and the Federal Water Pollution Control Act (CWA). The State believes strongly that FERC may not issue any license until those approvals have been obtained.

Specifically, the State contends that FERC cannot issue the license before receipt of the Section 401 certificate and the CZMA concurrence. Further, FERC should not issue the license before the issuance of the other permits required under the CWA and CAA.

In addition, the license should explicitly adopt all of the conditions imposed by the local county government in approving the facility, which are conditions of consistency. The license should be conditioned on a requirement that docked vessels must use the screened water source and should be explicitly conditioned on the requirement that the facility use a closed-loop re-gasification system.

The FEIS fails to require compliance with state energy facility siting standards, which protect public safety and provide environmental protection and which were raised in agency comments on the Draft EIS. For example, the FEIS fails to meet Oregon's carbon dioxide

offset requirements and fails to impose the state requirement that a developer provide adequate financial assurance to retire the facility and to provide site restoration at the end of the terminal's operation.

The FEIS ignores Oregon safety and security concerns, an omission that opens the door for LNG developers in Oregon to submit a final Emergency Response (ER) Plan and receive FERC approval without the necessary equipment, systems, and personnel resources to implement the plan, putting the lives of Oregonians at risk.

Already, FERC's failure to provide enforceable conditions for the Bradwood Landing Import Terminal has resulted in the breakdown of the ER planning process. Bradwood Landing is at odds with state and local response agencies on what are considered adequate resources to implement the ER plan.

Despite FERC's refusal to address this issue, Oregon and JCEP are making emergency planning for its terminal a priority. The JCEP staff and contractors have engaged the State and all affected local emergency response agencies to collectively identify resource gaps and comply with state standards to ensure the protection of Oregonians in the event of an LNG mishap at the terminal and along the 12-mile transit route. As a result of a four-year process, JCEP signed a Memorandum of Understanding (MOU) with the Oregon Department of Energy (ODOE) that initiates a mutual contractual commitment to safety in the region. This approach has the full support of the affected local and county jurisdictions. The MOU was entered on the FERC docket in March 2009. The MOU also does address carbon dioxide offsets and financial assurance to retire the facility.

The JCEP staff and contractors have also actively engaged state agencies to resolve concerns and issues arising from their projects. This is true, although to a lesser degree, of Pacific Connector Gas Pipeline. Regrettably, documentation of those meetings, discussions, and agreements is largely not included in the FEIS. That dearth of detail leaves Oregon without enforceable conditions and assurances to protect the health and safety of our citizens and environment.

I would again remind you of the report I submitted to you in May 2008, prepared by ODOE, which raised serious questions about the need for an LNG facility in light of a number of alternative sources of supply and potential new pipelines. The ODOE report also identified significant life-cycle carbon costs of LNG compared to those alternative sources. The JCEP staff and contractors invested in an analysis of this "need" question in their "Study on Natural Gas Needs and Alternatives as may be met by Jordan Cove Energy Facility at Coos Bay Report (ICF International 5/21/08)," which it shared with ODOE, the Governor's Office and FERC. Neither the ODOE report nor the Jordan Cove ICF report is addressed in the FEIS.

The FEIS fails to consider the direct, indirect and cumulative effects of the proposed project in violation of the National Environmental Policy Act (NEPA) and its applicable regulations. This includes a failure to evaluate the impacts of past, present and reasonably foreseeable future actions (42 USC 4332 (2)(C); 40 CFR § 1502.16). We also note that CEQ (Council on Environmental Quality) regulations indicate, "The NEPA process is intended to help public officials make decisions that are based on understanding environmental consequences, and take actions that protect, restore, and enhance the environment." (40 CFR 1500.1(c)). The Commission's summary treatment and conclusory dismissal of all those issues in its FEIS ignores FERC's obligation under NEPA to fully examine the need for the proposed LNG terminal and all reasonable alternatives to that facility.

We believe FERC should defer its decision on environmental and resource effects of this project until the lead natural resource agencies have completed their review and provided their expert guidance and opinions. Some of the most significant resource effects of the project involve species and habitat that relate to required consultation with the federal U.S. Fish and Wildlife Service and the National Marine Fisheries Service. Other effects on wetlands and the Coos Bay Estuary are not fully evaluated. The FERC staff should not make judgments regarding the effects of the project on these significant resource areas or draw conclusions regarding the adequacy of mitigation measures until after the state and federal agencies with regulatory authority provide FERC with guidance or decisions within their area of expertise and authority. Such regulatory authority includes the federal CWA, CAA and CZMA review authority delegated to Oregon. Oregon's input should be incorporated into the FERC staff's conclusions regarding the environmental and natural resource effects of this project.

Sincerely,

THEODORE R. KULONGOSKI
Governor

TRK:mc:jb
Attachments:
Compilation Oregon Agency Comments
Compilation OR Agency Comments Attachment #1 – DOGAMI
Compilation OR Agency Comments Attachment #2 – ODFW

Oregon Department of Energy (ODOE)

4.12.5 LNG Carrier Safety

Page 4.12.40 - FERC Recommendation (Now on Page 4.12.47; remains unaddressed)
Throughout the life of the facility, Jordan Cove should ensure that the facility and any LNG carrier transiting to and from the facility comply with all requirements set forth by the Coast Guard Captain of the Port Sector Portland, including all risk mitigation measure in the WSR.

ODOE Concern: While the U.S. Coast Guard's (USCG) WSR focused on the navigation safety and maritime security risks posed by LNG marine traffic, and the measures needed to responsibly manage risks for the proposed project, the WSR provides no guidelines to re-evaluate these risks and the impacts to the community should JCEP decide to expand or make other changes to the project.

ODOE Recommendation: ODOE recommends FERC include as a condition of the permit language in section 4.12.5 that states: Throughout the life of the facility, Jordan Cove should ensure that the facility and any LNG carrier transiting to and from the facility comply with all requirements set forth by the Coast Guard Captain of the Port (COTP) Sector Portland, including all risk mitigation measure recommended in the WSR. *This includes working with COTP and the Oregon Department of Energy (ODOE) to assess potential impacts to state and local emergency response capabilities, resources, and activities as a result of the proposed project change or expansion. LNG developers will cover all costs incurred by ODOE and local emergency response organizations as a result of the proposed expansion or change. Propose expansion and changes to the project include, but is not limited to:*

a) *Increases to the current shipment schedule*
b) *Increasing the current carrier vessel size*
c) *Increases to the current emergency planning zones*
d) *Constructing additional LNG storage tanks on site*
e) *Expanding current dockside capabilities*
f) *Other as appropriate*

4.12.6 Emergency Response and Evacuation Planning

Page 4.12.42 - FERC Recommendation (Now on Page 4.12.48-49; remains unaddressed)
Jordan Cove should develop an Emergency Response Plan (including evacuation) and coordinate procedures with the Coast Guard; state, county, and local emergency planning groups; fire departments; state and local law enforcement; and appropriate federal agencies. This plan should include at a minimum:

a) Designated contacts with state and local emergency response agencies;
b) Scalable procedures for the prompt notification of appropriate local officials and emergency response agencies based on the level and severity of potential incidents.
c) Procedures for notifying residents and recreational users within areas of potential hazard;
d) Evacuation routes/methods for residents and other public use areas that are within any

transient hazard areas along the route of the LNG marine traffic;
e) Locations of permanent sirens and other warning devices; and
f) An "emergency coordinator" on each LNG carrier to activate sirens and other warning devices.

The emergency response plan should be filed with the Secretary for review and written approval by the Director of OEP prior to initial site preparation. Jordan Cove should notify the FERC staff of all planning meetings in advance and should report progress on the development of its Emergency Response Plan at 3-month intervals.

ODOE Concern: ODOE commends FERC for requiring the JCEP to complete and receive approval by the Director of EOP on their emergency response plan prior to initial site preparation. FERC should require this of all developers proposing to build LNG import terminals in Oregon.

Unfortunately, FERC's minimum guidelines for developing an LNG emergency response plan is vague and omits many critical elements of emergency response planning found the Federal Response Framework and Oregon state standards and guidelines for emergency preparedness, response, and recovery for nuclear, biological, chemical, and all-hazard emergencies.
ODOE Recommendation: Section 4.12.6 on Emergency Response and Evacuation Planning should read: As a condition of the permit, Jordan Cove should develop an Emergency Response Plan (including evacuation) and coordinate procedures with the Coast Guard; state, county, and local emergency planning groups; fire departments; state and local law enforcement; and appropriate federal agencies. This plan should include at a minimum:

a) Designated contacts with state and local emergency response agencies;
b) Scalable procedures for the prompt notification of appropriate local officials and emergency response agencies based on the level and severity of potential incidents.
c) Procedures for notifying residents and recreational users within areas of potential hazard;
d) Evacuation routes/methods for residents and other public use areas that are within any transient hazard areas along the route of the LNG marine traffic;
e) Locations of permanent sirens and other warning devices; and
f) An "emergency coordinator" on each LNG carrier to activate sirens and other warning devices.
g) Thirty days following the issuance of a FERC permit, LNG developers will provide a comprehensive fire and response plan for the import terminal for ODOE and local emergency response organizations review and approval. The plan must meet state and National Fire Protection Association (NFPA) standards for a four-minute response to a 1st Alarm Fire at an industrial facility as shown in Table 7.2.1 below. The proposed plan will include a resource list which details the location and number of facilities, personnel, equipment, and apparatus provided, and other pertinent information as appropriate.

Table 7.2.1 - - Required Resources for a "Medium-Hazard Occupancies" Response. This includes apartments, offices, mercantile and industrial occupancies not normally requiring extensive rescue or fire-fighting forces.

- At least 3 pumpers
- 1 ladder truck (or combination apparatus with equivalent capabilities)
- Other specialized apparatus as may be needed or available
- No fewer than 16 fire fighters, 1 chief officer, 1 safety officer, and a Rapid Intervention Team (4 - 5 fire fighters on standby at event scene).

Note: Refer to Volume 1 - NFPA Handbook, 19th Edition, Chapter 2Section 7, Organizing for Fire and Rescue Services.

Upon state and local approval of the plan, all personnel, training, facilities, equipment, systems and supplies provided to ensure effective fire and rescue response to the import terminal must be in place prior to construction and maintained throughout the life of the project by the LNG developer.

h) Prior to construction, LNG developers will provide a comprehensive marine firefighting plan for ODOE and local emergency response organizations review and approval. This proposed plan will be consistent with U.S. Coast Guard and state standards and requirements for responding to shipboard fires and other LNG carrier events along the transit route. The proposed plan will also include a resource list which details the location and number of personnel, equipment, and apparatus provided, and other pertinent information as appropriate. Upon state and local approval of the plan, all personnel, equipment, and resources provided to marine firefighting must be dedicated to LNG response, in place prior to operation and maintained throughout the life of the project by the LNG developer.

i) Prior to construction, LNG developers will provide a comprehensive shore-side security plan for ODOE and local emergency response organizations review and approval. The proposed plan will assess and identify additional local law enforcement personnel and resources needed, if any, as a result of the project. This includes, but is not limited to LNG developer expectation of local law enforcement to conduct shore-side patrols, provide traffic control during evacuations, and respond to reported suspicious activity from 911 calls or those captured on security cameras as the LNG carrier is in the channel and at the import terminal. Upon state and local approval of the plan, all personnel, equipment, and resources provided to enhance security on shore must be dedicated to LNG response, in place prior to operation and maintained throughout the life of the project by the LNG developer.

j) Prior to construction, LNG developers will provide a comprehensive water-side security plan for ODOE and local emergency response organizations review and approval. The proposed plan will assess and identify additional local law enforcement personnel and resources needed, if any, as a result of the project. This includes, but is not limited to LNG developer expectation of local law enforcement to conduct water-side patrols and enforce LNG vessel security and exclusion zones along the channel and at the import terminal. Upon state and local approval of the plan, all personnel, equipment, and resources provided to enhance security on the water must be dedicated to LNG response, in place prior to operation and maintained throughout the life of the project by the LNG developer.

k) Prior to construction, LNG developers will provide a comprehensive public warning system plan for the region for ODOE and local emergency response organizations review and approval. The proposed plan will include the following alert and notifications systems,

but is not limited to:

- Reverse 911 (24-Port) System for the host county - The system will include the following capabilities: high volume calling; compatible with major mapping systems; E911 data ready; multiple devices (recorded voice messages, text messages to wireless receivers, and digital pages); geo-dimensional calling; full networking capabilities; off-site back-up notification; remote launching capability; and other capabilities as appropriate.
- Sirens - Outdoor siren system throughout the entire transit route covering all three zones of concern up to the import terminal. The system will include the following capabilities: multiple high intensity warning signals; live and digital voice messaging with flat frequency response from 200 - 2000 Hz for clear voice reproduction; 360-degree coverage with no sound variation in the horizontal plane (106 to 125 dBc at 100ft/30m); continued emergency operation regardless of primary power outages, and other capabilities as appropriate. LNG developers will include a map of the proposed number and locations of sirens showing the coverage area of each proposed siren for state and local review and approval.
- Reader Boards - Reader boards located along the highways in the host county to provide event information, direct traffic, and facilitate evacuations. LNG developers will include a map of the proposed number and locations of reader boards for state and county approval. Reader board specifications must be consistent with the Oregon Department of Transportation reader boards located throughout the state.

Upon state and local approval of the plan, all equipment and systems provided to enhance the host county's public warning system must be in place, tested, and operational prior to import terminal operation and maintained throughout the life of the project by the LNG developer.

l) Prior to construction, LNG developers will provide a comprehensive plan for a remote gas detection system for the region for ODOE and local emergency response organizations review and approval. The proposed plan will include a list with a breakdown of all proposed fixed and portable gas detectors and designated locations for the equipment. The plan will include information about the following systems, but is not limited to:

- Fixed Gas Detectors - Fixed gas detectors will be provided in all high risk and high population areas along the entire transit route in the host county. Fixed gas detector capabilities will include remote wireless operations and the ability to provide readouts in multiple locations.
- Portable Gas Detectors – LNG developers will provide three layers of portable gas detectors. 1) All emergency responder vehicles in the region will be provided a methane gas detector. 2) Methane gas and oxygen meters will be assigned to all fire trucks and 3) Multi-meters will be provided to hazardous materials responders.

Upon state and local approval of the plan, all fixed and portable gas detectors and systems provided must be in place, tested, and operational prior to import terminal operation and maintained throughout the life of the project.

m) Prior to construction, LNG developers will provide a comprehensive plan for an interoperable communications system for the region for ODOE and local emergency response organizations review and approval. The proposed plan will be compatible with

state and local communications capabilities and include the following systems, but is not limited to:

- Repeaters and Cell Towers - Specify the number of repeaters and cell towers needed to ensure uninterrupted cell and radio coverage along the entire transit route to the import terminal, covering all three zones of concern. LNG developers will provide a map of the proposed repeater and cell tower locations showing the coverage area of each proposed repeater and cell tower location for state and local review and approval.
- Incident Command - Specify the number and locations of intrinsically safe handheld radios to be provided to fire, law enforcement, and other responders to an LNG mishap. Include information on FCC licensing requirements and proposed frequencies, antenna system, base station console, and other pertinent information.
- Emergency Operations Centers - Multiple federal, state, and local emergency operations centers (EOCs) may be activated in response to an LNG mishap. EOCs support the incident command. LNG developers will specify the primary and redundant backup communications systems to be used to ensure uninterrupted communications between the import terminal and the federal, state, and local EOCs. This includes, but is not limited to a dedicated phone system, video teleconference system, satellite phones, Internet, e-mail, and other technology as appropriate.

  Upon state and local approval of the plan, all equipment and systems provided to enhance the region's interoperable communications system must be in place, tested, and operational prior to import terminal operation and maintained throughout the life of the project by the LNG developer.

n) Prior to construction, LNG developers will provide a comprehensive plan for upgrading and equipping the host county primary EOC for state and local emergency response organization review and approval. The proposed plan will ensure adequate work space for affected federal, state, and local emergency responders reporting to the EOC jointly responding to LNG emergencies at the import terminal or along the transit route.

ODOE also requires the host county EOC to be located outside of the three zones of concern. If the host county's EOC is within the three zones of concern, LNG developers will work with the host county to complete one of the following tasks:

- Relocate the EOC to a facility outside of the three zones of concern. The relocated EOC will be equipped to accommodate affected federal, state, and local emergency responders reporting to the EOC jointly responding to LNG emergencies at the import terminal or along the transit route.
- Pre-designate an alternate EOC and ensure this location has sufficient work space to accommodate affected federal, state, and local emergency responders reporting to the EOC jointly responding to LNG emergencies at import terminal or along the transit route. This includes equipping the pre-designated alternate EOC with the same capabilities as the primary EOC to ensure a seamless transition to the alternate EOC if a LNG mishap prevents the use of the primary county EOC. Pre-designating and equipping an alternate EOC ensures the host county can maintain direction and control of local protective actions and decisions, providing a sustained response throughout the duration of an LNG event.

Upon state and local approval of the plan, the facility, equipment and systems must be in place, tested, and operational prior to import terminal operation and maintained throughout the life of the project by the LNG developer.

o) Prior to construction, LNG developers will provide a comprehensive plan for pre-designating and equipping a Joint Information Center (JIC) for ODOE and local emergency response organizations review and approval. The proposed plan will identify a location for the JIC outside of the three zones of concern. The proposed plan will ensure adequate space and equipment for conducting news conferences. The proposed plan will also ensure adequate work space for public information officers from federal, estate, and local emergency response organizations reporting to the JIC to coordinate the release of emergency information and instructions.

The purpose of the JIC is to ensure the coordination of event information among the federal, state, and local agencies responding to the event. The goal is to provide a consistent message to news media and the public. The JIC will be the location for news conferences; coordinating news releases from responding federal, state, and local jurisdictions as well as the LNG developer; addressing public and media inquiries; and other public information activities as appropriate. Failure to provide a central clearing house to manage the receipt and dissemination of emergency information may result in misinformation, inconsistent information, and unconfirmed information getting out to the public and news media creating public panic, confusion, and mistrust.

Upon state and local approval of the plan, the facility, equipment and systems must be in place, tested, and operational prior to import terminal operation and maintained throughout the life of the project by the LNG developer.

p) Thirty days following the issuance of a FERC permit, LNG developers will provide a comprehensive training plan for ODOE and local emergency response organizations review and approval. The proposed training plan allows state and local organizations the ability to determine whether the project's training program is adequate for preparing this region's emergency responders and decision-makers for an LNG emergency at the import terminal and along the transit route. The proposed training plan will include, but is not limited to:

- Construction of an LNG Fire Training Center in the host county - It is more cost effective to build an LNG training facility locally and bring in instructors from Texas A & M or other accredited training institutions than to send fire fighters to training in Texas or elsewhere in the country. LNG developers will work with state and local emergency responders to determine location and facility design and layout.
- Type of training to include, but is not limited to: 1) Incident Command System; 2) facility security; 3) oil & hazmat spill response; 4) LNG for fire fighters, emergency responders, and law enforcement; 5) marine fire fighting; 6) general LNG training; 7) advanced LNG fire fighting; 8) hospital training; 9) tabletops, drill, and exercises and other training as appropriate.
- Schedule of training detailing the type of training, required training hours, and number of anticipated trainees from LNG developers, state, and local agencies.

Upon state and local approval of the plan, the facility, instructors, equipment and systems must be in place, tested, and operational prior to construction and maintained throughout the life of the project by the LNG developer.

q) Thirty days following the issuance of a FERC permit, LNG developers will provide funding to the host county for hiring a full-time County LNG Planner & Fire Response Coordinator. The position description for the County LNG Planner & Fire Response Coordinator will include 1) drafting the county LNG emergency response plan; 2) working with first responders to prepare for LNG vessel arrivals and departures; 3) working with first responders, the state, and LNG developers to conduct plan review, coordinate training, exercises, public outreach, and 4) performing other LNG emergency preparedness activities as appropriate. The County LNG Planner & Fire Response Coordinator must be hired and trained prior to construction. Funding for this position will be maintained throughout the life of the project by the LNG developer.

r) Prior to construction, LNG developers will provide a comprehensive plan to address burn victims as a result of an LNG emergency at the import terminal or along the transit route for ODOE and local emergency response organization review and approval. The plan will be consistent with the capabilities outlined in the Burn Mass Casualty Plan for the Oregon Burn Center at Legacy Emanuel Hospital. Specifically, LNG developers will provide area hospital(s) with the personnel and resources necessary to implement the Burn Mass Casualty Plan's 72 Hour Burn Plan - Care of Burn Patients in a Non-Burn Hospital. This includes, but is not limited to:

- Identifying resources and procedures necessary for treating burn victims if immediate transfer to a regional burn center is not feasible. This includes ongoing resuscitation and care.
- Identify medical supplies, pharmaceuticals, and equipment needed to support a triage station capable of treating 5 victims with severe burns. This includes pre-packed medical resources.
- Communications capabilities including 800 mhz trunked radio and web-based client/server applications to coordinate communications between the event scene and the Columbia Memorial Hospital and serve as the patient information tracking mechanism in events involving multiple burn victims.
- Staffing requirements for care of burn patients in a non-burn hospital.

Upon state and local approval of the plan, the facility, personnel, equipment and systems must be in place, tested, and operational prior to import terminal operation and maintained throughout the life of the project by the LNG developer.

s) LNG developers will provide timely notifications (within 15 minutes of event onset) to ODOE in the event of an incident at the import terminal and along the transit route with potential impacts to the health and safety of site workers, the public or the environment. This includes security threats and any other event that may generate media attention.

LNG developers will maintain ongoing communications with and provide event information to decision-makers at the ODOE EOC throughout the duration of an emergency. This includes, but is not limited to information about the emergency classification, facility conditions, LNG release, mitigation measures taken, vessel information, meteorological data, protective action recommendations, maps, and other pertinent emergency information as appropriate.

t) LNG developers will work with ODOE and local emergency response organizations to maintain program readiness. This includes ensuring that the state and local decision

makers and responders are prepared to respond to an LNG crisis at the import terminal and along the transport route. This includes:

- Plan Update – Coordinate the review and update of emergency response plans at all levels annually or as needed. Revisions will include improvements identified through training, drills, and exercises.
- Drills and Exercises – Schedule and coordinate drills and exercises as needed.
  - Annual Tabletop Drill - To talk through the LNG developer response as well as federal, state, and local responses to an LNG emergency at the import terminal and along the transit route.
  - Annual Full Scale Exercise – To evaluate the actual response capabilities of LNG developers and federal, state, and local emergency response organizations as discussed in the Tabletop Drills. For full-scale exercises, LNG developers will work with ODOE to establish an Exercise Planning Team. This Team will include representatives from the LNG developer, U.S. Coast Guard, ODOE, county government, and local emergency response agencies as appropriate. The Exercise Planning Team will develop the exercise objectives and limitations, the extent-of-play, and the scenario. All information pertaining to drill and exercise scenarios are to be kept under the custody of the trusted agent for each organization and not to be released to participants. The Team also organizes control and critique of the exercise.
  - Quarterly Communications Exercises – Testing LNG developers' initial notification methods with offsite federal, state, and local emergency response agencies. This includes primary and backup communications methods. Communications exercises can run in conjunction with quarterly import terminal drills.

u) LNG developers will work with ODOE and county governments to ensure LNG public outreach is conducted in host communities and throughout the state as needed. This includes but is not limited to:

- Public meetings or workshops
- Presentations to community and business groups, elected officials, schools, and other audiences as appropriate
- News Media
- Provide pre-printed materials about JCEP and LNG to libraries, schools, businesses, government offices, and other locations as appropriate. This includes but is not limited to brochures, fact sheets, and calendars.
- Other public outreach activities as appropriate.

Oregon Department of Transportation (ODOT)

Page 4.9-12, "The majority of the proposed pipeline road crossings would involve an open cut."
ODOT has commented before that crossings of state highways can not be open cut, other methods must be applied, and that the proposed LNG lines must have a minimum 10' depth of cover at these crossings within ODOT rights-of-way, including existing ditches.

Page 2-41, Section 2.1.5.1 Pipeline – Now on page 2-43, section reworded by does not mention crossing of Hwy 241.

"The pipeline would come ashore at Graveyard Point and cross under Coos River at about MP. 8.1 ...."
There is no mention of crossing under the Coos River Highway, State Hwy No. 241.

Page 2-42, Section 2.1.5.1 Pipeline – Now on Page 2-43, remains unaddressed
"The proposed pipeline would continue east across Camas Valley, crossing Highway 42 at MP. 51.7 south of Camas Mtn. State Park ....."
The sentence structure makes unclear the distinction between the pipeline MP and the highway MP. Consider modifying sentence structure to clarify the MP reference, since highways also use mile points, this can be misconstrued.

Page 2-42, Section 2.1.5.1 Pipeline - Addressed
General comment: The explanation and comments for pipeline mile points 67-122 are missing/absent. The comments addressing crossing an ODOT gravel bar (pipeline MP. 69) and the Interstate 5 crossing (pipeline MP 69.92) would be in the missing portion.

Page 4.1-22, Table 4.1.3.2-2 – Addressed, now on page 4.1-25
The gravel bar referred to in this table (pipeline MP 68.95-69.80, South Umpqua River Crossing No. 1) is ODOT owned instead of privately owned.

Page 4.1-30, Table 4.1.3.2-3 – Now on page 4.1-34, remains unaddressed
The gravel bar at South Umpqua River Crossing No. 1 is ODOT owned instead of privately owned.

Page 4.1-34, Section 4.1.3.3 Mineral Resources – Informational only
General comment; This section mentions Table B-7 *from* Pacific Connector's August 24, 2007 Geologic Hazards and Mineral Resources Report. *It would have been advantageous to have access to that report and table.*

Page E-8, Table E-2 – Now on page E-10m remains unaddressed
Pipeline MP. 2-1 crossing the Oregon Coast Highway under McCullough Bridge – no issues noted. Alternate WC-1A, under Haynes Inlet Slough Bridge- no issues noted.

Alternate WC-1. There are landslides associated with crossing under the Oregon Coast

Highway.

Page E-8, Table E-2 – Now on page E-11, remains unaddressed
"Pipeline MP. 8.25 – Coos River Highway Co. Rd. #241" *This is State Hwy #241, not a county road. Subsidence of the highway grade is a potential hazard from construction activities if the pipeline is not deep enough. Suggest a minimum of 10 feet of cover below bottom of ditch elevation.*

Page E-16, Table E-2 – Now on page E-19, remains unaddressed
"Pipeline MP 68.94- Old 99 State Hwy"
The correct name for this roadway is Old Hwy 99 S. *It is not a State Hwy; it is County Road #387.*

Page E-16, Table E-2 – Informational only, now on page E-19
"Pipeline MP 69.09-69.17 – State Hwy Gravel Bar"
The use and/or operation of this gravel material source will be compromised to some degree by the pipeline's presence.

Page E-16, Table E-2 - Informational only, now on page E-19
"Pipeline MP 69.92 – I-5 Interstate"
There are landslides nearby. Suggest a minimum of 10 feet of cover below bottom of ditch elevation to prevent impact on the highway or associated utility facilities.

Page E-19, Table E-2 – Now on page E-22, remains unaddressed
"Pipeline MP 94.68 – State Hwy 227 Tiller Trail Hwy"
This is an incorrect designation as this portion of the Tiller Trail Hwy has been transferred to Douglas County and is now Co. Rd. #1, and is no longer a State Hwy.

Page E-21, Table E-2 - Informational only, now on page E-25
"Pipeline MP 122.36 – Private Road"
Note that ODOT has an operating rock quarry approximately 1600 feet north of this location and there are archeological resources in the area.

Page E-24, Table E-2 - Informational only, now on page E-27 "Pipeline MP 145.58 – Lake of the Woods – State Hwy 140" *There are cut slope failures along this section of highway.*

Page E-27, Table E-2 - Now on page E-31, correct highway designation not applied "Pipeline MP. 192.03 – Hwy 66"
This is State Hwy OR 66. There are two culverts in this area that could potentially be impacted by the proposed open cut crossing. In addition, appropriate care will need to be exercised to protect underground utilities if they exist at the selected crossing location. An HDD crossing would eliminate any traffic impacts that would be associated with an open cut crossing.

Page E-27, Table E-2 – Now on page E-31, remains unaddressed
"Pipeline MP. 199.57 – Hwy 97"
This is State Hwy No. 4, US 97. No geohazards were noted, however the pipeline will need to be deep enough to prevent damage to the highway grade, guardrail and underground utilities. Please note there are several archeological features mapped in this area.

Page E-28, Table E-2 – Now on page E-32, remains unaddressed
"Pipeline MP 208.8 – State Hwy 39"
Correct designation is State Route OR 39. There is a highway culvert very near this proposed crossing. Care will need to be exercised to insure no damage will be done to the road grade, the drainage facility or underground utilities.

Oregon Department of State Lands (DSL)

Vol. 1, section 1.3, page 1-7. Purpose and Need.

JC and PC developed their project because of the perceived need for additional supplies of Natural Gas in the PNW, northern California, and northern Nevada. Several studies have indicated there will be increased demand sometime in the future and existing interstate pipelines may not be able to meet those demands.

Per OAR 141-085-0029(3), "the Department must determine that the proposed removal-fill activity will not be inconsistent with the protection, conservation and best use of the water resources of this state, and would not reasonably interfere with the paramount public policy of this state to preserve the use of its waters for navigation, fish and public recreation". Purpose and need statement as presented is vague and speculative in nature, does not justify the "need" for the project. Further define the purpose and need for the project.

Vol. 1, section 1.5.3.2 page 1-34. ODSL-State Agency section

Port resubmitted their application in April 2008. That application was also deemed incomplete due to lack of purpose and need, alternatives analysis, and mitigation (estuarine and freshwater). This project will be reviewed per OAR141-085-0025, -0027, 0029, -0031, –0115 *et seq.* (mitigation) and ORS 196.825. That application needs to be revised and resubmitted to DSL and COE with particular attention paid to the purpose and need for the project.

Vol. 1, section 2.1.1 to 2.1.2.8, pages 2-2 – 2-6.

Waterway for LNG Marine Traffic State-owned submerged and/or submersible land is managed to ensure the collective rights of the public, including riparian owners, to fully use and enjoy this resource for commerce, navigation, fishing, recreation and other public trust values. The Department would like to see the impacts to the public trust values minimized for this project.

Vol. 1, section 2.1.3 page 2-7. LNG Carriers The study indicated that LNG carriers up to 148,000 cubic meters in capacity could safely navigate to and from the proposed terminal using the existing Coos Bay navigational channel with the benefit of high water.

Limit or restrict the size and capacity of potential customers for LNG carriers based on study. The navigational channel would have to be deepened to accommodate a larger capacity ships.

Vol. 1, section 2.1.4, page 2-14. Jordan Cove LNG Import Terminal

Landowner signature is required for any removal-fill permit application submitted for this activity on state-owned submerged/submersible lands.

A wharf registration will be required for any portion of this structure occupying state-owned submerged/submersible lands. A waterway lease may be required if leasable activities occur at the site (OAR 141-082).

Vol. 1, section 2.1.4.1, page 2-17. Access Channel

Landowner signature is required for any removal-fill permit application submitted for this activity on state-owned submerged/submersible lands.

The removal of state-owned materials by the International Port of Coos Bay may require a sand and gravel license and royalty payment to the Department, if the material is used as an article of commerce (OAR 141-14). Some removal activities by the International Port of Coos Bay may be exempt from royalty, but will require 30 day written notice prior to removal. Any proposed mitigation on state-owned submerged/submersible lands will require a conservation easement with the Department (OAR 141-22). The Department will not issue a conservation easement for mitigation purposes if the applicant can find another acceptable site for mitigation.

Vol. 1, section 2.1.4.2, page 2-17. Slip Landowner signature is required for any removal fill permit submitted for this activity on state-owned submerged/submersible lands.

A wharf registration will be required for any portion of this structure occupying state-owned submerged lands. A waterway lease may be required if leasable activities occur at the site (OAR 141-082). The removal of state-owned materials by the International Port of Coos Bay may require a sand and gravel license and royalty payment to the Department, if the material is used as an article of commerce (OAR 141-14). Some removal activities by the International Port of Coos Bay may be exempt from royalty, but will require 30 day written notice prior to removal.

Vol. 1, section 2.1.4.3, page 2-24. LNG Terminal Components, LNG Unloading and Transfer Facilities

Landowner signature is required for any removal fill permit submitted for this activity on state-owned submerged/submersible lands.

A wharf registration will be required for any portion of this structure occupying state-owned submerged/submersible lands. A waterway lease may be required if leasable activities occur at the site (OAR 141-082).

Vol. 1, section 2.1.5.1, page 2-42. Pipeline Landowner signature is required for any removal-fill permit application submitted for this activity on state-owned submerged/submersible lands. Landowner signature is required for any removal-fill permit application submitted for this activity on state-owned trust lands that may include wetlands or waters of the state.

Easements will be required for all crossings of state-owned submerged/submersible lands and state owned trust lands along the pipeline route (OAR 141-122).
Any proposed mitigation on state-owned submerged/submersible lands will require a conservation easement with the Department (OAR 141-22). The Department will not issue a conservation easement for mitigation purposes if the applicant can find another acceptable site for mitigation.

Vol. 1, section 2.2.2, page 2-55. Port Activities The Port has stated that if the LNG terminal is not authorized, or not built, the access channel and slip could still be used by some other unspecified customer for general cargo unloading. Further, a separate future phase in the long-term development of the Oregon Gateway project would be a proposed intermodal container terminal located west of the proposed Jordan Cove LNG terminal. To accommodate larger vessels, the Coos Bay navigational channel would need to be widened and deepened. Refine the purpose and need for the projects.

Vol. 1, section 2.2.2, page 2-55.Port Activities Future port activities may require additional proprietary authorizations from the Department. The removal of state-owned materials by the International Port of Coos Bay may require a sand and gravel license and royalty payment to the Department, if the material is used as an article of commerce (OAR 141-14). Some removal activities by the International Port of Coos Bay may be exempt from royalty, but will require 30 day written notice prior to removal. Landowner signature is required for any removal-fill permit application submitted for this activity on state-owned submerged/submersible lands.

Vol. 1, section 2.3.1, page 2-58.Waterway for LNG Marine Traffic State-owned submerged and/or submersible land is managed to ensure the collective rights of the public, including riparian owners, to fully use and enjoy this resource for commerce, navigation, fishing, recreation and other public trust values. The Department would like to see the impacts to the public trust values minimized for this project.

Vol. 1, section 2.3.2, page 2-58 LNG Terminal Facility Landowner signature is required for any removal-fill permit application submitted for this activity on state-owned submerged/submersible lands. A wharf registration will be required for any portion of this structure occupying state-owned submerged/submersible lands. A waterway lease may be required if leasable activities occur at the site (OAR 141-082).
The removal of state-owned materials by the International Port of Coos Bay may require a sand and gravel license and royalty payment to the Department, if the material is used as an article of

commerce (OAR 141-14). Some removal activities by the International Port of Coos Bay may be exempt from royalty, but will require 30 day written notice prior to removal.

Vol. 1, section 2.3.3, page 2-61.Pipeline and Associated Aboveground Facilities Landowner signature is required for any removal-fill permit application submitted for this activity on state-owned submerged/submersible lands. Landowner signature is required for any removal-fill permit application submitted for this activity on state-owned trust lands that may include wetlands or waters of the state. Any of the proposed uses described in this section (pipeline construction right-of-way, temporary work area, uncleared storage area, temporary construction access roads, etc.) on state-owned land will require, at a minimum, written permission from the Department. The Department may require additional proprietary authorizations as well.

Vol. 1, section 2.3.3.1. Page 2-61. Pipeline Construction Right of Way. At some crossings, PC would reduce the construction ROW width to 75 feet at the crossing of forested and scrub shrub wetlands to minimize impacts to these resources.

Alternative methods of crossings with less or no impact must be explored and presented. Boring underneath the forested wetlands could avoid impacts to high functioning wetlands. Avoid impacts to the greatest extent possible.

Vol. 1, section 2.3.3.1, page 2-61. Pipeline Construction Right of Way - TEWA. For about 2.5 miles in the bay, PC indicated it would use about a 250-foot-wide construction ROW. This is a 250-foot-wide swath for 2.5 miles in estuarine waters/wetlands with no mention of turbidity controls, timing of construction, and tidal variations during construction etc.

This proposal reduces the length of the original route (7 miles) through the bay down to 2.5 miles but is still a significant impact to estuarine waters. If no upland route can be found to avoid estuarine waters, acceptable mitigation should be proposed.

Vol. 1, section 2.4.2.2, page 2-95 Special Pipeline Construction Techniques- Waterbody Crossing Landowner signature is required for any removal-fill permit application submitted for this activity on state-owned submerged/submersible lands. Landowner signature is required for any removal-fill permit application submitted for this activity on state-owned trust lands that may include wetlands or waters of the state.

Easements will be required for all crossings of state-owned submerged/submersible lands and state owned trust lands along the pipeline route (OAR 141-122).

Any proposed mitigation on state-owned submerged/submersible lands will require a conservation easement with the Department (OAR 141-22). The Department will not issue a conservation easement for mitigation purposes if the applicant can find another acceptable site for mitigation.

Vol. 1, section 2.4.2.2, page 2-98 Special Pipeline Construction Techniques- Wetland Crossings Landowner signature is required for any removal-fill permit application submitted for this activity on state-owned trust lands that may include wetlands or waters of the state.

Easements will be required for all crossings of state-owned submerged/submersible lands and state owned trust lands along the pipeline route (OAR 141-122).
Any proposed mitigation on state-owned submerged/submersible lands will require a conservation easement with the Department (OAR 141-22). The Department will not issue a conservation easement for mitigation purposes if the applicant can find another acceptable site for mitigation.

Vol. 1. section 3.3, page 3-29 Regional Review of Alternative Onshore LNG Import Terminal Ports. Other ports considered have the disadvantage of greater distance away from target markets in northern Nevada and northern California.

Per OAR 141-085-0029(3), "the Department must determine that the proposed removal-fill activity will not be inconsistent with the protection, conservation and best use of the water resources of this state, and would not reasonably interfere with the paramount public policy of this state to preserve the use of its waters for navigation, fish and public recreation". If Oregon were not a target market, why would it need to come through this state and impact its waters, forests and agricultural lands?

Vol. 1, section 3.4.2.1, page 3-62 Coos Bay Route Variations WC 1A-2A is the new proposed route. This proposal reduces the length of the original route (7 miles) through the bay down to 2.5 miles but is still a significant impact to estuarine waters in Haynes Inlet. If no upland route can be found to avoid estuarine waters, acceptable mitigation should be proposed.

The proposed construction ROW is a 250-foot-wide swath for 2.5 miles in estuarine waters/wetlands with no mention of turbidity controls, timing of construction, and tidal variations during construction etc. Mitigation will be required for estuarine impacts.

Vol. 1, section 4.3.2.4, page 4.3-19 Dredging of Slip and Access Channel and Dredged Material Placement Landowner signature is required for any removal-fill permit application submitted for this activity on state-owned submerged/submersible lands. The removal of state-owned materials by the International Port of Coos Bay may require a sand and gravel license and royalty payment to the Department, if the material is used as an article of commerce (OAR 141-14). Some removal activities by the International Port of Coos Bay may be exempt from royalty, but will require 30 day written notice prior to removal.
Any proposed mitigation on state-owned submerged/submersible lands will require a conservation easement with the Department (OAR 141-22). The Department will not issue a conservation easement for mitigation purposes if the applicant can find another acceptable site for mitigation.

Vol. 1, section 4.3.2.5, page 4.3-28 Pacific Connector Pipeline Landowner signature is required for any removal-fill permit application submitted for this activity on state-owned submerged/submersible lands. Landowner signature is required for any removal-fill permit application submitted for this activity on state-owned trust lands that may include wetlands or waters of the state. Easements will be required for all crossings of state-owned submerged/submersible lands and state owned trust lands along the pipeline route (OAR 141-122).

Any proposed mitigation on state-owned submerged/submersible lands will require a conservation easement with the Department (OAR 141-22). The Department will not issue a conservation easement for mitigation purposes if the applicant can find another acceptable site for mitigation.

Vol. 1, section 4.3.3, page 4.3-51 Wetlands Landowner signature is required for any removal-fill permit application submitted for this activity on state-owned submerged/submersible lands. Landowner signature is required for any removal-fill permit application submitted for this activity on state-owned trust lands that may include wetlands or waters of the state.

Easements will be required for all crossings of state-owned submerged/submersible lands and state owned trust lands along the pipeline route (OAR 141-122).
Any proposed mitigation on state-owned submerged/submersible lands will require a conservation easement with the Department (OAR 141-22). The Department will not issue a conservation easement for mitigation purposes if the applicant can find another acceptable site for mitigation.

Vol. 1, section 4.3.3.2, pages 4.3-54-58 Jordan Cove LNG Import Terminal Unavoidable impacts to estuarine waters/wetlands, mitigation will be required.

A final mitigation plan for eelgrass impacts shall be developed. Mitigation for intertidal wetlands to be impacted by the proposed slip shall be developed in coordination with resource agencies.

Vol. 1, section 4.3.3.3 pages 4.3-59-66 Pacific Connector Pipeline Only general reference to DSL mitigation requirements. Avoid, minimize, then look into suitable compensatory mitigation options for waters and wetlands (estuarine and freshwater). DSL recommends that adequate CWM be identified. If PFO is being converted, the mitigation needs to be "in-kind" replacement. Compensatory mitigation is required for projects within both wetlands and waters of the state. Compensatory wetland mitigation (OAR141-085-0121, -0126, -0136, -0141, -0151), Compensatory mitigation (OAR141-085-0115) and mitigation for temporary impacts (OAR 141-085-0171) are needed. Per OAR 141-085-0121 (4), for projects over 0.2 acres, on-site CWM first has to be considered.

Oregon Water Resources Department (WRD)

Enclosed please find Oregon Water Resources Department's review of the Jordan Cove/Pacific Connector Gas Pipeline Final Environmental Impact Statement (FEIS). We continue to be concerned that despite several early contacts, and the comments offered for the (DEIS) in

October of 2008, which were submitted to the FERC, there seems to be a lack of understanding of, or acknowledgement of Oregon Water Law.

The Department does acknowledge the statements in places throughout the document that "All appropriate permits/approvals would be obtained prior to withdrawal." This does not specify what permits or authorizations would be needed, and is too general in scope as to be relied on.

The Department is enclosing a copy of the comments submitted for the DEIS as reference documentation, and incorporating the comments for use again.

1. 4.3.2.5 Pacific Connector Pipeline. Pg. 4.3-37 Dust Control. Reference is made to water sources, and all appropriate permits/approvals would be obtained before withdrawal. *This statement is so general, that it is not clear as to what specific permits will be sought, and do they know which ones are required. Unless obtained from a Municipal supplier, water used for construction or hydrostatic testing of tanks, and pipelines will require authorization under Limited Licenses. Such licenses cannot authorize use or discharge of water outside of a single basin. Multiple Limited Licenses will be required.*

2. Table 4.3.2.5-4 Potential Dust Control Water Sources for the Pacific Connector Pipeline, Pg. 4.3-37 Table shows Lakes and Reservoirs in the area. *The concern is that the water stored in these Lakes and Reservoirs may be stored or classified for uses that are not compatible with the uses intended by the applicant.*

3. 4.3.2.5 Hydrostatic Testing Pg. 4.3-38 Para 2 References sources of water for hydrostatic testing, and states that if water for hydrostatic testing would be from surface water sources, permits would be obtained. *Unless obtained from a Municipal supplier, water used for construction or hydrostatic testing of tanks, and pipelines will require authorization under Limited Licenses. Such licenses cannot authorize use or discharge of water outside of a single basin. Multiple Limited Licenses will be required. There is no distinction between surface and groundwater for the purposes of determining need of authorization.*

4. 4.3.2.5 Hydrostatic Testing, Pg. 4.3-39 Para 2 "Where possible, test water would be released within the same basin from which it was withdrawn. However, cascading water from one test section to another to minimize water withdrawal requirements may make it impractical to release water within the same basin where water was withdrawn in all cases". *Unless obtained from a Municipal supplier, water used for construction or hydrostatic testing of tanks, and pipelines will require authorization under Limited Licenses. Such licenses cannot authorize use or discharge of water outside of a single basin. Multiple Limited Licenses will be required.*

5. 4.3.2.5 South Umpqua River Pg.4.3-48 Para 1 and 4 Pacific Connector proposes to use a diverted open cut crossing for the first crossing of the South Umpqua River…

Damming or diverting water from the course of a stream is not allowed without water-use authorization. Limited Licenses will be required for this authorization. Limited Licenses are junior to all other existing rights. Impacts to downstream users are not allowed under Oregon Water Law.

6. 4.3.2.5 Kentuck Slough, Catching Slough, and the Medford Aqueduct. Pg. 4.3-49 Pacific Connector proposes to use conventional bores to cross underneath the Kentuck Slough, Catching Slough, and the Medford Aqueduct. *Unless obtained from a Municipal supplier, water used for construction or hydrostatic testing of tanks, and pipelines will require authorization under Limited Licenses. Such licenses cannot authorize use or discharge of water outside of a single basin. Multiple Limited Licenses will be required.*

7. 4.3.2.5 Coos River, Rogue River, and Klamath River Pg. 4.3-50 Pacific Connector proposes to use the HDD method for the crossing of the Coos River, the Rogue River, and the Klamath River. *Unless obtained from a Municipal supplier, water used for construction or hydrostatic testing of tanks, and pipelines will require authorization under Limited Licenses. Such licenses cannot authorize use or discharge of water outside of a single basin. Multiple Limited Licenses will be required.*

8. 4.3.4.3 Mitigation Measures Pg. 4.3-74 Hydrostatic Testing on USFS and BLM lands. *Unless obtained from a Municipal supplier, water used for construction or hydrostatic testing of tanks, and pipelines will require authorization under Limited Licenses. Such licenses cannot authorize use or discharge of water outside of a single basin. Multiple Limited Licenses will be required.*

9. 4.3.4.3 Additional Mitigation Measures for Federal Lands Pg. 4.3-76 "Water withdrawals on federal lands for dust suppression on the pipeline construction right-of-way would require site-specific from the land manager" *Unless obtained from a Municipal supplier, water used for construction or hydrostatic testing of tanks, and pipelines will require authorization under Limited Licenses. Such licenses cannot authorize use or discharge of water outside of a single basin. Multiple Limited Licenses will be required.*

WRD DEIS

We are concerned that despite several contacts with project representatives, there seems to be a very limited understanding or acknowledgement of Oregon Water Law. This is apparent in the numerous comments regarding water use.

1. 2.1.4.3 Service Water Systems. Pg 2-32 Water for Terminal operations will be supplied by Coos Bay North Bend Water Board (CBNBWB). *No issues*

2. 2.1.3.5 Ballast and Cooling Water Pg. 2-11 20 – 50 million gallons of water per ship with through a proposed screen system and floating filtered water system. *On-shore diversions of water for Ballast and Cooling use will require a permit, storage of water on land for Ballast and Cooling use will require a permit.*

3. 2.1.4.3 Service Water Systems. Pg. 2-32 Hydro-test tank water, Fire pond water from CBNBWB system. *Unless obtained from a Municipal supplier, water used in the processing of LNG, or domestic uses will require a permit for authorization of use. There are exemptions for some uses of groundwater under ORS 537.545*

4. 2.1.4.4 Dredged and Excavated Material Disposal Pg. 2-36 para 1-3 Hydraulic Slurry lines and dredging. *Damming or diverting water from the course of a stream is not allowed without water-use authorization. Limited Licenses will be required for this authorization. Limited Licenses are junior to all other existing rights. Impacts to downstream users are not allowed under Oregon Water Law.*

5. 2.1.4.4 Dredged and Excavated Material Disposal Pg. 2-38 para 2 & 4 Looks like Reservoirs and Holding ponds are being constructed. *Unless obtained from a Municipal supplier, permits will be needed to construct reservoirs and store water.*

6. 2.1.5.1 Pipeline. Pg 2-42 para 3 minimizing impacts on shallow groundwater and domestic water supplies. *What is the plan if a Domestic well or wells with water rights are negatively affected? Unless obtained from a Municipal supplier, water used for construction or hydrostatic testing of tanks, and pipelines will require authorization under Limited Licenses. Such licenses cannot authorize use or discharge of water outside of a single basin. Multiple Limited Licenses will be required.*

7. 2.3.3.1 Pipeline Construction Right of Way. Pg. 2-62 Hydrostatic test water discharge sites. *Unless obtained from a Municipal supplier, water used for construction or hydrostatic testing of tanks, and pipelines will require authorization under Limited Licenses. Such licenses cannot authorize use or discharge of water outside of a single basin. Multiple Limited Licenses will be required.*

8. 2.4.2.1 General Pipeline Construction Techniques. Pg 2-88 Hydrostatic Testing para 2 Table 2.4.2 1-2 Pertains to sources for Hydro test water. *Unless obtained from a Municipal supplier, water used for construction or hydrostatic testing of tanks, and pipelines will require authorization under Limited Licenses. Such licenses cannot authorize use or discharge of water outside of a single basin. Multiple Limited Licenses will be required.*

9. 2.4.2.1 General Pipeline Construction Techniques. Pg. 2-89 Dust and Fire Control Water. table 2.4.2.1-4 Listed as private sources or Irrigation District as source water. *Unless obtained from a Municipal supplier, water used for construction or hydrostatic testing of tanks, and pipelines will require authorization under Limited Licenses. Such*

licenses cannot authorize use or discharge of water outside of a single basin. Multiple Limited Licenses will be required.

10. 2.4.2.2 Special Pipeline Construction Techniques. Pg. 2-94 & 2-95 Flume, Dam, and Pump methods discussed for drying up portions or reaches of streams. *Damming or diverting water from the course of a stream is not allowed without water-use authorization. Limited Licenses will be required for this authorization. Limited Licenses are junior to all other existing rights. Impacts to downstream users are not allowed under Oregon Water Law.*

11. 2.4.2.2 Special Pipeline Construction Techniques. Pg. 2-95 Conventional Boring and Horizontal Directional Drilling. *Unless obtained from a Municipal supplier, water used for construction or hydrostatic testing of tanks, and pipelines will require authorization under Limited Licenses. Such licenses cannot authorize use or discharge of water outside of a single basin. Multiple Limited Licenses will be required.*

12. 2.4.2.2 Special Pipeline Construction Techniques. Pg. 2-96 Diverted Open Cut Crossing. *Damming or diverting water from the course of a stream is not allowed without water-use authorization. Limited Licenses will be required for this authorization. Limited Licenses are junior to all other existing rights. Impacts to downstream users are not allowed under Oregon Water Law.*

13. 2.4.2.2 Road, Railroad, and Utility Crossings. Pg. 2-99 para 1 HDD (Horizontal Directional Drilling) is mentioned as a method of boring. *Unless obtained from a Municipal supplier, water used for construction or hydrostatic testing of tanks, and pipelines will require authorization under Limited Licenses. Such licenses cannot authorize use or discharge of water outside of a single basin. Multiple Limited Licenses will be required.*

14. 2.8.1.5 Fire Water Systems. Pg. 2-110 Fire water pond is the source of water for the Fire suppression system. *Unless obtained from a Municipal supplier, water used in the processing of LNG, or domestic uses will require a permit for authorization of use. There are exemptions for uses of groundwater and surface water under ORS 537.545 and ORS 537.141.*

15. 4.1.3.4 Rock Sources and Permanent Disposal Sites. Pg. 4.1-36 Water Wells and Springs. *Concern about disruption of water wells for Domestic and other authorized uses. The Department notes that plan to work with landowners to supply temporary water if needed and replace permanent supply. No comment at this time.*

16. 4.3.2.3 Waterway for LNG Marine Traffic. Pg. 4.3-17 Ballast Water and Ship Engine Cooling. *On-shore diversions of water for Ballast and Cooling use will require a permit. Storage of water on land for Ballast and Cooling use will require a permit.*

17. 4.3.2.4 LNG Terminal Ballast Water Intake Pg. 4.3-24 Up to 13.8 million gallons per ship for ballast and up to 4.6 million gallons per ship for cooling. *On-shore diversions of water for Ballast and Cooling use will require a permit. Storage of water on land for Ballast and Cooling use will require a permit.*

18. 4.3.2.5 Pacific Connector Pipeline Public Drinking Water Intakes. Pg. 4.3-28 The plan is to notify owners of Public Drinking Water Intakes. *Damming or diverting water from the course of a stream is not allowed without water-use authorization. Limited Licenses will be required for this authorization. Limited Licenses are junior to all other existing rights. Impacts to downstream users are not allowed under Oregon Water Law.*

19. 4.3.2.5 Pacific Connector Pipeline Dust Control. Pg. 4.3-34 Note comment that all appropriate permits will be obtained. *Unless obtained from a Municipal supplier, water used for construction or hydrostatic testing of tanks, and pipelines will require authorization under Limited Licenses. Such licenses cannot authorize use or discharge of water outside of a single basin. Multiple Limited Licenses will be required.*

20. 4.3.2.5 Pacific Connector Pipeline Hydrostatic Testing. Pg. 4.3-35 Table 2.4.2.1-2 Water for hydrostatic testing would be obtained from commercial or municipal sources or from surface water right owners. *Unless obtained from a Municipal supplier, water used for construction or hydrostatic testing of tanks, and pipelines will require authorization under Limited Licenses. Such licenses cannot authorize use or discharge of water outside of a single basin. Multiple Limited Licenses will be required.*

21. 4.3.2.5 Pacific Connector Pipeline South Umpqua River. Pg. 4.3-42 Para 1. Pacific Connector proposes to use a diverted open cut crossing for the first crossing (MP 69.0) because the river is too wide. *Damming or diverting water from the course of a stream is not allowed without water-use authorization. Limited Licenses will be required for this authorization. Limited Licenses are junior to all other existing rights. Impacts to downstream users are not allowed under Oregon Water Law.*

22. 4.3.4 Environmental Consequences on Federal Land Hydrostatic Testing. Pg. 4.3-65 The USFS has expressed concerns about withdrawing and discharging water on federal Lands. *Unless obtained from a Municipal supplier, water used for construction or hydrostatic testing of tanks, and pipelines will require authorization under Limited Licenses. Such licenses cannot authorize use or discharge of water outside of a single basin. Multiple Limited Licenses will be required.*

23. 4.5.2.2 Jordan Cove LNG Terminal Operation – Ballast and Cooling water. Pg. 4.5-66 & 67 13.2 million gallons of water for ballast and up to 4.6 million gallons for engine cooling per ship could be needed. Jordan Cove proposes a filtered water delivery system. *On-shore diversions of water for Ballast and Cooling use will require a permit. Storage of water on land for Ballast and Cooling use will require a permit.* Pg . 4.5-67 para 2 states filtered water would be first stored on land and attached to a floating delivery

system. *Unless obtained from a Municipal supplier, a pond or reservoir would require a permit.*

24. 4.5.2.3 Pacific Connector Gas Pipeline Hydrostatic Testing. Pg. 4.5-95 Water would be required on a one time basis near the end of construction to hydrostatically test the pipeline. *Unless obtained from a Municipal supplier, water used for construction or hydrostatic testing of tanks, and pipelines will require authorization under Limited Licenses. Such licenses cannot authorize use or discharge of water outside of a single basin. Multiple Limited Licenses will be required.*

25. 4.13.2.3 Water Resources and Wetlands Surface water. Pg. 4.13-13 para 3 Use of water for hydrotesting. *Unless obtained from a Municipal supplier, water used for construction or hydrostatic testing of tanks, and pipelines will require authorization under Limited Licenses. Such licenses cannot authorize use or discharge of water outside of a single basin. Multiple Limited Licenses will be required.*

26. 5.1.3 Water Resources and Wetlands Discussion of hydrostatically testing the pipeline. Pg. 5-8 para 5. *Unless obtained from a Municipal supplier, water used for construction or hydrostatic testing of tanks, and pipelines will require authorization under Limited Licenses. Such licenses cannot authorize use or discharge of water outside of a single basin. Multiple Limited Licenses will be required.*

Oregon Department of Environmental Quality (DEQ)

FEIS response to DEQ's comments was found in Appendix J, listed as SA2-144 through SA2-225. DEQ's major concerns were the potential for thermal loading to streams and tributaries that are water quality limited for temperature; the wasting and slope failures that might be triggered by vegetation removal and pipeline construction causing sedimentation and turbidity in streams; and impacts to the Coos Bay estuary from the terminal facility and pipeline construction.

Our review found that JCEP/PCGP did some limited shade modeling on six streams to address thermal loading and changed the pipeline route through Coos Bay to minimize sediment and turbidity impacts to the estuary. No new information was provided on the potential for slope failures. DEQ still has concerns about water quality impacts in Coos Bay and along the pipeline route.

Due to the limited time available for comment on the FEIS, DEQ can only provide responses to major issues not addressed in the FEIS. DEQ will have opportunity to evaluate and address potential environmental impacts through our permitting process.

DEQ Comment on DEIS.
Introduction (DEIS Section 1.0)

1. Page 1-7, Environmental Setting, Paragraph 4 last sentence (DEIS Section 1.2) – "*Detailed descriptions of environmental resources potentially affected by the proposed Project are included in the respective sections of chapter 4 of this EIS.*" Detailed descriptions of environmental resources potentially affected were not provided in the DEIS.

FEIS Response: SA-147 We disagree. See response to comment IND3-1
DEQ Response: DEQ will require more detailed information during the permitting process.

DEQ COMMENT ON DEIS:
Construction Procedures (DEIS Section 2.4.2)

1. Page 2-84, Grading and Clearing (DEIS Section 2.4.2.1) - This section states that Pacific Connector proposes to apply a standard fertilization rate of 200 pounds per acre bulk triple-16 fertilizer (16:16:16 - nitrogen, potassium and phosphorus) on all disturbed areas to be reseeded, except in wetlands and in federally-designated riparian reserves. The DEIS does not discuss how applications in other riparian areas will assure that nutrients are not delivered to the waterbody.

FEIS Response: SA2-150 Pacific Connector proposes to fertilize the right-of-way as described in its ECRP. This plan was based on the FERC staff's Plan and Procedures. The intent of the FERC staff's Plans and Procedures is to assist applicants by identifying baseline mitigation measures for minimizing the extent and duration of disturbances on soils, wetlands, and waterbodies. It is not necessary to know every detail of a project to assess the adequacy of its proposed measures and controls.
DEQ Response: Baseline measures may not be sufficient. Some streams/water bodies may need or cannot tolerate additional stream loading for heat, bacteria, nutrients/ferilizers, sedimentation etc. and therefore site specific details on impacts are needed for DEQ to evaluate possible impacts.

DEQ COMMENT ON DEIS:
Pipeline (DEIS Sections 2.1.5, 2.7.3, 4.1.3, 4.1.4, 4.2.3, 4.3.1, 4.3.2, 4.4.2 and 4.5.2)

4. The Oregon turbidity standard is incorrectly described. The DEIS correctly refers to OAR 340-041-0036, but incorrectly allows 100 feet downstream of construction activities to measure turbidity not to exceed 10% above background. The rule does not specify any distance of allowable exceedances, but rather limits any exceedances to 10% above background. An allowable exceedance is only authorized when all practicable control methods are in place and either, 1) in the event of an emergency which must be coordinated with DEQ and ODFW, or 2) as described in a 401 Water Quality Certification.

FEIS Response: SA2-159 The reference to the Oregon turbidity standards, as indicated by the comment has been removed from the final EIS.
DEQ Response: It is unclear why the reference to Oregon's turbidity standards was removed. DEQ will work with Jordan Cove and Pacific Connector during the permitting process about allowable exceedances for turbidity during construction activities.

DEQ COMMENT ON DEIS:
DEQ will need a solar loading assessment based upon stream segment aspect, channel dimension, and vegetation characteristics. From this type of an assessment, increases in thermal loading can be determined and utilized for predictive modeling that can quantify the effects of riparian disturbance on water temperatures and should address the following, etc.....
FEIS Response: SA2-162 Pacific Connector recently submitted the results of a water temperature impacts assessment for this project (North State Resources 2009). Based on modeling conducted for 6 streams, the only predicted increases that exceeded 1°C were associated with streams that had base flow estimates of less than 0.1 cfs. See section 4.3.2.5 of the final EIS.
DEQ Response: Streams temperature increases were discussed in the FEIS on pages 4.3-42 through 4.3-45. The last paragraph on page 4.3-43 notes that for the smallest streams modeled "predicted initial average temperature changes of 1.0 to 8.6 degrees C". This is obvious stream heating and may be on streams with relatively steeper gradients than valley floor streams. The valley floor steams crossed might have slower times of travel and thus subjected to increase times of solar radiation. In addition, that same paragraph assumes that the streams will have rapid temperature reductions in temperature but do not offer how such reductions are achieved. Some stream crossings in lower valley floors may lack sufficient shade or hyporheic flow downstream to achieve the cooling trend as noted. DEQ may require additional shade modeling on other streams and waterbodies to assess water quality impacts.

DEQ COMMENT ON DEIS:
15. Page 4.5-84, Construction in Stream Habitats (DEIS Section 4.5.2.3) "*In all, 106 of the waterbodies that would be crossed by the pipeline are known or assumed to have fish.*" Fish usually live downstream from fishless areas and there may also be sensitive amphibians in these headwater streams. Therefore the water quality coming to these areas need to support those beneficial uses.

FEIS Response: No comment was provided.
DEQ Response: DEQ will work with Jordan Cove and Pacific Connector to protect water quality for sensitive species in streams or waterbodies.

DEQ COMMENT ON DEIS:
<u>General Construction Impacts and Mitigation</u> (DEIS 4.3.2.5 Pacific Connector Pipeline)
1. Page 4.3-29, Nationwide River Inventory (DEIS Section 4.3.2.5) - Considering the crossing methods proposed, the timing (during seasonal low flows) and the measures contained in their SPCCP and ECRP, impacts to these waterbodies should be temporary and of small magnitude. The document does not provide a description of mitigation actions that will be undertaken in response to impacts that are greater than anticipated. (Note: an example of this type of incident occurred two years ago at the BLM culvert at mile maker 171.5 in Figure D-1. The BLM contractor who replaced the culvert did not expect a significant release of sediment and impact to bottom morphology. After the release, there were few mitigation options available to BLM. No mitigation plans were in place when the significant release occurred.)

FEIS Response: SA2-177 We recognize that unanticipated accidents during construction or operation could result in potential undefined impacts; however, a quantification of potential impacts would be speculative at best. We believe that project monitoring and mitigation programs are critical in addressing unanticipated impacts. See response to comment PM2-30.
DEQ Response: DEQ still has concerns about impacts to water quality. We will address these issues during the permitting process.

New DEQ Comments on the FEIS

1. TABLE 1.5-1 - Major Permits, Approvals, and Consultations for the JCE & PCGP Project, Page 1-21 & 23. *Some of DEQ permits are referenced incorrectly and one additional permit is not listed. The NPDES permit and stormwater construction permit (1200-C) are not referenced under Section 401 of the CWA but are under OAR 340-041. The project will probably need a Solid Waste Letter of Authorization (SWLA) for storing excavated slip material. The references for SWLAs are OAR 340-093-0060 and OAR 340-095.*
2. Section 5.2, FERC Staff Recommended Mitigation, #15, Page 5-32: *Will the "Board of Consultants" confirm with state or federal agencies on the adequacy of the mitigation measure prior to the Boards report?*

Oregon Department of Geology and Mineral Industries (DOGAMI)

We are pleased to note that geology and geologic hazards are considered in the FEIS and steps have been taken by the applicant to acquire geotechnical consulting. We strongly recommend:

- The contracted geotechnical reports should be reviewed by independent, qualified licensed or registered professionals. If this has been done then those reviews should be referenced and made available in appendices.
- Perform comprehensive risk analyses including potential impact to the public and environment, and include uncertainty levels.
- We note there is little discussion of monitoring programs to accompany the operation of the facility and the pipeline. At the very least we recommend a monitoring program with regularly scheduled inspections and post event inspections, such as after earthquakes or storms.
- Develop a comprehensive tsunami evacuation response plan for the safe shut down of the facility and the safety of onsite employees.

Please see DOGAMI comments table in Attachment #1

Oregon Department of Land Conservation and Development (DLCD)

The following comments focus on issues we raised in our review of the Draft EIS that remain unanswered and other issues related to the Oregon Coastal Management Program (OCMP) federal consistency review pursuant to the Coastal Zone Management Act (CZMA).

Issues and Concerns

1. There are significant substantive issues that are not yet resolved to assure the project is or will be consistent with the enforceable policies of the OCMP. The applicant has not provided complete applications for certain state permits that implement enforceable policies of the OCMP. The most important state permits for this project are the Department of Environmental Quality (DEQ) water quality certification and the Department of State Lands (DSL) removal-fill permits. DEQ's Section 401 water quality certification is central to the CZMA consistency review and the state's federally delegated Clean Water Act authority. DSL's removal fill permit is a key component of the state's wetland and waterway protection requirements. These permits are also the vehicle for integration of key fish and wildlife protections under Oregon Department of Fish and Wildlife (ODFW) statutes, rules and policies.

2. We note that although the applicant sought and obtained a number of required county authorizations that implement enforceable policies of the OCMP, the county's approval of the project is currently subject to a "remand" from the Land Use Board of Appeals. The OCMP integrates the process for review of local land use decisions as an element in order to provide a conflict resolution mechanism required by the CZMA. Until the appellate review process is complete, portions of the county's decision are not yet approved. Until these issues are fully resolved, state agencies applying OCMP enforceable policies will have difficulty in completing their review. Provisions of DEQ and DSL state agency coordination programs will guide these agencies in dealing with the portions of the project that are not yet approved. However, as outlined above, the lack of complete federal consistency certification and complete state agency applications means that we can not now provide a concurrence or conditional concurrence determination for the project. Without a concurrence or conditional concurrence from the state, we believe that the CZMA prohibits FERC from issuing a decision approving a license for the project.

3. We note that the FERC staff recommendation to approve the application conditioned upon the state's issuance of a "concurrence" determination is inadequate:
    a. DLCD does not agree that the FERC is authorized to issue a license prior to completion of CZMA federal consistency review. The CZMA specifically states, "No license or permit shall be granted by the Federal agency until the state or its designated agency has concurred with the applicant's certification or until by the

state's failure to act, the concurrence is conclusively presumed, unless the Secretary, on his own initiative or upon appeal by the applicant, finds after providing a reasonable opportunity for detailed comments from the Federal agency involved and from the state, that the activity is consistent with the objectives of this chapter or is otherwise necessary in the interest of national security." (CZMA § 307 (c)(3)(A)). This requirement of the act is implemented by 15 CFR §930.53(d), which states: "No federal license or permit described on an approved list shall be issued by a Federal agency until the requirements of this subpart have been satisfied. Federal agencies shall inform applicants for listed licenses or permits of the requirements of this subpart." Since it is not possible for the FERC to know the outcome of the federal consistency review process, including the potential for conditions or state review to modify a project, it is important for the FERC to allow the federal consistency review to be completed before prematurely issuing a decision. This is further reflected by provisions of 15 CFR 930.62(d), which states: "During the period when the State agency is reviewing the consistency certification, the applicant and the State agency should attempt, if necessary, to agree upon conditions, which, if met by the applicant, would permit State agency concurrence. The parties shall also consult with the Federal agency responsible for approving the federal license or permit to ensure that the proposed conditions satisfy federal as well as management program requirements (see also § 930.4)." 15 CFR § 930.4 further states: "Federal agencies, applicants, persons and applicant agencies should cooperate with State agencies to develop conditions that, if agreed to during the State agency's consistency review period and included in a Federal agency's final decision under subpart C or in a Federal agency's approval under subparts D, E, F or I of this part, would allow the State agency to concur with the federal action." Finally, 15 CFR § 930.64 indicates: "Following receipt of a State agency objection to a consistency certification, the Federal agency shall not issue the federal license or permit except as provided in subpart H of this part." Substantively, as described in more detail below, a decision by FERC to issue a conditional license creates a significant risk of inconsistent federal and state decisions in the event that state and federal conditions conflict. FERC failed to follow the requirements of the referenced CFRs to work with the state on conditions adequate to satisfy program requirements. The FEIS recommended condition related to the state's federal consistency review and receipt of a concurrence is a unilateral action.

b. The proposed CZMA condition (condition 18) seems to be focused on the FERC authorization and does not clearly explain how it relates to the U.S. Army Corps of Engineers permits implementing Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act. This condition needs to clearly indicate that construction of any project components requiring FERC or Corps authorization will not begin until a State CZMA concurrence is provided (*See* also (a) above).
c. The State's CZMA decision may be a concurrence, conditional concurrence or objection. If the State decision is a conditional concurrence it will likely include county's conditions and various state agency conditions that will need to be specifically included in the FERC license terms. FERC does not have authority to

integrate unknown OCMP conditions through a broadly worded condition, such as is proposed in the FEIS. The CZMA and applicable federal rules provide a structure that specifically anticipates that the Federal agency decision will be made following the State review and will integrate State conditions within its final decision. As noted above, 15 CFR § 930.4(a)(1)-(3) specifically state: "(1) The State agency shall include in its concurrence letter the conditions which must be satisfied, an explanation of why the conditions are necessary to ensure consistency with specific enforceable policies of the management program, and an identification of the specific enforceable policies. The State agency's concurrence letter shall also inform the parties that if the requirements of paragraphs (a) (1) through (3) of the section are not met, then all parties shall treat the State agency's conditional concurrence letter as an objection pursuant to the applicable subpart and notify, pursuant to § 930.63(e), applicants, persons and applicant agencies of the opportunity to appeal the State agency's objection to the Secretary of Commerce within 30 days after their receipt of the State agency's conditional concurrence/objection or 30 days after receiving notice from the Federal agency that the application will not be approved as amended by the State agency's conditions; and (2) The Federal agency (for subpart C), applicant (for subparts D and I), persons (for subpart E) or applicant agency (for subpart F) shall modify the applicable plan, project proposal, or application to the Federal agency pursuant to the State agency's conditions. The Federal agency, applicant, person or applicant agency shall immediately notify the State agency if the State agency's conditions are not acceptable; and (3) The Federal agency (for subparts D, E, F and I) shall approve the amended application (with the State agency's conditions). The Federal agency shall immediately notify the State agency and applicant or applicant agency if the Federal agency will not approve the application as amended by the State agency's conditions."

4. There are a number of conditions in the FEIS which are important to state requirements. The conditions as currently drafted are not clearly written enforceable requirements that will be monitored by the FERC to ensure compliance. The state's CZMA decision will likely include conditions, including those adopted by Coos County, DEQ, DSL, ODFW, and WRD. Other conditions may also be included in the state's CZMA decision, should such a decision be a conditional concurrence.

   -Condition 18 related to CZMA consistency review is addressed in detail above, however, the condition as written should recognize the potential for an objection or significant additional conditions that may result in the need for project modification. Without complete applications for the DSL and DEQ permits, there is substantial CZMA uncertainty.

   -Condition 19 related to maintenance dredging activity should be revised to recognize that federal consistency provisions apply to the Corps and EPA actions for use of Site F. We believe the adequacy of site capacity or alternative disposal sites must be addressed before construction, rather than prior to commissioning.

-Condition 21 related to entrainment of salmonids and other aquatic organisms is inadequate. This condition does not contain sufficient assurances to address regulatory agency and either ESA or MSA consultation requirements. We believe measures should be designed to avoid and minimize effects. Mitigation should only be used for unavoidable adverse effects.

-Condition 22 implies a degree of uncertainty regarding the final traffic management plan and ODOT approval of various transportation related components. These issues should be fully resolved in order to have certainty regarding the project design and environmental effects. ODOT and county transportation requirements should be consistent.

-Condition 23 implies some degree of uncertainty regarding the FAA Part 77 requirements applicable to the project. These issues should be fully resolved before FERC approval and not addressed through a broadly worded condition.

5. The FEIS does not contain a detailed analysis or a clearly written explanation of the basis for some of the conclusions, but rather makes important environmental and natural resource effects conclusions based on a relatively general statement of facts.

6. The FEIS discussion of purpose, need and alternatives is inadequate. Although there is an expanded analysis, the FEIS still sets a very low threshold, making the purpose and need component of the FEIS relatively meaningless. FERC staff essentially relies on general market projection of the need for natural gas over time. Perhaps the most troublesome aspect of the discussion is FERC's conclusion that there is a need for importing LNG as an additional source of gas, without addressing whether this need could be met by other domestic sources and pipeline supply options. The FERC staff's overall conclusion is that more gas supply options are better and therefore needed, notwithstanding the availability of significant volumes of domestic gas.

   FERC staff's analysis of domestic natural gas supply and new pipeline infrastructure concludes, without substantive analysis that "It stands to reason that a longer pipeline would not have any clear environmental advantages." This conclusion assumes that the areas proposed for pipelines contain resources of equivalent environmental and natural resource value. The analysis also ignores the significant reduction of environmental and resource effects of these projects because they do not require a ship transit, terminal infrastructure and estuarine alterations for the access channel and ship berth. Issues such as entrainment and dredging are avoided with domestic supply and pipeline options. FERC staff's response to these issues raised during the DEIS review is that each project is reviewed on its own merit. Multiple approved projects may be approved on individual merit and the "market" will determine if any project is constructed. There is still no recognition that, once sited, a terminal and pipeline will fit within a larger regional/national system of natural gas infrastructure. There is nothing other than FERC staff's reliance on the market to determine which facility or facilities are ultimately constructed, despite the obvious observation that even minimal planning could result in a superior option that can meet a prospective need,

with less long term environmental and natural resource effects. FERC staff makes no attempt to identify and evaluate the relative impacts of each project and determine whether any project is environmentally preferable. The overall need assessment of this project and the other alternatives is difficult to clearly evaluate without a more comprehensive regional/national strategy for natural gas and its supporting infrastructure.

The FEIS generally addresses national system/capacity issues, but concludes that only the Oregon terminals can meet the northwest need. The document rejects the assertion that existing unused and already approved import terminal capacity in other regions, or the potential for other new and proposed terminals on the west coast, together with appropriate pipeline infrastructure is a viable alternative to additional import terminals in Oregon.

There is substantial information available to support the conclusion that natural gas is an important energy source and will be a key component of the regional and national energy system for the foreseeable future. We agree that natural gas is a bridge fuel that will help ease our transition to renewable energy. However, projected supply and demand information relied upon in the FEIS is outdated and inaccurate. The FEIS does not adequately consider the most recent demand, supply and cost data or national/state energy policy issues. The FEIS ignores important information about supply, demand and key economic factors that support an entirely different conclusion as to the future natural gas needs. There is substantial evidence to support a conclusion that domestic and Canadian supplies of natural gas are reasonably available to meet projected regional demand without any new LNG import terminals in Oregon. The FEIS should not assume that LNG meets a different need than other forms of natural gas. While imported LNG can diversify regional natural gas supply, data suggests that this additional source is not needed in the foreseeable future, is more costly and has greater adverse environmental consequences than domestic supplies.

An analysis by the Oregon Department of Energy in 2008 clearly identifies environmental and economic advantages of domestic natural gas and other alternatives to imported LNG. Even if we presume an important role for imported LNG in the overall national energy future, the FEIS does not adequately evaluate the capacity of existing and approved LNG import terminals to meet long term domestic needs. The existence of a number of import terminals that are operating well below their design capacity, together with the potential increased capacity from other approved projects is not adequately addressed in the FEIS. Data suggests there is substantial excess capacity for LNG imports through currently operating terminals. The FEIS needs to provide a better analysis of no action and delayed action alternatives in light of this information.

Applicants for each of the proposed LNG import terminals in Oregon indicate that only one project is likely to be constructed in the Pacific Northwest even if all three projects are approved. The FERC policy is to approve multiple projects meeting the same regional need and then let the market determine if a project is built. This approach is not consistent with NEPA requirements when there are clear differences in relative environmental

consequences of projects that essentially meet the same purpose and need. Each project should be evaluated for environmental and natural resource impact. The NEPA review should clearly describe differing environmental effects of reasonable alternatives in sufficient detail to allow decision makers to select the best alternative with the fewest adverse environmental effects. The conclusion that Bradwood Landing and Oregon LNG are not alternatives to Jordan Cove because they do not supply gas to the same local markets ignores the fundamental nature of the natural gas market and the supply infrastructure delivering gas to various local, regional, national and international markets. We believe FERC staff unreasonably dismisses alternatives based on artificial and unsupported distinctions contained in the applicant's described purpose and need for a project.

In its Bradwood Landing FEIS, the FERC staff dismissed the Jordan Cove and Pacific Connector project because its longer 230 mile pipeline does not have less environmental impact. Although this conclusion simply assumes that shorter is better for a pipeline regardless of the natural environment/ecosystem it crosses, it supports our call for a comparative analysis and complete assessment of regional natural gas supply and infrastructure. In its Bradwood Landing FEIS, the FERC simply concludes that the other projects do not have less environmental impact than the Bradwood Landing project. However without a detailed comparative analysis, there is no basis for this conclusion. There is a general discussion of each project, but the FERC concludes that each will be evaluated on its own merit, without the consideration of whether one of these projects on the whole will have less environmental effects or can better meet the market demand that is the basis for FERC's need determination. The FEIS should determine which terminal or combination of terminal and pipeline infrastructure represents the best available option that can meet a prospective need, with the least long term costs and environmental effects. The FEIS makes no attempt to rigorously evaluate the relative impacts of each project and determine which LNG import terminal and pipeline infrastructure is environmentally preferable.

NEPA and FERC's "public interest" and "public convenience and necessity" standards require more than a superficial review of need and alternatives. FERC must conduct a rigorous review of supply and demand data; complete a thorough evaluation the relative merits and effects of reasonable alternatives; and select the alternative or combination of alternatives with the least adverse environmental effects. Reviewing multiple projects with significantly different environmental and natural resource effects and then allowing the market to determine which alternative is constructed is clearly not in the public interest. The market is not a substitute for completing the NEPA process and making well reasoned and scientifically supported decisions.

The FEIS includes project components that require Corps approvals (Section 404 of the Clean Water Act and Section 10 Rivers and Harbors Act). Since the Corps is a cooperating agency, we assume it had input into the FEIS. How, the Corps will use the FEIS to inform its review and demonstrate compliance with its RHA and CWA authority is not clear. The Corps is also subject to federal consistency. Nothing in the FEIS or conditions indicates

whether the Corps intends to issue a conditional approval or wait for delegated federal requirements to be completed. The Corps may treat need differently under its requirements, but again, the NEPA process only informs the federal decisions and does not necessarily address their regulatory requirements.

7. There is considerable information in the applicant-prepared Biological Assessment (BA) that relates to state CZMA enforceable policies. At this point, we have not had time to review all of this information. This information is primarily intended to inform the Endangered Species Act and Magnusson Stevens Act consultations with the National Marine Fisheries Service and U.S. Fish and Wildlife Service. We recommend that FERC wait for the ESA and MSA consultation to be completed before making a decision on this project. FERC should not proceed with its review until this important environmental and natural resource information is fully reviewed and the services issue their required decisions. These reviews may result in significant conditions or the need for significant modification to the project in order to avoid and minimize impacts. Unavoidable impacts will require mitigation. Although mitigation is generally addressed in the FEIS and addressed in more detail in the BA, significant changes to the mitigation for the project are likely, following a complete review of the project effects and information in the BA.

Summary

We believe that the general nature of the FERC staff's review of the project "purpose and need" and related "alternatives" analysis is inadequate. The FEIS does not sufficiently describe the basis for determining the regional and national need for an LNG import terminal and pipeline project in this location or provide a clear set of objectives that provide a rational basis upon which need or alternatives can be assessed. The analysis of alternatives is superficial. Without more detailed comparative analysis of LNG import terminal and pipeline projects currently proposed in the region, and the potential for domestic supply/pipeline alternatives, we can not determine whether the Bradwood Landing LNG import terminal and pipeline represents a superior site for such a facility from an economic, environmental and social perspective.

The FERC should not make a decision until the results of federally-delegated state reviews and federal services agency consultation are complete. These state and federal agency decisions will inform the FERC process resulting in a more complete and responsible federal action. As the lead federal agency for these energy projects, we believe public policy is best served by assuring all environmental issues are fully identified and integrated into the FERC decision.

Oregon Department of Fish and Wildlife (ODFW)

General Comments on FEIS

Screening of Water Intakes – The FEIS does not adequately address ODFW's previous comments on this subject. The DEIS was drafted such that a screening system would be developed with the intent of meeting current ODFW and National Marine Fisheries Service (NMFS) fish screening requirements.

Emergency Response – ODFW requests that emergency plans include immediate notification of turbidity exceedances, frac-outs, and spills and pipeline leaks. The project should contact Oregon Emergency Response System immediately. In the case of leaks during pipeline operation, ODFW recommends that emergency plans include surveys for fish and wildlife kills immediately following a release.

Natural Gas Pipeline Shut-Off Valves – Is it possible to have a shut-off valve on each side of large stream crossings, such as the South Umpqua, Rogue and Klamath Rivers. If there is a rupture and a natural gas release, how long will it take for the spilling to cease? How far apart are the proposed shut-offs?

Riparian Vegetation Buffers – In spite of ODFW's numerous comments to date, riparian vegetation buffers for the PCGP are still inadequate for nonfederal land. 25-foot replanting zones on private and state lands will not meet county or state requirements for riparian areas. The Douglas County Land Use and Development Ordinance (LUDO) requires ODFW to complete an inspection for any land use action that will affect the Riparian Vegetation Corridor Overlay §3.32.200 (50 feet from high bank) and Significant Wetlands Overlay §3.32.700 (50 feet). Other counties that the pipeline passes through have similar riparian vegetation-related ordinances. The Douglas County ordinance requires ODFW to grant approval to reduce the setback or, if that is not possible, there is an appeals process through the county planners. ODFW strongly recommends that riparian vegetation buffers be implemented on nonfederal lands that at least meet County requirements.

Stream Crossings – Each stream crossing will require a site visit or a meeting with an ODFW representative to assess site-specific impacts and compliance with state fish passage laws and rules.

Habitat Mitigation Plan and Noxious Weed Plan – ODFW recommends that FERC not reach a final decision on issuing a certificate until the mitigation and noxious weed control plans are complete.

Noxious Weed Plan Comments –

- ODFW recommends broader scale monitoring for noxious weeds, beyond the targeted sites discussed in the FEIS. It appears as if the BLM has recommended this for their land ownership. Nonfederal lands should receive the same level of protection.
- What will the final condition be after implementing the Noxious Weed Plan? ODFW recommends that additional mitigation be undertaken if the final state of the pipeline is not satisfactory regarding amount of noxious weed coverage.

Bird Nest Boxes – ODFW does not support the use of bird nest boxes as a substitute for snag creation when mitigating for upland habitat impacts. Snags provide a much broader array of habitat functions and values for birds and other wildlife species than bird boxes. Snag creation is a much more appropriate mitigation measure for impacts to upland habitats. If nest boxes are used and monitored, ODFW recommends monitors remove and document invasive species as they are discovered.

Category 1 Habitat – No mention is made in the FEIS of avoiding ODFW Category 1 habitat. ODFW commented at the DEIS stage as follows:

"For the JCPC Project, the Category 1 habitats that would be impacted consist of: 561 acres of coniferous old growth and late successional forest (a portion of this acreage with spotted owl and marbled murrelet use); 24 acres of vernal pool wetlands; 6 acres of mature oak woodlands; and 3 acres of rare plant habitat. ODFW's Fish and Wildlife Habitat Mitigation Policy states that "The Department shall act to protect Category 1 habitats described in this subsection by recommending:

(A) avoidance of impacts through alternatives to the proposed development action; (B) no authorization of the proposed development action if impacts cannot be avoided.

In accordance with the department's Fish and Wildlife Habitat Mitigation Policy and administrative rules, ODFW recommends that JCPC either avoid the impacts to the identified Category 1 habitats through alternatives or that the project not be authorized."
ODFW still stands by this comment in order to protect valuable Category 1 habitat.

Mature Oak Woodlands – Are mature oak woodlands equivalent to "Westside Oak and Dry Douglas-fir Forests and Woodlands"? If so, there appears to be an increase in the amount of mature oak habitat. Is there an error in these numbers? Also, the acres of anticipated impacts to mature oak habitat are substantially under-estimated in the FEIS (Table 4.4.1.3-2). This table shows 2.9% old growth-mature oak woodlands (probably >150 years of age) under the vegetation cover types crossed by the pipeline. Mature oak could be equal to, younger, or older than heritage or legacy oaks. There is no mention of what age in years this equates to. The PCGP habitat sub-committee never came to any conclusion regarding age, canopy closure, stems per foot, etc. For a point of reference, local white oak trees with a 4.25-inch dbh are 78 years old, with 8.5-inch dbh trees being 150+ years old. There are perhaps thousands and maybe millions of white and black oak trees that meet the 8.5-inch dbh mature oak (>150 years old; now Category 2) habitat over the length of the pipeline. Most oak models (e.g. Ray Davis's) and references are for white oak, but Jackson and eastern Douglas County are predominately black

oak with some white oak mixed in the landscape. Applying a white oak model to the length of the pipeline is inappropriate when ½ or more is predominately black oak. ODFW submits that the number of acres listed for pipeline affected (removed or modified) Category 2 mature oaks (>150 years old) are under represented substantially, and are probably in excess of 400 acres.

ODFW's Scientific Take Permits – No mention is made in the FEIS of ODFW's scientific taking permit system to keep of track of wildlife injury and mortality, as ODFW recommended in the DEIS. ODFW recommends a condition be included for the applicants to apply for and comply with these permits.

Noise Impacts and Wildlife Impacts – There is only limited discussion of noise impacts on threatened and endangered (T&E) species and other sensitive species in spite of ODFW's recommendation to address these impacts to a greater extent. For non-T&E species, noise impacts were not adequately addressed in the DEIS, the FEIS, or in FERC's staff recommendations. The ODFW recommends that when any blasting, pile driving, or other loud noise producing activity takes place: 1) the applicant uses the Oregon Forest Practices Act guidelines for ospreys and great blue herons; 2) the applicant use the specific ODFW recommendations given for the DEIS for peregrine falcons; 3) the applicant use the Bald and Golden Eagle Protection Act and federal recommendations to protect bald and golden eagles; and, 4) the applicant use the federal Endangered Species Act and federal recommendations to protect spotted owls and marbled murrelets.

Conflicting Construction Timing Restrictions – There is no discussion in the FEIS of conflicting timelines, as requested by ODFW in comments on the DEIS, i.e., conflicts between seasonal restrictions for bird nesting, winter range habitat, in-water work periods, and T&E species.

Turbidity Impacts on Amphibians and Reptiles – There is no discussion of turbidity impacts on amphibians and reptiles, as requested by ODFW. Hydrostatic testing of the pipeline could have large impacts on nesting birds as well as amphibians and reptiles.

Large Woody Debris (LWD) as Mitigation – It appears as if LWD will be used to mitigate for much of the impacts to riparian areas, in spite of ODFW's comments on the DEIS that this is inadequate. Forested riparian areas contribute more than LWD to streams and the other lost values/benefits of riparian habitat should be mitigated as well.

Work Crew Training – Crews working on the pipeline will be required to go through training based on FERC's guidance in the Recommendations and Conclusions Section. However, it is unclear if this will apply to crews conducting vegetation maintenance, as well.

Off-Highway Vehicle Barriers – Off-highway vehicle (OHV) barriers will include boulders and tank traps in addition to signage. This is an improvement over what was proposed in the DEIS. However, ODFW recommends that some plan, with associated funding, be included if the OHV exclusion efforts fail.

Upland Mitigation – ODFW's specific recommendations on upland mitigation in the form of incorporation of specific snag densities, down wood, danger tree replacement, and legacy trees were not incorporated into the FEIS. Creating forage areas for deer and elk using ODFW's recommended forage seeding mixture was not addressed. Decommissioning roads was addressed. ODFW's recommended snag retention concept was addressed, but the species of conifers, minimum diameter at breast height (dbh) used and number per acre or linear foot was not estimated. ODFW's recommended down wood concept was addressed but the species of trees, minimum dbh used, linear feet per acre and number per acre was not estimated. ODFW's recommended legacy tree concept was not addressed at all including the species of trees, minimum dbh used, and number per acre was not estimated.

Piling to Prevent Perching – ODFW commented on the DEIS requesting that pilings be fitted with devices to prevent perching of piscivorous birds. The response to this comment (SA2-115) in the FEIS was "Jordan Cove has not proposed this measure for its proposed pilings". This is a standard request from ODFW to applicants on Fill/Removal permits when the applicant installs pilings. ODFW again requests that this be incorporated as a mitigation measure.

Eulachon – ODFW commented on the DEIS that Eulachon are being considered for federal listing as a threatened species and have been known to use Coos Bay. Impacts to this species were not addressed in the DEIS or FEIS.

Dredging Impacts – In comments on the DEIS, ODFW asked, but the FEIS did not address, how dredging of 3.3 million cubic yards of material for the slip area and access channel will have an effect on the salinity of the entire bay. Changes of salinity throughout the bay may affect fish/shellfish distribution in the bay along with spawning and rearing of some fish/shellfish species that use Coos Bay.

Comments on FEIS by Page and/or Section

Page 2-12 – This section states that the ballast and cooling water fish screen system proposed in the DEIS may no longer be feasible due to concerns identified by the Coast Guard. There is a marine permitting process in place that the applicant may have to follow in order to get approval of the proposed fish screens. This permitting process does not eliminate the need or the opportunity to screen the LNG ships' ballast and cooling water intakes. The ballast and cooling water screening concept previously proposed by the applicant has the potential to provide fish protection consistent with current ODFW and NMFS fish screening criteria. This concept or another concept, if proposed by the applicant, should be developed, tested, and approved by the appropriate agencies to prevent fish entrainment or impingement associated with the project's ballast and cooling water intakes.

Page 2-55 (Section 2.2.2) – The Jordan Cove Energy Project (JCEP) is considering the major navigational dredging from tips of jetties to the terminal as separate from the Jordan Cove/Pacific Connector Gas Pipeline (JCPC) Project. In the FEIS, they are only considering the

dredging at the slip and access channel into the slip as part of this project. ODFW continues to have concern over the potential ecological effects of future dredging (down to –51 feet mean lower low water and channel widening from 300 to 600 feet, plus widening the jetty opening) that is proposed to occur to further use the Port's facility ("Oregon Gateway Terminal"), even though the JCEP tenancy is not portrayed as associated with that level of dredging.

Changes to salinity, ocean water exchange, water temperatures, flood/ebb rates, etc. may be expected to occur with additional deepening of the channel. Predictive modeling should be conducted to ascertain the potential impacts to the estuarine ecology from the anticipated ≥10 feet of additional depth from the current situation. In this FEIS section, the document refers to the Channel Modification Project as "restoring the bay ecosystem", which ODFW believes is an incorrect description of the project. Historically, the bar was shallow at Charleston, and the shipping channel has evolved from 20 feet to 37 feet minimum maintained depth.

Section 4.05 (Pages 75 – 76) – This section implies that the concerns recently raised by the Coast Guard have forced the applicant to deviate from their previous proposal to screen ballast and cooling water intakes. The Coast Guard's concerns should not be interpreted to mean that ballast and cooling water screening cannot occur. Screening can and should occur to reduce negative impacts to fish as a result of this project. Additional marine industry review and permitting may be necessary, but this has not eliminated the opportunity to develop and use fish screens.

Section 4.05 (Page 76) – ODFW has not had the opportunity to review the alternative to ballast and cooling water screening that is now proposed in the FEIS.

Section 4.05 (Page 76) – As stated in ODFW's DEIS comments, the applicant is referencing outdated fish screen criteria. The FEIS references NMFS 1997 fish screen criteria. NMFS 2008 fish screen criteria should be used to develop and review all fish screen designs.

Section 4.06 (Page 120) – Bullet 7 states that screened water for cooling and ballast water will be provided at the terminal to minimize entrainment and impingement of juvenile fish. ODFW supports this statement, but it is not consistent with the current proposal described in this FEIS.

Section 4.1, Table 4.1.3.2-2 – Pacific Connector Gas Pipeline (PCGP) has identified the Rogue River as having a high liquefaction potential which could result in damage to the integrity of the pipeline. On page 4.5-110, the FEIS states that a portion of the pipeline would have to be unearthed if an integrity issue is found. Within stream sites, repair work could require isolating flow from the section being repaired. This will be extremely difficult if repairs were needed under large streams like the Rogue River. PCGP must have a contingency plan for this type of situation that meets state and federal agency requirements.

Section 4.3.2 (Page 4.3-12) – This section fails to address in-water timing, ODFW Fish Passage Rules, and compliance with ODFW's Fish and Wildlife Habitat Mitigation Policy, all of which ODFW repeatedly mentioned in earlier comments.

Page 4.3-34 – The FEIS states that blasting may be required where there is non-rippable bedrock. An ODFW-issued in-water blasting permit must be obtained for blasting even in areas that are de-watered or are dry at the time of construction. ODFW has stated this in previous comments. It is unclear from the FEIS whether or not PCGP recognizes the fact that a permit is required in de-watered or dry streams.

Page 4.3-39 – This section states that seven hydrostatic discharge locations may be located outside of the construction right-of-way or temporary extra work areas. These areas should not be located within riparian areas. If brush or small trees are removed, the area should be replanted with native vegetation. The discharge sites must be located in areas where discharged water cannot drain into streams or wetlands.

Page 4.3-45 – This section states that existing access roads may need improvements such as clearing, grading, widening, and drainage improvements. Page 4.3-46 states that new temporary and permanent access roads will be constructed, converting forested lands to roads which will cross streams. Table 4.3.2.5-5 lists streams and ditches that will be crossed. PCGP must consult with ODFW concerning fish passage before implementing changes at road crossings on streams. New stream crossings must meet ODFW's fish passage criteria. The FEIS does not adequately address how the pipeline will comply with Oregon's Fish Passage Statutes regarding presentation of a fish passage design plan for all perennial and intermittent stream crossings where native migratory fish are present. This comment was made on the DEIS as well.

Also, the adequacy of proposed stream crossings to avoid scour problems and the potential development of fish migration barriers over time is not clear. The document states that the pipeline will be placed 5 feet deep in intermittent streams, and will be planned to withstand a 50-year flood event. ODFW did not receive an adequate response to a request in our comments on the DEIS regarding assurance that if problems develop, the company will repair fish migration barrier problems in a timely manner for the life of the project.

Page 4.3-48, South Umpqua River, Milepost 69.0, Clark Branch Crossing – The habitat at the proposed crossing of the South Umpqua River at Milepost (MP) 69.0 is considered Category 2 habitat under ODFW's Fish and Wildlife Habitat Mitigation Policy. A gravel bar approximately 300 meters downstream of the proposed crossing has been observed to be a major spawning ground for fall Chinook salmon. Also, due to land use actions and disturbance, braided channel habitat in the South Umpqua River is extremely rare. The Chinook spawning grounds, the complexity of habitat present, the low occurrence of this habitat and its importance to native species warrants Category 2 habitat designation and its associated mitigation recommendation of no net loss of habitat and, in fact, a net benefit. Furthermore, bifurcation of the channel will supply more flow than typical and potentially scour the secondary channel substrate and cause erosion or an avulsion event.

The FEIS states some work will be completed in-water at this site and in-water work periods will apply. ODFW would recommend in-water work be done during the recommended time period to

protect state and federally listed species. The FEIS also states that equipment would need to be operated in the river. ODFW recommends against this. If the pipeline is going to cross at this location, a crane should be used to isolate the work area. Any equipment working in the "dry area" should contain biodegradable hydraulic oil.

The FEIS does not mention completing a fish salvage operation for in-stream work and de-watering of work areas. This needs to be done. Once the isolation barriers are placed, a pump with a fish screen meeting ODFW/NMFS criteria should be used to bring the water level down to the appropriate level to complete a fish salvage operation (approximately 2 feet). Biologists should be present and observant while the isolation area and channel realignment is being constructed in case hydrological changes lead to stranding of fish and aquatic wildlife. If "take" of listed fish beyond the limits of NMFS' incidental take permit occurs, work should cease and ODFW and NMFS should be notified and consulted.

The FEIS states: "imported rip-rap, concrete jersey-barriers, water bladder porta-dams, and/or sand bags" will be used to isolate the work area. These materials will most likely be insufficient given the extremely low hydraulic conductivity values of gravel substrate, especially on a waterbody with such a large active channel and more intense hyporheic pressure. If material will be hammered into the substrate (dam wall, piling, t-post, etc.), ODFW will recommend that a vibratory hammer be used. If the material being hammered is metal, a bubble curtain should be used as well as a sound dampening device such as a piece of wood between the hammer and the pile. If placed on bedrock, this may be a viable option if all openings can be sealed in some appropriate manner. If bedrock, what substrate material will be placed over the pipeline to fill the trench? If by talking about sandbags, the FEIS is describing super sacks, these are rarely effective in retaining water and blocking passage to juvenile fish. This material should be removed upon completion of work.

Endangered Species Act (ESA)-listed species at the MP 69.0 crossing consist of the Oregon Coast Evolutionarily Significant Unit (ESU) coho salmon. State sensitive – critical species consist of Chinook salmon (coastal spring Chinook species management unit [SMU]), and Umpqua chub. State sensitive – vulnerable species consist of coho salmon (coastal coho salmon SMU/Oregon Coast ESU), steelhead trout (Oregon Coast ESU/coastal winter steelhead SMU), and Pacific lamprey.

Page 4.3-48 thru 49, South Umpqua River, MP 94.7, Milo Crossing – The same issues identified above (South Umpqua River, Milepost 69.0, Clark Branch Crossing) apply to this section of the South Umpqua near Milo, except that no secondary channel is present. An explanation as to why horizontal directional drilling (HDD) the pipe is not an option at either of these sites should be provided. It may be that the MP 69.0 site is too wide, but the South Umpqua is considerably narrower at the Milo location. The FEIS states that the streambank at this location will be "stabilized", but no mention is given as to the methods to be used. ODFW would recommend against using rip-rap and like methods, and would instead recommend tree revetments and native plantings to stabilize the bank. The FEIS also mentions that pumps will be running to keep the isolated area dry and convey the water as "far away as possible" from the

river. A location should be identified to assess the potential of impacts of possible siltation and contamination from welding.

ESA-listed species at MP 94.7 include Oregon Coast ESU coho salmon. State sensitive – critical species include Chinook salmon (coastal spring Chinook SMU) and
Umpqua chub. State sensitive – vulnerable species include coho salmon (coastal coho salmon SMU/Oregon Coast ESU), steelhead trout (Oregon Coast ESU/coastal winter steelhead SMU), and Pacific lamprey.

Page 4.3-49, Fate Creek Crossing – ODFW would not support any action that would impact habitat restoration sites and would recommend using HDD or hole-punching of the pipe. The Erosion Control and Revegetation Plan (ECRP) does not address or mitigate for all impacts associated with stream crossings under the ODFW Fish and Wildlife Habitat Mitigation Policy nor under Oregon's fish passage laws and rules.

Page 4.3-51 – This section states that if the horizontal directional drilling (HDD) crossing under the Rogue River fails, a wet open-cut will be used. It also states (Section 3.1.4.2) that an aerial crossing at this location is not feasible. ODFW has provided comments on this issue several times in the past. ODFW does not consider a wet open-cut to be an acceptable alternative due to the impacts to fish, fish habitat, the river, as well as impacts to the sport fishery and the economy of upper river communities. ODFW strongly disagrees with the wet open-cut as an alternative crossing method on the Rogue River.

Page 4.3-61 – This section states that PCGP will cross 1.2 miles of wetlands in the Big Butte Creek and Little Butte Creek fifth field watersheds, resulting in 15.4 acres of wetland impacts. The FEIS is lacking detail concerning mitigation for permanent impacts to these wetlands. ODFW is particularly concerned with impacts to forested wetlands which may take a long time to become re-established after disturbance. PCGP should provide more detail on wetland impacts and meet all Oregon wetland permitting requirements.

Pages 4.4-35-36 – The FEIS notes that only short-term impacts are anticipated for any grassland/shrub plant communities. In eastern Oregon, successful reestablishment of a shrub component could take considerably longer than 3 growing seasons especially in lower elevation areas. Furthermore, noxious weeds could also increase the timeframe for successful revegetation. This comment was made on the DEIS and not addressed.

Page 4.4-41 – The FEIS states: "All disturbed areas would be monitored for revegetation success after the first and second growing seasons. In eastern Oregon's drier climate, revegetation success will likely take longer than 2 growing seasons. The monitoring plan should reflect this.

Page 4.4-41 – The FEIS states: "Restoration plans would include measures for reestablishing herbaceous or woody vegetation, controlling the establishment or spread of invasive species, weed control, and monitoring." Restoration plans will not be completed until some later date

prior to construction. This makes it very difficult, if not impossible, to assess if the restoration work will be sufficient to meet revegetation objectives.

Page 4.4-42 – The FEIS states: "Approximately 1,800 acres would be replanted with conifer species in forested areas outside of the 30-foot maintenance right-of-way." Again, without a detailed restoration plan to review, the reviewer has no detailed information to make an adequate assessment of the effectiveness of this proposal. Such details as species, spacing prescriptions, etc., are needed. A "one size fits all" prescription won't be appropriate given the different habitats and elevations along the proposed route. For east Cascades, these drier sites must have different prescriptions than coastal or western Oregon forests.

Page 4.4-43 – For the 30-foot maintenance corridor, ODFW recommends only mechanical methods (mowing or cutting) to maintain the corridor in an herbaceous/shrub state of less than 6 feet in height. On other pipeline or transmission line corridors, ODFW staff have observed the use of herbicides to kill trees, yet shrubs and grasses were also killed from the chemical applications. For noxious weeds, ODFW supports the use of chemicals as long as caution is used so that non-target vegetation is maintained.

Page 4.4-42 – Regarding off-highway vehicle (OHV) use of the right-of-way, the FEIS states "Boulders and other large rocks generated by construction activities would be used to block access to the right-of way by recreational and off-road vehicles, which have the potential to spread noxious weeds, insects, or diseases." Blocking access to the right-of-way is also important from a wildlife standpoint to minimize disturbance, especially during sensitive periods (nesting and winter periods). Monitoring will be a critical element which must occur over the life of the project. ODFW recommends this be stipulated as one of the conditions and included in Section 5.2.

Page 4.4-44 – Regarding noxious weeds, there should be more detail, which supposedly will be provided in a noxious weed plan that won't be available until some time before construction activities commence. ODFW recommends monitoring for noxious weeds for a minimum of 3 growing seasons and then at a reduced frequency after that. The FEIS mentions that surveys for noxious weeds would only be conducted at known pre-existing locations and at equipment cleaning stations. ODFW requests that noxious weed surveys be conducted along the entire right-of-way similar to what BLM has requested for their ownership.

All of the seven comments above were also made on the DEIS, but not addressed.

Pages 4.5-4, 9, 14, 15, Amphibians and Reptiles – ODFW continues to recommend that stream connectivity (i.e., adequate passage via culvert design) be provided for reptiles and amphibians at stream crossings.

Page 4.5-52 – The FEIS states the following regarding Olympia oysters: "They are found subtidally and intertidally from the Southwest Oregon Regional Airport to Millington in Isthmus

Slough in the upper bay, which is not an area that would be affected by the proposed LNG terminal." This statement is untrue. The impact area would be within expected oyster range.

Page 4.5-55 – The FEIS states: "Exotic or nuisance organisms are unlikely to be transported to Coos Bay in LNG carriers." This is very likely untrue, and thus needs a scientific reference to support this statement.

Page 4.5-63 – The FEIS states: "The general life history and expected habitat use within and near the proposed Project area are shown in Appendix G, table G-1, which will also be in the BA and EFH assessment developed for this EIS. However, the documented species composition is less than noted in table G-1. Based on sampling (e.g. ODFW data from 1996 to 2000), 13 groundfish, 2 salmon, and 1 pelagic species would be considered common. The information below provides details on most of these fish species use within the Bay, relative to the proposed Project site." Appendix G does not contain referenced information and much of the information in that section is inaccurate. In particular, statements such as "Rockfish have not been seined by ODFW in or near the proposed Project area, indicating that this area is not utilized by rockfish" are untrue and lead to further implications which are unfounded. Marine fish, including, but not limited to rockfish, can be found in any part of the bay year round. The FEIS also states that lingcod is not found in or around the Jordan Cove project site. During ODFW seining in 2008, ODFW staff found both juvenile rockfish and lingcod around the project site.

Page 4.5-87 – The FEIS states: "However, all oyster growing areas have been avoided by re-routing the proposed pipeline with no construction occurring near any commercial oyster growing sites so the possibility of any adverse effect is remote. However, because of concerns raised by oyster growers about the pipeline crossing of Haynes Inlet, we are recommending that Pacific Connector consult with oyster growers to avoid or minimize impacts." ODFW recommends that PCGP primarily consult with the owners and managers of the land, then those owners/managers can consult with their leasers, as needed.

Page 4.5-92 – The FEIS states: "However, benthic communities on mud substrates in Coos Bay that were disturbed by previous dredging activities recovered to pre-dredging levels in four weeks (Newell et al. 1998)." This statement is untrue.

Section 4.6.1.3 (Pages 4.6-59 – 82) – The general tone in this section, including discussions about Endangered Species Act-listed coho ESUs, seem to minimalize the potential impacts to the resource and suggest that placement of several pieces of large wood at individual crossings would provide adequate mitigation. There seemed to be very little concern with steelhead and other important game and nongame fishes.

Removal of riparian forest habitat in small amounts would become a notable factor when looking at the scale of this project. Additionally, steep slope pipeline approaches (many of the approaches in the Coast Range) to streams will be susceptible to slumping for a number of seasons after initial soil excavation and refilling of the trench. These slumps will impact coho, steelhead, and cutthroat populations in the affected stream reaches.

The habitat recovery/regrowth potential (rapid regrowth of the riparian zone) for vegetation after removal was used as justification for determining little or no actual impact to the fish resources would occur. Further impacts to the riparian zones, especially on private lands, will reduce an already minimal hardwood community that has been a product of 150 years of forest clearing, burning, and grazing. These sites likely will not regrow riparian hardwoods at removal locations where season-long livestock grazing occurs.

A fair portion of the coho production in the Coos-Coquille Tenmile Lakes fishery district emanates to a great extent on private lands. When private timber lands are included in the equation, this number becomes a very large proportion of coho produced. With this in mind, mitigation for lost coho production on private lands should be considered in mitigation proposals for the project.

In the Coastal Coho ESU (not including the Southern Oregon/Northern California Coastal ESU), a total of 31.3 acres of riparian zone forest will be removed on 47 perennial streams. If the wetlands value system of 3:1 mitigation were used, mitigation for impacts to 31.3 acres of riparian forest would suggest 93.9 acres of riparian forest are needed to mitigate for this loss/impact. This could be in the form of direct stream rehabilitation projects or funds earmarked for habitat work in the Coos and Coquille River drainages.

Page 4.6-67 – This section states that 4 acres of riparian forest associated with 4 intermittent streams would be removed although the streams would not be crossed. However, it dies not identify the names or locations of these streams, or the locations of these impacts. ODFW would like this information to adequately assess potential impacts to fish and wildlife resources, and recommend appropriate mitigation. In the absence of this information and assuming a 100-foot riparian width, then this impact creates a significant linear distance of impact on riparian habitat. Intermittent streams in the Rogue Valley provide valuable summer steelhead habitat during the winter and spring.

The fish salvage plan outlined in the FEIS indicates that NMFS and USFWS will be notified. ODFW requests that the local ODFW biologist be notified before approved and permitted biological consultants begin salvage activities.

Page 4.6-68 – This section states that blasting may be necessary on seven waterbodies. The basins are identified, but there is no more specific information than that. This section also states that a permit would be obtained from ODFW prior to blasting in waters of the state. A permit must be obtained for blasting even in areas that are de-watered or are dry at the time of construction. ODFW has stated this in previous comments. It is unclear whether or not PCGP recognizes the fact that a permit is required in de-watered or dry streams.

Page 5-3 and 5-34 [#30]) – FERC's staff recommends additional studies at stream crossings on Indian Creek, West Fork Trail Creek, and North Fork Little Butte Creek that have high scour potential. ODFW recommends an additional stipulation that these studies be completed and the

agencies be given an opportunity to review the proposed mitigation measures prior to authorization of this project.

Page 5-8 – The USFS has requested that PCGP obtain site-specific approval when requesting to not fill the upper 1 foot of trench backfill with clean gravel or native cobble in coldwater fisheries streams. PCGP must also obtain state agency approval.

Page 5-12 – FERC recommends: "Jordan Cove continue to consult with NMFS, ODFW, FWS, and the Coast Guard on the details of its sampling plan, interpretation of results, and water supply design to protect aquatic resources and, if required, to develop a compensatory mitigation plan for affected resources". ODFW was notified that a meeting would be held at some point to discuss the sampling plan, but this meeting has not occurred to our knowledge. ODFW has not been provided any plans on the applicant's latest proposal to provide screened water in the vicinity of the ship intakes.

Page 5-12 – The FEIS states that the pipeline will cross 123 streams that may be fish-bearing. ODFW recommends that all streams be considered fish-bearing unless found to be absent of fish. If the stream lacks fish presence due to a man-made barrier, fish use will be determined to be upstream to the point of historical fish usage.

The last paragraph on this page mentions minimizing impacts from the introduction of invasive species. Just minimizing impacts from invasive species is not an acceptable recommendation. Impacts from the introduction of invasive species need to be avoided.

Comments on and Suggested Changes to Section 5.2, FERC Staff's Recommended Mitigation

Page 5-26, Item #2 – This section states that for LNG facilities: "The Director of OEP has delegated authority to take all steps necessary to ensure the protection of life, health, property, and the environment during construction and operation of the Project". All steps necessary to ensure protection of the environment should include requiring fish screens on all water intakes located in waters with fish present. Fish screening should be required for withdrawals of water for fire control, hydrostatic testing, stream crossing, dust control, ballast and cooling intakes, and any other water use.

Page 5-32, Item #17 – Mitigation measures should be provided to offset any newly created impervious surfaces to reduce stream/river flashiness (bioswales, etc.). Best management practices should be applied to reduce and contain erosion and fines entering waterways. Mitigation should be provided to create a net resource benefit due to impacts by roads in the riparian zone.

Page 5-34, Item #26 – Will imminent domain supersede current mitigation and restoration sites under a conservation easement or otherwise that are intended to be maintained in perpetuity?

Will the landowner be held liable for breaking mitigation and restoration requirements in this circumstance?

Page 5-34, Item #27 – PCGP should be consulting with the land owner/manager (e.g., Oregon Department of State Lands, Oregon Department of Agriculture, Port, etc.) and, if that entity desires input from lessee (e.g. oyster company), they can obtain it. Oyster companies only lease these lands. It would be akin to letting renters make decisions on property rights. Additionally, there are more stakeholders to consult than just the Port and oyster growers, as indicated here.

Page 5-34, Item #30 – FERC's staff recommends additional studies at stream crossings on Indian Creek, West Fork Trail Creek, and North Fork Little Butte Creek, all of which have high scour potential. ODFW recommends an additional stipulation that these studies be completed and the agencies be given an opportunity to review the proposed mitigation measures prior to authorization of this project.

Page 5-35, Item #34 – ODFW believes that the current Compensatory Mitigation Plan (CMP or Habitat Mitigation Plan) is inadequate in that it does not address habitat impacts occurring on non-federal lands that are not related to an ESA-listed species. This recommendation should be expanded to stipulate that the CMP should include these impacts, which are not currently addressed.

Page 5-35, Item #38 – ODFW recommended, through our DEIS comments, that snags be created as upland mitigation instead of nest boxes. FERC staff continue to recommend nest boxes. ODFW's position on this recommendation is that placement of nest boxes with 1.25"diameter or less entrance holes will only be beneficial to a few species like chickadees, nuthatches, wrens and non-native English house sparrows. Oregon has 45 species of birds that nest exclusively, or often in cavities. The sizes and shapes of the cavities vary depending on the size of the birds from large barn owls and wood ducks down to small wrens and nuthatches. Therefore, most all cavity-nesting birds, due to their larger size, will not benefit from FERC's recommendation and PCGP's implementation. As originally recommended by ODFW, the applicant should create additional snags in lieu of nest boxes to benefit all cavity-nesting birds. No monitoring is recommended if additional snags are created, but the applicant would still need to estimate the number of snags to be created, similar to numbers in adjacent habitat.

Page 5-35, Item #35 and #39 – Wash stations for equipment should be set up to handle aquatic invasive species as well. Equipment should be cleaned between individual basins. Most likely this would be included in item #39.

Page 5-35, 36 Item #40 – Placement of large woody debris (LWD) alone is not adequate for stream habitat mitigation. Depending on site-specific impacts, additional mitigation will be needed. Also, LWD may not provide the appropriate in-kind mitigation needed for the impacts created. If placement of LWD is implemented as part of the stream habitat mitigation plan, the majority of the material should be conifers at least 20 inches diameter at breast height (dbh), with

root wads attached. ODFW is very interested in participating in the development of the stream habitat mitigation plan.

Page 5-36, Item #41 – The project proponents should refer to ODFW's stream simulation guidelines (found on ODFW's website at: http://www.dfw.state.or.us/ODFWhtml/InfoCntrFish/Management/stream_road.htm) to determine stream geomorphology and substrate requirements on state and private lands.

Page 5-36, Item #42 – The project proponents will be required by NMFS and USFWS, and is highly recommended by ODFW, to salvage all ESA-listed fish and not just sucker species, as mentioned in this item. ODFW recommends that all native fish, reptiles, and amphibians be salvaged in these efforts and be addressed in the salvage plan.

ODFW's Recommendations for Additions to Section 5.2, FERC Staff's Recommended Mitigation

ODFW recommends that, in addition to comments listed above, the following items be added to Section 5.2 as conditions to the project's certificate.

- PCGP, prior to construction, will enter into a binding memorandum of agreement with ODFW that the companies will repair any fish passage problems caused by the pipeline for the life of the project.
- PCGP, prior to construction, will develop and implement preconstruction surveys, in consultation with ODFW and other applicable agencies, of aquatic resources that would be impacted by a frac-out at the Rogue River crossing to facilitate post frac-out habitat restoration.
- The horizontal directionally drilled (HDD) crossing under the Rogue River will occur during ODFW's recommended in-water work period of June 15th through August 31st.
- PCGP, prior to construction, will develop a hydrostatic testing monitoring survey, approved by ODFW and other applicable agencies. The survey would monitor ramping, fish stranding and water temperature at both pumping and release sites, and salvage fish as needed. PCGP will be responsible for implementing the survey with agency-approved biological staff. A summary report will be submitted to the agencies.
- PCGP, prior to construction, will develop a project communication plan, in consultation with ODFW, to consult with and inform fishing groups and other recreational river users about construction actions in the Rogue River system on a real time basis, and establish a process for advance notification of events such as the Rogue mainstem HDD.
- PCGP, prior to construction, will consult with all applicable agencies, including ODFW, and provide these agencies with: site-specific details about pipeline placement within riparian habitat; an accounting of impacts and proposed mitigation actions by habitat type and specific location; and develop a site-specific plan, approved by applicable agencies

including ODFW, for mitigation of project impacts, other than those related to ESA-listed species, occurring on nonfederal land

Comments on the Draft Compensatory Mitigation Plan (Appendix L)

- The draft plan devotes all its attention to mitigation for impacts to federal land, habitats related to threatened and endangered (T&E) species, and Late Successional Reserve (LSR) habitats designated as Category 1 under ODFW's Fish and Wildlife Habitat Mitigation Policy (Mitigation Policy). However, the CMP does not follow the direction of the Mitigation Policy by avoiding Category 1 habitat impacts. As written, the CMP does not address mitigation for non-federal lands. ODFW is willing to work with PCGP to identify appropriate mitigation for the non-federal land impacts that are currently not addressed in the CMP.
- Mitigation levels produced by the Habitat Equivalency Analysis (HEA) model do not seem appropriate and are often close to 1:1, and sometimes below 1:1. For example, on non-federal land:
  - Spotted owl: 558 acres of mitigation for 436.56 acres of affected habitat;
  - Marbled murrelet: 91.74 acres mitigation for 100.53 acres of affected habitat.
- Owl and Murrelet habitats are still considered to be Category 1 habitat under the Mitigation Policy. The Mitigation Policy recommends avoidance of the impact. This conflict is ignored by the document, and Category 1 habitat is still proposed to be impacted.
- What is the acreage of impacted mature and young oak woodlands on non-federal land, and federal land? This was never adequately determined and should be quantified for mitigation of this Category 2 habitat on non-federal lands.
- Will habitat improvements or land acquisitions be used to mitigate for impacts to mature oaks and all oak habitats?
- Is there any alternative mitigation plan for impacts that could occur if weed management or off-highway vehicle (OHV) exclusions fail, especially on big game winter range habitat?
- ODFW spent many hours with PCGP and their consultants discussing and reviewing habitat categorizations for the entire pipeline. Habitat categories 2, 3, and 4 all recommend varying levels of mitigation and were not necessarily linked to threatened and endangered (T&E) species. The CMP is focused on listed species and their habitat and federal land impacts. Will there be another mitigation plan for non-federal land impacts to non-T&E species and habitats? The FEIS mentions that further work will occur on this, but ODFW believes the document and proposed mitigation is inadequate until a complete mitigation plan is put forward and accepted by the natural resource agencies.
- The FEIS states: "In instances where an ODFW habitat category would be affected but has no T&E species or other land management agency mitigation requirement, Pacific Connector would work with ODFW and FWS to apply ODFW and FWS mitigation

policies (Page 4.5-42)." ODFW recommends that FERC include a condition that PCGP follow through with this commitment.

Mitigation for Big Game Winter Range Habitat – There is no discussion in the plan for mitigation for impacts to non-ESA-listed species on nonfederal lands (e.g., big game winter range impacts in Klamath County). ODFW provided comments to earlier resource reports and the DEIS related to big game winter range habitats, which are designated as Category 2 habitats. ODFW recommended no construction activities occur during December 1 through March 31. PCGP requested a waiver to rescind ODFW's recommendation to avoid construction during the winter period. If construction must occur during the winter period, ODFW recommends mitigation which must be in-kind, in-proximity to the impacted habitat and provide a net benefit. To assure a net benefit, ODFW recommends 3 acres of mitigation for each 1 acre of impact resulting from pipeline construction. This should be stipulated in the CMP or habitat mitigation plan.

Riparian Habitat Impacts – Riparian vegetation is important for the health of Oregon's native fish populations, especially in the drier parts of the pipeline corridor such as the Rogue and Klamath watersheds. ODFW has submitted recommendations for riparian management at crossings and provision of buffers where the pipeline would run adjacent to streams throughout the project review process. ODFW staff still cannot determine the extent and specific location of riparian impacts and whether proposals meet the requirements of state law. Even now at the FEIS stage, ODFW remains concerned about project impacts.

ODFW also questions the analysis of impacts to riparian habitat, and does not agree that the DRAFT Compensatory Mitigation Plan (CMP) sufficiently mitigates project impacts. According to the FEIS' DRAFT CMP, the CMP, which was developed in close consultation with the USFS and other federal agencies, is sufficient to mitigate for impacts to federal and private lands. ODFW strongly disagrees with this statement.

According to the FEIS, a total of 94.96 acres of various types of riparian vegetation will be removed within riparian zones that are critical habitat for Southern Oregon/Northern California Coast (SONCC) coho salmon. Most of this habitat (70%) is on private land. The CMP focuses on a 39.26-acre late successional and mid-seral forest subset within the lost riparian vegetation habitat. Most of this habitat (63%) is on private land. Yet, almost the entire menu of mitigation for these impacts occurs on public land. Throughout project reviews, ODFW has recommended that mitigation occur on private lands where it may not occur otherwise.

ODFW does not agree that mitigation should be considered only for late successional and mid-seral forest riparian habitat within the range of SONCC coho salmon, resulting in a loss 55.7 acres of other riparian habitat types due to a lack of mitigation.

ODFW does not agree that acquisition of 12.73 acres of mid-seral forested habitat on non-federal land is adequate to compensate for impacts to 13.94 acres of similar habitat. Fewer acres are being required for mitigation than are being impacted (CMP, Page 75).

ODFW identified and recommended in our DEIS comments other priorities for mitigation other than large wood. These include, but are not limited to, purchase of in-stream water rights from willing sellers, protection of riparian habitat on private land (purchases or easements from willing sellers), restoration of fish passage, restoration of riparian habitat (multi-year projects).

Page 89 of the CMP states that the applicant will work with ODFW to identify mitigation opportunities for impacts to habitats not covered in previous sections of the CMP. On Page 5-12 of the FEIS, FERC's staff recommends that PCGP develop a stream mitigation plan. ODFW has previously requested this as well. ODFW recommends that an acceptable stream, riparian, wetland, and upland mitigation plan for all impacts (on federal and non-federal lands) be completed and accepted by state and federal natural resource agencies prior to FERC authorization of this project.

Please see ODFW comments table in Attachment #2

ATTACHMENT #1
Proposed Jordan Cove LNG - DEIS
Coordinated State of Oregon Comments
Oregon Department of Geology and Mineral Industries

Reference in DEIS	Subject	Comment	How-Why Inadequate	What is Missing/why?	Proposed solution	Suggested deadline for compliance	DOGAMI Update (FEIS May 2009)
Section 4.1 Global Item #1.	High (severe) geologic hazards.	A hazardous facility proposed at the site and the site is potentially subject to severe geologic hazards.	No mention of technical peer review of the submitted detailed geotechnical and seismic reports to ensure technical competency.	Reference to or completion of technical peer review of the detailed geotechnical and seismic reports.	An independent (non-government agency) technical peer review should be performed on the detailed geotechnical and seismic reports to ensure technical competency. Review should be done by qualified and licensed geologists and engineers.	Highest Priority. Immediate Attention.	Comments remain.
Section 1.5 Global Item #2.	Development within the tsunami inundation zone.	Section 1.5 does not include the Oregon Department of Geology and Mineral Industries as an agency with a regulatory requirement.	The building code Section 1802.1 and ORS 455.446 regulations on development in a tsunami inundation zone are not in the "list of permits, approvals, and consultations identified for construction..."	Identification of state regulations.	Perform a detailed review of all required permits, approvals, and consultations. Consider multiple mitigation alternatives including tsunami avoidance by elevating certain structures to tsunami-resistant design, e.g., FEMA 646 (2008)	Highest Priority. Immediate Attention.	Appears satisfactory in FEIS.
Section 1.5 Global Item	Mining and Reclamation	Section 1.5 does not include the	ORS 517 has regulations on	Identification of state regulations.	Perform a detailed review of all	Highest Priority.	Appears satisfactory

#3.	activities.	Oregon Department of Geology and Mineral Industries as an agency with a regulatory requirement.	mining and reclamation activities and are not in the "list of permits, approvals, and consultations identified for construction..."		required permits, approvals, and consultations.	Immediate Attention.	in FEIS.
Section 4.1 Global Item #4.	Risk to the public and environment.	Risk evaluation throughout the section is performed with respect to the facility or pipeline and not the risk that the facility or pipeline may pose to the public or environment.	Risk level to the facility or pipeline is not directly correlated to risk to the public and environment.	Risk that the facility and pipeline pose to the public and environment.	Perform comprehensive risk analyses including potential impact to the public and environment, and include uncertainty levels.	Highest Priority. Immediate Attention.	Comments remain.
Section 4.1. Global Item #5	In areas of possible permanent ground displacement, such as from slope instability, periodic inspection and safety measures are needed	How would future movement be anticipated and detected?	Monitoring and corrective actions are not adequately addressed.	Identification of areas of future movement and quantification of movement has not been adequately addressed.	Include identification of locations of future movement, analyses of magnitude and rate of movement, and a monitoring program with regularly scheduled inspections and post event inspections, such as after earthquakes or storms.	Highest Priority. Immediate Attention.	Comments remain.
Section 4.1, Global Item #6	Naturally occurring hazardous substances/minerals maybe encountered and/or excavated during construction.	Naturally occurring hazardous substances/minerals maybe encountered and/or excavated during construction. It is	There is no substantial discussion of how naturally occurring hazardous substances/minerals would be	A substantial discussion of how naturally occurring hazardous substances/minerals would be evaluated,	Add substantial discussion of how naturally occurring hazardous substances/minerals would be evaluated,	Before FEIS	Appears satisfactory in FEIS.

		possible the same fault/shear zones the mercury mineralization followed in the Red Cloud mercury mine and the two nearby mercury prospects, Elkhorn and Nivinson may be uncovered during pipeline construction. It is also possible that construction activities could possibly expose unexpected rock alteration and mineralization in other areas. Copper mineralization also occurs along segments of the proposed pipeline route.	evaluated, mitigated, and possibly stored if encountered.	mitigated, and possibly stored if encountered.	mitigated, and possibly stored if encountered.		
Section 4.1.1, paragraph 1	"...located in a moderate- to low-activity seismic region..."	This statement is inaccurate and needs reference to scientific data.	Inaccurate statement. Please check the USGS seismic hazard data and incorporate.	Inaccurate statement with no reference to published scientific or site-specific data.	Scientific data to support the statement.	Before FEIS	Comments remain.
section 4.1.2.3, paragraph 1	"No faults are reported at the site, and the Coos Bay area is located in a region with historically moderate to low..."	Statement is inaccurate and needs reference to scientific data.	Inaccurate statement. Please check all references including Atwater et al., 2005	Inaccurate statement. Please check all references including Atwater et al., 2005	Perform comprehensive literature search and reference Atwater et al., 2005.	Before FEIS	Comments remain.
Section 4.11, paragraph 2	"Impacts to the surface geology are	Large ship traffic within the	Statement needs to be clarified	Needs clarification.	There is scientific evidence from	Before FEIS	Appears satisfactory

	not anticipated in the waterway for LNG marine traffic"	navigation channel could contribute to localized shoreline erosion due to the development of boat wakes. This will depend on a variety of factors including the vessel speed, load (weight), hull design and the width of the channel.	including discussion on the role of boat wakes to the shore especially since the Coos Bay navigation channel is very narrow, with steep sides.		around the world that document the effects of boat wakes at the shore.		in FEIS
Section 4.1.1, paragraph 5	"...a site-specific tsunami hazard analysis to develop..."	Needs to be done according to ORS 455.446	No reference to ORS 455.446, 455.447	No reference to ORS 455.446, 455.447	Needs to be done according to ORS 455.446	Before FEIS	Appears satisfactory in FEIS.
Section 4.1.2.3, paragraph 3	"Eleven faults are located with 150km..."	We searched a 75 km radius (roughly ½ of the distance reported in the DEIS and found at least 19 named faults in the Oregon Geologic Data Compilation (OGDC).	Inaccurate statement. Please check all sources of fault data, including OGDC and Madin, 1995 (Geologic map of the Charleston quadrangle, Coos County, Oregon)	Previously mapped faults have not been listed.	Perform comprehensive literature search for known faults.	Before FEIS	Comments remain.
Section 4.1.2.3 (subsidence), paragraph 2	"subsidence would not likely generate damaging differential settlements..."	Non-differential subsidence can also cause damage and should be evaluated.	The applicant does not provide any basis for this claim, such as references to past performances, thus appears inadequate	"Subsidence would not likely generate damaging differential settlement" needs to be substantiated	Perform comprehensive research to substantiate that subsidence would not likely generate damaging differential settlement	Before FEIS	Comments remain.
Section 4.1.2.4 (Tsunami Hazards)	"As described above..."	Many stated values in this section of the report, including barrier	The applicant does not acknowledge that all recommended	Acknowledgment that all recommended numbers in this	Acknowledge that all recommended numbers in this section need	Before FEIS	Comments remain.

		heights, structure foundation elevations, etc. should be revised after the recommended site-specific tsunami modeling is performed.	numbers in this section need possible revision after recommended site-specific tsunami modeling is performed.	section need possible revision after recommended site-specific tsunami modeling is performed.	possible revision after recommended site-specific tsunami modeling is performed.		
Section 4.1.2.6, (controlling Seismic Events)	Controlling seismic events and faults	The info is the report is out of date and does not reflect current scientific consensus	The magnitudes, recurrence intervals and weights do not correlate with current scientific thinking	Information from the 2008 US Geological Survey ground motion maps and input parameters and scientific journals	Complete updated analyses with current seismic data	Before FEIS	Comments remain.
Section 4.1.2.6, (controlling Seismic Events)	"These are a megathrust earthquake with a moment magnitude of 8.3 and …"	The selection of a higher magnitude, lower interval and vise verse and the equal weighting of 1.0 in the PSHA needs further clarification in the EIS.	The selection of a higher magnitude, lower interval and vise verse and the equal weighting of 1.0 in the PSHA needs further clarification in the EIS.	The selection of a higher magnitude, lower interval and vise verse and the equal weighting of 1.0 in the PSHA needs further clarification in the EIS.	Further clarification.	Before FEIS	Comments remain.
Section 4.1.2.6, (Input Ground Motions)	"The OBE was taken as the earthquake ground motions having…"	The difference between PHA=0.48g for a return period of 500 years and PHA=0.27g for a return period of 475 years needs clarification in the EIS.	The PHA values are very different for little difference in return period time and needs clarification in the EIS.	The PHA values are very different for little difference in return period time and needs clarification in the EIS.	Further clarification.	Before FEIS	Comments remain.
Section 4.1.3.2, paragraph 3	"In addition to intense, long-duration shaking, these…"	In section 4.1.2.3, up to 1.5 meters (roughly 5 feet) of subsidence was referenced and in this section up to 3	Inconsistent with prior subsidence estimate	Lacks reference to Leonard et al., 2004	Use prior subsidence estimate of 0-1.5 m and reference Leonard.	Before FEIS	Appears satisfactory in FEIS.

		feet (roughly 0.9 meters) is referenced.					
Section 4.1.3.2, paragraph 3	"Typical recurrence intervals are thought..."	Recent research indicates these intervals may be significantly shorter in the proximity of the proposed siting.	Does not consider recent scientific findings of much shorter recurrence intervals	E.g., Review of Goldfinger and others, 2008 in BSSA and other publications	Complete updated evaluation with current seismic data.	Before FEIS	Appears satisfactory in FEIS.
Section 4.1.3.2 (Liquefaction Potential), paragraph 3	"The potential for liquefaction along the proposed pipeline was evaluated based on..."	All existing studies on liquefaction and other earthquake induced hazards should be reviewed in order to evaluate potential hazards.	Does not consider readily available published literature for the region	E.g., Review of Wang and Wang, 2000 (IMS-20) Klamath County EQ Hazards and all other existing hazard maps.	Complete updated evaluation.	Before FEIS	Comments remain.
Section 4.1.3.2 (Landslide Hazards)	General comment on landslide hazards section.	Recent publication on landslides and pipelines should be reviewed and referenced.	Does not consider recent scientific literature on this topic.	E.g., Review of Baum and others, 2008, USGS OFR 2008–1164, Landslide and Land Subsidence Hazards to Pipelines; Burns and others, 2008 (SLIDO) Statewide Landslide Database,	Complete updated evaluation.	Before FEIS	Appears satisfactory in FEIS.
Section 4.1.3.2 (Landslide Hazards), paragraph 1	"The initial office review identified existing landslides as well as areas..."	0.25 mile distance from the pipeline is not an adequate distance to evaluate in areas of large landslides.	Many areas of slope instability can extend distances of miles, thus 0.25 miles in not sufficient	An assessment that covers areas of potential slope instability	Complete assessment that includes global failures that could impact pipeline and facilities.	Before FEIS	Comments remain.
Section 4.1.3.2 (Landslide Hazards), paragraph 1	"..by reviewing published maps (eg Hofmeister et al, 2002)..."	All existing studies on liquefaction and other earthquake induced hazards should be reviewed in order to evaluate	Does not consider readily available scientific literature on this topic	E.g., Review of Wang and Wang, 2000 (IMS-20), Burns and others, 2008 (SLIDO) Statewide	Complete updated evaluation that includes a comprehensive literature search.	Before FEIS	Comments remain.

		potential hazards.		Landslide Database, Hofmeister, 2000 (SP-34) Landslide database from 1996-97 and all other existing hazard maps.			
Section 4.1.3.2 (Landslide Hazards), paragraph 1	"At about the same time, Pacific Connector obtained LiDAR...."	What is the extent of the lidar data used to evaluate landslides?	If the extent is only 0.25 miles, this is not adequate.	Lidar or other suitable data for analyses for areas with possible hazards	Clarify the data used and substantiate it's adequacy or improve	Before FEIS	Comments remain.
Section 4.1.3.2 (Landslide Hazards), paragraph 3	"Therefore, we recommend that:..."	If there is no lidar or aerial photograph coverage for landslide hazard evaluation, then it should be collected.	Evaluation of landslide hazards without adequate remote sensing data and imagery will likely result in inadequate evaluation of the hazard.	Lidar or other suitable data for analyses for areas with possible hazards	Clarify the data used and substantiate it's adequacy or improve	Before FEIS	Comments remain.
Section 4.1.3.2 (Landslide Hazard Types and Their...), paragraph 2	" The larger deep-seated landslide complexes may occupy several square miles of terrain..."	If landslides occupy several miles of terrain, this should be the minimal extent of evaluation, not 0.25 miles.	The geographical extent of the evaluation does not adequately cover the extent of the hazards that may impact the pipeline.	Analyses of areas with possible hazards	Evaluation of landslide hazard should extend to a minimum of the top of the adjacent ridges on both sides of the pipeline.	Before FEIS	Comments remain.
Section 4.1.3.2 (Rapidly Moving Landslide...), paragraph 2	"The potential for rapidly moving landslides..."	The reference (Hofmeister, et al., 2002) does not discuss the potential in Klamath County (e.g., east of MP 166).	In areas with no existing maps for Klamath County, hazards may likely exist and require evaluation.	Analyses of areas with possible hazards regardless of available maps	Evaluation of landslide hazards should include areas where maps do not exist, e.g., east of MP 166.	Before FEIS	Comments remain.
Section 4.1.3.2 (Rapidly Moving	"Slopes east of MP 166 were reviewed to identify..."	Lidar or other suitable imagery should be used to identify debris flow	ODF guidelines (2000) were developed pre-lidar and should be used	Analyses of areas with possible hazards that could impact the	Evaluation of landslide hazard should include areas where maps	Before FEIS	Comments remain.

Landslide…), paragraph 2		fans and hazard areas.	only as a guide along with lidar-based methods.	proposed pipeline	do not exist including east of MP 166		
Section 4.1.3.2 (Rapidly Moving Landslide…), paragraph 4	"The initial relative risk to the proposed pipeline…"	The assumption that deposition=low risk is not substantiated	For most debris flows the velocity, volume, water content, and therefore potential to damage increase from source to deposition.	Assumptions do not correlate with recent research findings.	Consider recent research findings on scouring of debris flow deposits, e.g., 1996 Dodson, OR debris flow scouring of pre-existing fans, which suggests that the deposition area does not have low risk.	Before FEIS	Comments remain.
Section 4.1.3.2 (Stream Migration and Scour Hazard…)	"Based on a detailed analysis of the 25-year and 50-year CMZs, Pacific Connector would design all waterbody crossings for the 50-year condition"	Channel migration zone (CMZ) hazard should be evaluated with respect to the design life and/or the proposed planned life of the project. On page 2-115 "Jordan Cove does not anticipate abandonment of the proposed LNG import terminal facility in the foreseeable future (more than 30 years)."	If design life and/or planned life are more than 30 years, than 50-year and 100-year CMZs are appropriate analysis time frames.	Hazard analysis should be done well beyond the design life and/or planned life of the proposed system.	Hazard analysis and recommendations for mitigation should be based well beyond the design life and/or planned life of the proposed system (IE 50-year and 100-year CMZs).	Before FEIS	Appears satisfactory in FEIS.
Section 4.1.3.2 (Stream Migration and Scour Hazard…)	"A summary of the scour results is presented below and in table 4.1.3.2-3:"	Presents results of the CMZ and scour analyses but does not appear to provide any information about how they intend to	Needs explanation and recommendations for mitigation.	Provide recommendations for mitigation.	Provide recommendations for mitigation.	Before FEIS	Comments remain.

		respond at those sites subject to extreme CMZ or scour.					
Section 4.1.3.4 (Rock Sources and Permanent Disposal Sites), paragraph 1	"Disposal sites were identified..."	Was the stability of the disposal sites evaluated? Are any of them in existing or potential landslide areas?	Proposed disposal sites may not be suitable due to potential hazards.	Proposed disposal sites do not appear to have been studied for their feasibility.	Evaluate suitability of proposed disposal sites, including potential geological hazards	Before FEIS	Comments remain.
Section 4.1 (general)		It's not clear whether the engineering design assessment (presumably to be completed if licensing goes forward) will incorporate new tsunami scenarios. It is likely that DOGAMI mapping for Coos Bay will include at least one scenario that is larger than the 579 yr recurrence interval they use.				Before Design	New Comment (FEIS)
p. 4.1-7, (FEIS)	, "According to NOAA..."	NWS warnings are not designed for local Cascadia tsunamis. The text does not indicate that the authors are aware of the different hazards (distant vs. local tsunami) or understand the purpose of NWS				Before Design	New Comment (FEIS)

		warning system.					
p. 4.1-8 paragraph 3(FEIS)	"Assuming that the early warning systems…are in place and working,…"	The Coast Guard would not provide such a role in the event of a tsunami. The proposed response plan, including details of disconnection between LNG and BOG needs to be clarified in detail.				Before Design	New Comment (FEIS)

ATTACHMENT #2
Oregon Department of Fish and Wildlife (ODFW) Comments
On the Jordan Cove Energy and Pacific Connector Gas Pipeline Project
Final Environmental Impact Statement (FEIS)

Page and Section	Summary of ODFW Wildlife Comments on DEIS	How was it Addressed in FEIS?	Comment Satisfied?
4.4 35-36	Reestablishment of shrub community	Moved from short-term to long-term	Satisfactory
4.4-41	Reseeding mix	Seeding mix still emphasize natives. Desirable non-natives may be appropriate. ODFW is listed as a consulting agency on seed mixes for winter range. Ceanothus seeding will probably not be successful without scarification.	Partially Met
4.4-41	Restoration Plans	No additional detail offered	Unsatisfactory
4.4-41	Monitoring of disturbed sites for revegetation success for two years	Monitoring will now continue until successful.	Satisfactory
4.4-42	Reforestation prescriptions do not outline density or pattern of plantings.	No additional detail offered	Unsatisfactory
4.4-42	Boulders used to block access to ROW, no monitoring of success	No additional monitoring offered at this point.	Unsatisfactory
4.4-43	Use of herbicides to treat the 30' maintenance corridor	Herbicides will only be used to treat invasives	Satisfactory
4.4-44	Noxious weed plan and timeframe	FEIS still states plan will be developed with no timeframe established. There is a general outline of issues in FEIS. The project cannot be properly evaluated until the noxious weed plan is deemed effective.	Unsatisfactory
4.4-46	Who was consulted on Noxious Weed Control Plan	Oregon Department of Agriculture is now listed as being consulted, ODFW still is not listed	Partially Met
4.4-46	Weed monitoring locations	Weed monitoring will occur at specific locations. It would be more appropriate to do some broadscale monitoring. The BLM has suggested this approach on their lands and it should be implemented throughout the project.	Unsatisfactory
4.4-56	Use of ODFW planting recommendation	ODFW not consulted on seed mix, except on winter range.	Unsatisfactory
4.4-57	Creation of snags	No additional detail on density of snag creation. Nest boxes are still a proposed mitigation option in spite of ODFW's recommendation to the contrary.	Unsatisfactory
4.4-61	Timber for habitat improvements	No detail offered about numbers of logs that <u>may</u> be made available for habitat projects. May be offered in Timber Extraction Plan, will rely on timber cruise.	Unsatisfactory
4.4-61	Avoidance of nesting period.	No mention of nesting timeframe.	Unsatisfactory
4.4-62	Peregrine Falcon Protection	No mention of Peregrine Falcons	Unsatisfactory

Page and Section	Summary of ODFW Wildlife Comments on DEIS	How was it Addressed in FEIS?	Comment Satisfied?
4.4-65	chipping/fertilizer	FEIS still proposes wood chipping and application of fertilizer	Unsatisfactory
4.5-6	Great Blue Heron Rookery	Proposes to develop a mitigation plan with ODFW, not delay activity.	Unsatisfactory
4.5-6	Nest Searches	Still proposes nest searches occasionally within nesting season, against ODFW's recommendation to conduct all vegetation removal outside of nesting season.	Unsatisfactory
4.5-7	Take should be used instead of disturbance	Could not find the reference.	?
4.5-7	Herptile surveys should take place during spring - early/mid summer, not prior to construction	Issue not addressed.	Unsatisfactory
4.5-8	Don't use Breeding Bird Survey (BBS) data for trends	Still uses BBS data to analyze trends.	Unsatisfactory
4.5-9	cowbird is a parasitic bird	Change was made.	Satisfactory
4.5-11	Ospreys and peregrine falcon recommendations	Recommendations not incorporated.	Unsatisfactory
4.5-19	Timber clearing timeframe avoids bird nesting season	Timber clearing slated to begin in May. However, routine vegetation maintenance once the project is in operation will occur outside of the nesting season.	Partially Met
4.5-35	Prosed should be proposed	Change was made.	Satisfactory
4.5-36	Big Game Forage should not be limited to Winter Range Areas	Still specifies winter range areas as opposed to all disturbed sites, may be addressed in other sections.	Unsatisfactory
4.6	No discussion of barred owls effects on spotted owls	Barred owls are mentioned on 4.5-32 and movement along corridor considered. No remedies are proposed.	Partially Met
4.6-55	Large Woody Debris (LWD) should not be used to replace removed riparian timber.	Still utilizes LWD to mitigate for loss of riparian habitat.	Unsatisfactory
4.6-91	Peregrine Falcon Protection	No mention of Peregrine Falcons	Unsatisfactory

CERTIFICATE OF SERVICE

I hereby certify that I have this day served by electronic mail, and for those parties for which service is not specified at an electronic mail address, by U.S. mail, first class postage prepaid, the foregoing documents on all parties listed on the official service list complied on this proceeding.

Date: May 29, 2009.

Janet L. Prewitt, #85307
Assistant Attorney General