
APPENDIX R

Comments on the Draft EIS and Responses

(continued)

		Goldfinger (2017) revised downward (i.e. more frequent) the recurrence of CSZ earthquakes for the central northern Oregon coast to ~340 years. He estimates that the conditional probability of a major event taking place is 16-22 % chance in the next 50 years.
2.13.3-JCEP-RR13-Public-3a-of-7-2.pdf, p29 to33	"As it can be seen from the figures, the comparison shows a very good agreement between the two models for surface elevation and flow velocities of the leading wave as well as time of tsunami arrival at all stations."	We agree, though note that there are significant phase differences in the tsunami time series after the initial wave arrives. Please explain these discrepancies.
2.13.3-JCEP-RR13-Public-3a-of-7-2.pdf, p34	"Based on the comparison of model results presented in Section 4.0 between M&N and DOGAMI, the simulation used uniform roughness defined by a Manning number of 0.0313 and uniform eddy viscosity defined by a Smagorinsky coefficient of 0.28"	This is confusing. Do you mean another suite of modeling was performed where a uniform surface roughness was used that equaled 0.0313? Please clarify with respect to a previous comment noted above on surface roughness.
2.13.5-JCEP-RR13-Public-4-of-7.pdf, p10	"According to a study published by the U.S. Geological Survey in 2008, there is a 10% probability that a CSZ earthquake of magnitude 8–9 will occur over the next 30 years (DOGAMI, 2012)."	USGS (2012) estimated a full margin rupture at 7-12% next 50 years; 37-42% for southern Oregon. Goldfinger (2017) revised downward (i.e. more frequent) the recurrence of CSZ earthquakes for the central northern Oregon coast to ~340 years. He estimates that the conditional probability of a major event taking place is 16-22 % chance in the next

SA2-316 cont.

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SA2-317 See comment response CO28-47.

SA2-318 See comment response CO28-47.

SA2-319 See comment response SA2-324.

<p>DOGAMI memo dated November 6, 2017.</p> <p>DOGAMI Comments Related to Geological Hazards and the Proposed Jordan Cove LNG Terminal and Pacific Connector Gas Pipeline.</p>	<p>How the proposed facilities may negatively impact the tsunami hazards in the surrounding areas and safety of people;</p>	<p>50 years.</p> <p>This issue was raised in the DOGAMI November 6, 2017 review memo (comment #3) and has still not been adequately addressed. What are the impacts to the surrounding area? What are the tsunami evacuation plans during construction? What are the tsunami evacuation plans during operations? What are negative impacts to the people in the surrounding area and revised evacuation plans for those areas?</p>
<p>DOGAMI memo dated November 6, 2017.</p> <p>DOGAMI Comments Related to Geological Hazards and the Proposed Jordan Cove LNG Terminal and Pacific Connector Gas Pipeline.</p>	<p>Tsunami scour in the nearby area and how the Maximum Considered Tsunami (MCT), that is, the design tsunami, may impact the local landforms, including the dunes, and proposed facilities and safety of people;</p>	<p>This issue was raised in the DOGAMI November 6, 2017 review memo (comment #4) and has still not been adequately addressed.</p>
<p>DOGAMI memo dated November 6, 2017.</p> <p>DOGAMI Comments Related to Geological Hazards and the Proposed Jordan Cove LNG Terminal and Pacific Connector Gas Pipeline.</p>	<p>Dynamic erosion of the North Spit dunes in response to the design tsunami and how it may impact tsunami runoff at the proposed facilities and safety of people;</p>	<p>This issue was raised in the DOGAMI November 6, 2017 review memo (comment #5) and has still not been adequately addressed.</p>

SA2-317

SA2-318

SA2-319

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<p>Pipeline. DOGAMI memo dated November 6, 2017. DOGAMI Comments Related to Geological Hazards and the Proposed Jordan Cove LNG Terminal and Pacific Connector Gas Pipeline.</p>	<p>Tsunami debris impacting the nearby area and how it may impact the local landforms, including the dunes, proposed facilities and safety of people;</p>	<p>This issue was raised in the DOGAMI November 6, 2017 review memo (comment #6) and has still not been adequately addressed.</p>	<p>SA2-320</p>
<p>DOGAMI memo dated November 6, 2017. DOGAMI Comments Related to Geological Hazards and the Proposed Jordan Cove LNG Terminal and Pacific Connector Gas Pipeline.</p>	<p>Section 6.4.1.4 Tsunamis of the Resource Report 6 Jordan Cove Energy Project refers to the existing Trans Pacific Parkway/US- 101 Intersection as being in the tsunami inundation zone. The Applicant states, "To maintain grades, improvements to the intersection will not remove the intersection from the tsunami inundation zone." There appears to be only one access road for the proposed Jordan Cove LNG facility. This access road is in the tsunami inundation zone. In order for the access road to be reliably useable for safety purposes after a future tsunami disaster, it would need to incorporate both earthquake and tsunami resistant designs. These designs would need to factor in potential cyclic strain, liquefaction and lateral spreading from ground shaking. In addition, the designs would need to account for tsunami forces, including flooding, velocities, scour, buoyancy and debris impact. Has this roadway and access to the proposed facilities been evaluated for possible damage due to tsunami forces, such as tsunami scour and tsunami debris impact? Please provide analyses, results and, if needed, proposed mitigation that addresses both post-earthquake and post-tsunami safety for proposed berms, roadways and elevated ground. Related documents should be complete, clearly organized and presented to allow for peer review by qualified specialists.</p>	<p>This issue was raised in the DOGAMI November 6, 2017 review memo (comment #15) and has still not been adequately addressed.</p>	<p>SA2-321</p>
<p>DOGAMI memo dated November 6, 2017. DOGAMI Comments Related to Geological</p>	<p>The Applicant states (on page 8): "The PCGP Project is located in relatively sheltered areas of Coos Bay, where the effects of a tsunami on the pipeline are expected to be relatively minor". DOGAMI requests the tsunami analyses that supports this statement. What tsunami modeling was conducted for the proposed pipeline alignment? What are the tsunami flow depths used to estimate scour potential? Were tsunami scouring forces evaluated for both the</p>	<p>This issue was raised in the DOGAMI November 6, 2017 review memo (comment #18) and has still not been adequately addressed.</p>	<p>SA2-322</p>

SA2-320 The Coast Guard issued a Letter of Recommendation on May 10, 2018 stating that Project would be considered suitable for accommodating the type and frequency of LNG marine traffic associated with this Project. The probability of tsunami and design to be resilient against a 2,500 year event is described in the final EIS. A tsunami study was performed and filed publicly in the application as appendix 13.I.

SA2-321 Multiple entry points are located throughout the facility. In addition, the proposed site elevation would be above the FEMA flood zone. Also, see comment response CO28-47.

SA2-322 Section 4.1.2.3 addresses tsunami hazards in relation to the pipeline. The portion of the pipeline near the LNG terminal occurs in the relatively sheltered areas of Coos Bay, where the effects of a tsunami on the pipeline would be expected to be relatively minor. Although tsunami hazards potentially exist within Coos Bay because of its relative position to the Pacific Ocean, the portions of the Pipeline that are crossing waterbodies that have the potential to be impacted by tsunami scour, would be installed using HDD methods at depths well below potential scour depths that might result from flooding, tidal currents, or tsunamis.

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Hazards and the Proposed Jordan Cove LNG Terminal and Pacific Connector Gas Pipeline.	incoming (inflow) and outgoing (outflow) tsunami waves?	
DOGAMI memo dated November 6, 2017. DOGAMI Comments Related to Geological Hazards and the Proposed Jordan Cove LNG Terminal and Pacific Connector Gas Pipeline.	The Applicant states (on page 46): "As currently planned the portions of the pipeline that are crossing waterbodies that have the potential to be impacted by tsunami scour, will be installed using trenchless methods at depths well below the potential scour depths. Therefore, tsunami scour is not considered a hazard to the pipeline project." The Applicant further states, "The modeling analysis showed that some temporary scour may occur in Coos Bay along the pipeline during inundation of the tsunami (approximately 1 to 2 hours)." The Applicant indicates that scour from tidal currents and river flows are approximately 3 feet at the pipeline crossing, and "it is recommended to use a 3-foot depth of scour resulting from tsunami impact". DOGAMI requests the Applicant provide information on maximum potential scour depth from a Cascadia tsunami. Also, DOGAMI requests information on the minimum factor of safety the Applicant applied to address the maximum potential scour depth from Cascadia tsunamis along the proposed alignment in greater Coos Bay area.	This issue was raised in the DOGAMI November 6, 2017 review memo (comment #38) and has still not been adequately addressed.
DOGAMI memo dated November 6, 2017. DOGAMI Comments Related to Geological Hazards and the Proposed Jordan Cove LNG Terminal and Pacific Connector Gas Pipeline.	The Applicant, in general, found that their MIKE21 modeling matched the DOGAMI L1 first wave arrival (which reflects the largest wave), although wave amplitudes and phase differences were observed for later wave arrivals. No explanation is provided to account for the latter differences. DOGAMI requests further discussion of differences in the modeling results after the initial wave arrival to account for phase and amplitude differences observed in the modeling results.	This issue was raised in the DOGAMI November 6, 2017 review memo (comment #39) and has still not been adequately addressed.
DOGAMI memo dated November 6, 2017. DOGAMI Comments Related to	DOGAMI requests that the Applicant provide peer reviewed documentation that describes the MIKE21 FM model and its ability to model tsunami inundation. Many issues are unclear, for example, does MIKE21 adequately account for the (vertical) wave runup on the wall and/or composite structure?	This issue was raised in the DOGAMI November 6, 2017 review memo (comment #40) and has still not been adequately addressed.

SA2-322 cont.

SA2-323

SA2-324

SA2-325

SA2-323 See comment response SA2-324.

SA2-324 The risk of tsunami and design to be resilient against a 2,500 year event is described in the FEIS. A Tsunami study was performed and filed publicly in the application as appendix 13.I.

SA2-325 See comment response SA2-324.

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<p>Geological Hazards and the Proposed Jordan Cove LNG Terminal and Pacific Connector Gas Pipeline.</p>			
<p>DOGAMI memo dated November 6, 2017. DOGAMI Comments Related to Geological Hazards and the Proposed Jordan Cove LNG Terminal and Pacific Connector Gas Pipeline.</p>	<p>DOGAMI requests that the Applicant provide further explanation of the approach used to define the digital elevation model (DEM). In particular, how does the developed grid differ from the tsunami grids generated by NOAA's National Center for Environmental Information (NCEI). These data may be obtained here: https://www.ngdc.noaa.gov/mgg/inundation/tsunami/.</p>	<p>This issue was raised in the DOGAMI November 6, 2017 review memo (comment #41) and has still not been adequately addressed.</p>	<p>SA2-325 cont. SA2-326</p>
<p>DOGAMI memo dated November 6, 2017. DOGAMI Comments Related to Geological Hazards and the Proposed Jordan Cove LNG Terminal and Pacific Connector Gas Pipeline.</p>	<p>DOGAMI requests that the Applicant explain to what extent has the model been tuned to match the DOGAMI L1 scenario and inundation results.</p>	<p>This issue was raised in the DOGAMI November 6, 2017 review memo (comment #42) and has still not been adequately addressed.</p>	<p>SA2-327</p>
<p>DOGAMI memo dated November 6, 2017. DOGAMI Comments Related to Geological Hazards and the Proposed Jordan</p>	<p>DOGAMI requests that the Applicant provide a better depiction of the three cases used to define the design crests. It is unclear whether the design reflects a berm, wall, or a composite structure around the perimeter of the entire complex, or portions of the complex. Please provide figures that characterize the proposed design.</p>	<p>This issue was raised in the DOGAMI November 6, 2017 review memo (comment #43) and has still not been adequately addressed.</p>	<p>SA2-328</p>

SA2-326 See comment response SA2-324.

SA2-327 Numerical models were used to simulate the inundation at the proposed project site -caused by Scenario L1. Also, see comment response SA2-324.

SA2-328 The design reflects the entire project site. Also, see comment response SA2-324.

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Cove LNG Terminal and Pacific Connector Gas Pipeline.			SA2-328 cont.
DOGAMI memo dated November 6, 2017. DOGAMI Comments Related to Geological Hazards and the Proposed Jordan Cove LNG Terminal and Pacific Connector Gas Pipeline.	DOGAMI requests that the Applicant explain why mean high water (MHW) was used as opposed to MHHW (as used by DOGAMI).	This issue was raised in the DOGAMI November 6, 2017 review memo (comment #44) and has still not been adequately addressed.	SA2-329
DOGAMI memo dated November 6, 2017. DOGAMI Comments Related to Geological Hazards and the Proposed Jordan Cove LNG Terminal and Pacific Connector Gas Pipeline.	Values of future sea level rise (SLR) presented by the Applicant are based on existing (historical) trends derived for the Charleston tide gauge. Based on its current rate, estimates were made out into the future (i.e. 30 years). This is an overly simplistic approach that assumes the past is the key to the future and hence discounts possible acceleration of SLR in the future. A more effective approach would be to base future estimates on the National Research Council (2012) SLR study that was completed for the US West Coast. National Research Council estimates account for expected local tectonic changes as well eustatic and steric responses and are a more reasonable (and current) estimates for the future. Please address SLR using current scientific data and methods.	This issue was raised in the DOGAMI November 6, 2017 review memo (comment #45) and has still not been adequately addressed.	SA2-330
DOGAMI memo dated November 6, 2017. DOGAMI Comments Related to Geological Hazards and the Proposed Jordan Cove LNG Terminal and Pacific	Provide analysis of the potential role of sediment erosion of the North Spit dunes caused by the design tsunami. Research on the US East Coast suggests that sediment erosion during a tsunami may be significant and could impact inundation extents and runup (Tehrani et al., 2015, 2016; Tehrani et al., 2016). This notion is also supported by field studies following the March 11, 2011 Tohoku, Japan tsunami (Goto et al., 2012; Tanaka et al., 2012).	This issue was raised in the DOGAMI November 6, 2017 review memo (comment #46) and has still not been adequately addressed.	SA2-331

SA2-329 Models are slightly different, the result produced by DOGAMI are also a forecast rather than measurements. A safety factor of 1.3 was applied to the results of tsunami numerical modeling to further increase water surface elevations referenced to MHW in the project area. For accuracy, the model comparisons were performed in the Tsunami study. See comment response SA2-324.

SA2-330 As discussed in the FEIS, NOAA projected SLR (intermediate values) have been considered in the proposed design.

SA2-331 See comment response SA2-324.

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<p>Connector Gas Pipeline. DOGAMI memo dated November 6, 2017. DOGAMI Comments Related to Geological Hazards and the Proposed Jordan Cove LNG Terminal and Pacific Connector Gas Pipeline.</p>	<p>Provide analyses of the potential role of tsunami wave reflection/focusing/defocusing as the tsunami impacts the proposed LNG facilities and its possible public safety implications for the surrounding Coos Bay environment. Tsunami waves that impact against proposed protective structures (e.g., berm, wall or composite structure) and the subsequent transfer of that energy to other areas within the bay is a public safety concern. DOGAMI requests additional modeling for the purposes of addressing public safety. All documents should be complete, clearly organized and presented to allow for peer review by qualified specialists.</p>	<p>This issue was raised in the DOGAMI November 6, 2017 review memo (comment #47) and has still not been adequately addressed.</p>
<p>DOGAMI memo dated November 6, 2017. DOGAMI Comments Related to Geological Hazards and the Proposed Jordan Cove LNG Terminal and Pacific Connector Gas Pipeline.</p>	<p>DOGAMI requests that the Applicant provide analysis of maritime vessels and their potential to become ballistics within the bay be submitted to Oregon Department of Energy as part of the Emergency Response Plan. Maritime evacuation planning in response to the tsunami should be conducted and provided.</p>	<p>This issue was raised in the DOGAMI November 6, 2017 review memo (comment #48) and has still not been adequately addressed.</p>
<p>DOGAMI memo dated November 6, 2017. DOGAMI Comments Related to Geological Hazards and the Proposed Jordan Cove LNG Terminal and Pacific Connector Gas Pipeline.</p>	<p>DOGAMI requests that the Applicant provide analysis on the potential for off-site debris impacting the facilities and the potential ramifications with respect to public safety.</p>	<p>This issue was raised in the DOGAMI November 6, 2017 review memo (comment #49) and has still not been adequately addressed.</p>
<p>DOGAMI memo</p>	<p>DOGAMI requests that the Applicant provide information on</p>	<p>This issue was raised in</p>

SA2-331 cont.

SA2-332

SA2-333

SA2-334

SA2-335

SA2-332 The Coast Guard issued a Letter of Recommendation on May 10, 2018 stating that Project would be considered suitable for accommodating the type and frequency of LNG marine traffic associated with this Project. The probability of tsunami and design to be resilient against a 2,500 year event is described in the final EIS. A tsunami study was performed and filed publicly in the application as appendix 13.I.

SA2-333 See comment responses CO32-31.

SA2-334 Due to the proposed site elevation, off-site debris not expected to impact the facilities.

SA2-335 See comment response SA2-324.

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<p>dated November 6, 2017. DOGAMI Comments Related to Geological Hazards and the Proposed Jordan Cove LNG Terminal and Pacific Connector Gas Pipeline.</p>	<p>each of the DEMs used for the tsunami model. For example, were three different DEMs used that reflect the three different case studies: berm, wall and composite structure? Please provide the DEMs.</p>	<p>the DOGAMI November 6, 2017 review memo (comment #50) and has still not been adequately addressed.</p>
<p>DOGAMI memo dated November 6, 2017. DOGAMI Comments Related to Geological Hazards and the Proposed Jordan Cove LNG Terminal and Pacific Connector Gas Pipeline.</p>	<p>Elevated structures, including elevated berms, used for assembly areas in the tsunami inundation zone are subject to ASCE 7-16 chapter 6 requirements. The Applicant must design all elevated structures in the ASCE tsunami zone to be used as assembly areas in accordance with ASCE 7-16 chapter 6 to ensure public safety. Design documents should be complete, clearly organized and presented to allow for peer review by qualified specialists.</p>	<p>This issue was raised in the DOGAMI November 6, 2017 review memo (comment #51) and has still not been adequately addressed.</p>
<p>PCGP RR6 App A.6 Part 1, section 4.5.3.2, page 30</p>	<p>The applicant states it used ODF guidelines and DOGAMI RML hazard zones.</p>	<p>Provide a detailed landslide hazard analyses prepared by a qualified professional using current state of practice methods that include lidar as a base map for the proposed facilities and its surroundings. Document the analyses, data, assumptions, results, proposed mitigations, and any issues in a clear manner. Both the DOGAMI RML and ODF RML methods are for preliminary screening and/or used outdated data sources.</p>

SA2-335 cont.

SA2-336

SA2-337

SA2-336 See comment response SA2-332.

SA2-337 This is a comment on the Jordan Cove and Pacific Connector application, and not on the EIS prepared by FERC and the cooperating agencies. The State should work with the Applicant regarding their concerns with the application.

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DEIS, p4-18	“Mass-movement of rapid-shallow landslides is typically triggered by large, infrequent storm events.”	“infrequent” is a relative term. Define and reference this conclusion. There is data in SLIDO which confirms shallow landslides in the Tyea occurring within basins on the 5-10 year time frame.	SA2-338
DEIS, p 4-18	“These features can usually be identified on topographic maps or aerial photos based on distinctive contour or vegetative patterns.”	Lidar has been concluded to be the only definitive method for finding deep slides in western Oregon. Restate the sentence or provide modern reference to support this conclusion or complete mapping using lidar along the entire length of the route. Burns, W. J., 2007, Comparison of remote sensing datasets for the establishment of a landslide mapping protocol in Oregon. AEG Special Publication 23: Vail, Colo., Conference Presentations, 1st North American Landslide Conference.	SA2-339
DEIS, p 4-19	“Shallow-rapid landslides are unlikely to induce long-term strain to a pipeline, but rather more likely to expose the pipe and result in a loss of support where it crosses a debris slide source area.”	This is completely site dependent. If the pipe is at the surface, a shallow slide could run into the pipe. Define the situations where this occurs.	SA2-340
DEIS p 4-19	“The purpose of the first phase study was to identify existing landslides as well as areas susceptible to landslides within one-quarter mile of the initial alignment by reviewing published maps and digital data (Burns et al. 2011a, 2011b), aerial photographs and LiDAR-generated hillshade models. The purpose of following two phases was to further evaluate only those landslide hazard sites that represent potentially moderate or high risk to the pipeline, based on the results of the previous phase of evaluation.”	SLIDO is a compilation of published data and ranges from very poor older data from decades ago to the best available modern lidar based data. We don't recommend using it to make decisions about where to look	SA2-341

SA2-338 Specific studies and information that would define "infrequent" storm events is not available. High-risk active shallow landslides have been avoided to the extent possible; and the most recent updated LiDAR information as well as specific publicly-available publication data would be reviewed and evaluated prior to Project construction as described in the response to Comment SA2-43.

SA2-339 The statement has been taken out of context. The EIS repeatedly references and discusses the use of LiDAR to identify faults and landslides along the pipeline route. The most recent updated LiDAR information as well as specific publicly-available publication data would be reviewed and evaluated prior to Project construction as described in the response to Comment SA2-43.

SA2-340 The pipeline would be placed underground (see section 2).

SA2-341 The iterative evaluation of landslide hazards is described in the EIS including an appropriate level of detailed information that was available for the analyses.

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		further and in more detail. Site specific evaluations should be completed using lidar data in order to complete phase 1 correctly and completely.	SA2-341 cont.
DEIS p 4-20	"The intent was to identify areas that have some potential to be affected by RMLs so that they would be considered and evaluated appropriately."	Potential Rapidly Moving Landslide Hazards in Western Oregon (Hofmeister et al. 2002) is a preliminary screening tool and based on outdated datasets. Site specific evaluations including modern methods should be completed using lidar data in order to evaluate areas that have potential for shallow landslides.	SA2-342
DEIS p 4-20	"Based on available topographic mapping, no slopes along the pipeline alignment east of MP 166 exceed 65 percent or appear to be at high risk of rapidly moving landslide occurrence."	Conclusions should be supported by modern references. Site specific evaluations should be completed using lidar data to evaluate areas that have potential for shallow landslides.	SA2-343
DEIS p 4-20	"Using LIDAR where available, 10-meter digital elevation model, and aerial photography, Pacific Connector identified moderate and high risk RML sites along the proposed route."	Site specific evaluations should be completed using lidar data to evaluate areas that have potential for shallow landslides.	SA2-344
DEIS p 4-20	"Larger, deep-seated landslides can usually be identified from topographic maps (including LiDAR) and aerial photographs."	Lidar has been concluded to be the only definitive method for finding deep slides in western Oregon. Site specific evaluations should be completed using lidar data to evaluate areas that have potential for shallow landslides. Burns, W. J., 2007,	SA2-345

SA2-342 As further noted in this paragraph: "Pacific Connector has provided geologic hazards maps in Appendix F of the Geologic Hazards and Minerals Resources Report (GeoEngineers 2017a) that show the slopes in and around the pipeline alignment in western Oregon that have been mapped as potential RML hazards. Creation of the map involved the use of GIS modeling, checking and calibration with limited field evaluations, and making comparisons with historical landslide inventories."

SA2-343 This is a conclusion statement based on additional information that was previously provided in this section.

SA2-344 See response to comment SA2-43.

SA2-345 See response to comment SA2-43.

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		Comparison of remote sensing datasets for the establishment of a landslide mapping protocol in Oregon. AEG Special Publication 23: Vail, Colo., Conference Presentations, 1st North American Landslide Conference.
DEIS p 4-21	"the Klamath Falls region (with relatively recent events of magnitudes 5.9 and 6.0) and the Coos Bay region (with the potential for very large, long recurrence interval, Cascadia megathrust events)."	USGS Cascadia ground motion maps predict the effects of a Cascadia will be much further inland that just the Coos Bay region. The entire pipeline route is in a high seismic zone. Revise the sentence to reflect current science on earthquake hazards.
DEIS p 4-21	"Six landslides were identified as posing a moderate to high potential risk and were evaluated further in the field."	This number of landslides is very low compared to what has been recently mapped in areas just north of the pipeline route using lidar based mapping. Lidar has been concluded to be the only definitive method for finding deep slides in western Oregon. We recommend the applicant use lidar data to map the landslides. Burns, W.J., Duplantis, S., Jones, C.B., and English, J.T., 2012. Lidar data and Landslide Inventory Maps of the North Fork Siuslaw River and Big Elk Creek Watersheds, Lane, Lincoln, and Benton Counties: Oregon Department of Geology and Mineral Industries, Open-File Report O-12-

SA2-346

SA2-347

SA2-346 The following sentence has been added to the paragraph for clarification: "It is noted that the entire pipeline route is located in an area mapped by the USGS from high to moderate earthquake hazard based on ground motion predictions."

SA2-347 It is noted that LiDAR has been used to identify landslides along the pipeline route as described in the EIS. Also see response to Comment SA2-43.

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		<p>07. http://www.oregoneology.org/pubs/ofr/p-O-12-07.htm</p> <p>Burns, W.J., Herinckx, H.H., and Lindsey, K.O., 2017. Landslide inventory of portions of northwest Douglas County, Oregon, Oregon Department of Geology and Mineral Industries, Open-File Report O-17-04. Esri geodatabase with internal metadata, external metadata in .xml format, 4 map plates (in both print and onscreen resolutions), scale 1:20,000. http://www.oregoneology.org/pubs/ofr/p-O-17-04.htm</p>
DEIS p 4-21	"Ridgetops are generally considered to be stable"	<p>Provide a modern reference for this statement. Recent mapping in the coast range has found landslides propagating to and over the ridges. See references in above comment.</p>
DEIS p 4-22	<p>"All of the moderate- and high-hazard deep-seated landslides identified along the alignment were avoided"</p>	<p>If lidar and site-specific landslide hazard mapping was not performed to locate these areas, there are likely many areas missed and therefore not "all" are identified or avoided.</p> <p>An example can be seen in the following lidar image of the route from MP89-90. The PCGP mapping in Appendix F identified one landslide on the NE side of the route ridge. However, as a qualified professional can see in the lidar image, landslides are located along both sides of the ridge and on the slope down to the valley towards the NW.</p>

SA2-348

SA2-349

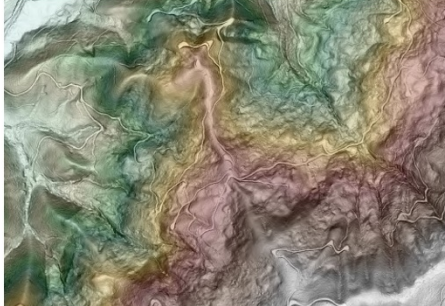
SA2-348 FERC staff have included a condition that these references are reviewed as part of the additional preconstruction evaluation of landslides (see response to Comment SA2-43). The general statement regarding the stability of landslides has not been changed.

SA2-349 The most recent LiDAR data would be reviewed for the entire pipeline route prior to construction as described in the response to Comment SA2-43. The LiDAR data in the area of the pipeline route from MP 89 to 90 would be reviewed prior to Project construction as further described in the response to Comment SA2-43.

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SA2-350 Landslides of potential concern have been identified along the pipeline route along with these BMPs that consider slope. Also see response to Comment SA2-43.

SA2-351 Comment noted.

			
<p>DEIS p 4-22</p>	<p>"All known hazardous landslides thought to pose a risk to the pipeline have been avoided through routing."</p>	<p>If lidar and site-specific landslide hazard mapping was not performed to locate the hazardous areas, there are likely many hazards missed and therefore not "all" have been identified or avoided.</p>	<p>SA2-349 cont.</p>
<p>DEIS p-4-22</p>	<p>"Following Pacific Connector's proposed BMPs described in the ECRP would limit potential adverse impacts on slope stability for those side slopes segments that are less than 30 percent gradient. In general, these BMPs include using well-drained structural fill placed in lifts and compacted for the side slope sites with gradients of 30 percent or greater oriented perpendicular to the pipeline."</p>	<p>Using slope gradient alone does not work in areas of existing landslides. Many deep landslides are on slopes with very low gradients. A critical component is identifying where the existing landslides and hazards are located and addressing each one individually regardless of slope gradient. Even small amounts of grading on existing landslides can cause significant problems.</p>	<p>SA2-350</p>
<p>DEIS p 4-23</p>	<p>"Monitoring higher-risk areas along the pipeline can aid in detecting landslide occurrence and movement so that action can be taken to prevent damage to the pipeline."</p>	<p>This method only applies to very limited group of types of landslides and triggering types. For example, during a future</p>	<p>SA2-351</p>

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		Cascadia earthquake, it will be very difficult to monitor, detect movement and take action before the co-seismic landslides have already moved and damaged the pipeline.
DEIS p 4-24	"Although the pipeline route does not cross active or recently active landslides, if any landslides do occur or become reactivated after the pipeline is installed, Pacific Connector would monitor the slide movement so that mitigation can be identified and implemented prior to damage occurring to the pipeline."	This unsubstantiated conclusion needs analyses and data to support it. For example, collecting lidar for the entire route and mapping all the existing landslides and evaluating them.
PCGP RR6 App A.6 part 1, page 28	"Some of the Pipeline route adjustments intended to avoid identified hazards, as well as land acquisition issues, resulted in route alignments that extended outside the area of LiDAR coverage. Supplemental LiDAR and aerial photograph data were acquired for many of these localized reroute areas. Nevertheless, some of the later reroute alignments are currently outside the area of LiDAR and aerial photograph coverage."	DOGAMI recommends the Applicant obtain high resolution lidar for all areas that may impact the proposed facilities or pipeline along the proposed route. Lidar coverage should be collected with enough buffer distance to characterize potential seismic and landslide hazards. For example, for landslide hazards, the lidar should include from the valley bottom to the top of the ridge. Also, there is publicly available lidar data along most all of the pipeline route as well as statewide aerial photography. Please evaluate the potential large landslides keeping in mind that landslides may extend from the tops of ridges and may move downslope to block rivers. In addition, lidar should be used to evaluate seismic sources. The issue of inadequate

SA2-351 cont.

SA2-352

SA2-353

SA2-352 See the response to Comment SA2-43.

SA2-353 These are comments on the Jordan Cove and Pacific Connector application, and not on the EIS prepared by FERC staff and the cooperating agencies. The State should work with the Applicant regarding their concerns with the application.

		landslide hazard analysis was raised in the DOGAMI November 6, 2017 review memo (comment #35) and has still not been adequately addressed.
PCGP RR6-AppA.6-part 1, p28	"However, most landslides can be placed in two general categories: (1) shallow-rapid landslides (debris slides/flows); and (2) deep-seated landslides."	Provide a comprehensive, detailed landslide hazard analyses prepared by a qualified professional for the proposed facilities and its surroundings. Document the analyses, data, assumptions, results, proposed mitigations, and any issues in a clear manner. Co-seismic lateral spreads are an important type of landslide which could affect the facility and pipeline.
PCGP RR6-AppA.6-part 1, p29	"generally greater than 50 percent"	Document the analyses, data, assumptions, results, proposed mitigations, and any issues in a clear manner. Provide references for all numbers.
PCGP RR6-AppA.6-part 1, p29	"DOGAMI, in cooperation with other agencies, produced a map of Potential Rapidly Moving Landslide Hazards in Western Oregon (Hofmeister et al., 2002)."	This map is considered for preliminary screening and was created before lidar data became widely available. Site-specific evaluation of RML should be performed by the consultants using lidar data and modern methods. The issue of inadequate landslide hazard analysis was raised in the DOGAMI November 6, 2017 review memo (comment #37) and has still not been adequately addressed.
PCGP RR6-	"The source, transport and depositional zones comprising	This map (DOGAMI IMS-

SA2-353 cont.

AppA.6-part 1, p30	the RML hazard areas were not differentiated on the maps/GIS data provided by DOGAMI."	22) is considered for preliminary screening and was created before lidar data became widely available. It is also not intended to make site-specific decisions. In this example, the IMS-22 data appears to be further misused to make non-site-specific evaluations. Site-specific evaluation of RML should be performed by the consultants using lidar data and modern methods. The issue of inadequate landslide hazard analysis was raised in the DOGAMI November 6, 2017 review memo (comment #36) and has still not been adequately addressed.
PCGP RR6-AppA.6-part 1, p31	"The initial relative risk to the Pipeline posed by the source, transport and depositional zones are considered to be high, moderate and low, respectively."	Provide a reference or documentation for this unsubstantiated conclusion. Debris flow depositional areas can be extremely dangerous and impactful depending on the size of the event. Concluding the risk is "low" for these areas needs substantial support from referenceable scientific studies.
PCGP RR6-AppA.6-part 1, p32	The greatest potential for reactivating large, deep-seated landslide movement is from human activity, seismic activity, stream erosion, and/or above-normal precipitation that extends over several months or years.	Provide a reference or documentation for this unsubstantiated conclusion.
PCGP RR6-AppA.6-part 1, p32	"The Pipeline is located within 1,000 feet and is upslope or downslope of the landslide"	Provide a reference or documentation for the unsubstantiated conclusion that 1,000 ft is far enough up or downslope to examine. Landslides should be

SA2-353 cont.

		evaluated to the extent for which they could impact the pipeline.
PCGP RR6-AppA.6-part 1, p33	"Surficial, geomorphic and vegetative features suggest that the landslide is active or dormant-historic (past movement less than 100 years ago) (Keaton and Degraff, 1996)."	Landslide age should not be used to determine hazard or risk.
PCGP RR6-AppA.6-part 1, p33	"Alignment is at a proximity that is sufficiently far from the landslide"	Provide a reference or documentation for the unsubstantiated conclusion that "sufficiently far" is far enough for the pipeline to be safe.
PCGP RR6-AppA.6-part 1, p34	During this phase, routing specialists were consulted to identify potential alternative routes around moderate to high risk landslides that appeared to be active or to have the potential to reactivate.	Analysis of risk should be quantitative using acceptable state-of-practice methods. For example, "landslides that appeared to be active or have potential to reactivate" is very vague and not conclusive.
PCGP RR6-AppA.6-part 1, p34	4.6. Landslide Hazard Avoidance and Minimization of Adverse Effects	If lidar and site-specific landslide hazard mapping was not performed to locate these areas, there are likely many areas missed and therefore not "all" are identified or avoided.
PCGP RR6-AppA.6-part 1, p35	"To ensure long term stability, it is important that fill slopes constructed at gradients of 30 percent or greater be engineered."	A simple slope gradient is not sufficient to identify where engineered cuts and fills should be performed. For example, many deep landslides have slopes much less than 30 percent.
PCGP RR6-AppA.6-part 1, p35	"Perforated drains should be surrounded by 12 inches of drain rock and all of which wrapped in a geotextile filter fabric."	If water is being collected at the surface or subsurface, a plan for where the water will be discharged is critical. Provide a water plan including collection and discharge. Discharging water in a non-designed

SA2-353 cont.

		method can cause slope instability. Using lidar to map all the existing landslides along the entire length of the pipeline route on both sides of the route all the way to the ridge top or all the way to the valley bottom is the only way to ensure discharging of water will not increase slope instability.
PCGP RR6-AppA.6-part 1, p35	4.6.2.1. SURFACE AND NEAR SURFACE WATER MANAGEMENT	If water is being collected at the surface or subsurface, a plan for where the water will be discharged is critical. Provide a water plan including collection and discharge. Discharging water in a non-designed method can cause slope instability. Using lidar to map all the existing landslides along the entire length of the pipeline route on both sides of the route all the way to the ridge top or all the way to the valley bottom is the acceptable way to help ensure discharging of water will not increase slope instability.
PCGP RR6-AppA.6-part 1, p37	"During Pipeline construction, qualified professionals with experience in slope stability will observe Pipeline construction within the identified landslides. If indications of instability are observed, necessary mitigative actions will be taken."	Pre-construction, construction, and post-construction stability analysis should be performed before the project is started so that potential adverse effects can be identified and mitigation prior to construction.
PCGP RR6-AppA.6-part 1,	The proposed PCGP Pipeline does not cross known active or recently active landslides that require installation of	If lidar and site-specific landslide hazard mapping

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p37	instrumentation. The ancient landslides crossed by the proposed PCGP Pipeline alignment will be monitored as part of the system-wide monitoring conducted by PCGP.	was not performed to locate these areas, there are likely many areas missed and therefore not "all" hazards have been identified nor avoided. Provide a detailed landslide hazard analyses prepared by a qualified professional using current state of practice methods that include lidar as a base map for the proposed facilities and its surroundings. Document the analyses, data, assumptions, results, proposed mitigations, and any issues in a clear manner.
DOGAMI memo dated November 6, 2017. DOGAMI Comments Related to Geological Hazards and the Proposed Jordan Cove LNG Terminal and Pacific Connector Gas Pipeline.	Dependencies on existing infrastructure, such as roads and levees, which may fail during disasters causing safety concerns;	This issue was raised in the DOGAMI November 6, 2017 review memo (comment #7) and has still not been adequately addressed.
DOGAMI memo dated November 6, 2017. DOGAMI Comments Related to Geological Hazards and the Proposed Jordan Cove LNG Terminal and	On the basis of Oregon Administrative Rules per Division 21, OAR 345-021-0010(1)(h)(F)(I-II), which states: “(i) An explanation of how the applicant will design, engineer, construct and operate the facility to integrate disaster resilience design to ensure recovery of operations after major disasters. (ii) An assessment of future climate conditions for the expected life span of the proposed facility and the potential impacts of those conditions on the proposed facility” {Accessed from: https://secure.sos.state.or.us/oard/viewSingleRule.action?ruleVrsnRsn=234447 }, DOGAMI encourages designing and	This issue was raised in the DOGAMI November 6, 2017 review memo and has not been adequately addressed.

SA2-353 cont.

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SA2-354 This appears to be an excerpt from memo the State provided Jordan Cove privately, but has not provided to the FERC. There is not enough information in this comment to determine what the State is requesting here.

SA2-355 See comment response SA2-16.

<p>Pacific Connector Gas Pipeline.</p>	<p>building for <i>disaster resilience</i> and <i>future climate</i> using science, data and community wisdom to protect against and adapt to risks. This will allow people, communities and systems to be better prepared to withstand catastrophic events and future climate—both natural and human-caused—and be able to bounce back more quickly and emerge stronger from shocks and stresses. This includes:</p> <ul style="list-style-type: none"> • Using best practices supporting public safety • Using a long-term view to protect citizens, property, environment, and our standard of living • Integrating resilience, where possible, by avoiding high risk areas or embracing higher performance standards than may be required by building codes and regulations. This will lessen damage and speed recovery after disasters and improve continuity of operations. 	
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SA2-355 cont.

Oregon Department of Land Conservation and Development

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DLCD is Oregon's designated coastal management agency statutorily responsible for acting on the required certification of consistency with the Oregon Coastal Management Program (OCMP) pursuant to Section 307 (c)(3)(A) of the Coastal Zone Management Act (CZMA). An applicant for any federally-permitted project must obtain a CZMA consistency concurrence for the federal permit or license to be valid in Oregon's coastal zone.

These comments focus on the deficiencies of the Draft Environmental Impact Statement (DEIS) as guided by the implementing regulations for NEPA documents at 40 CFR Part 1502 and 18 CFR Part 380. DLCD submits these comments with the perspective that deficiencies in DEIS information, regarding the assessment (or lack thereof) of impacts and the resulting mitigation from the assessed impacts, affects the federal consistency review process. DLCD uses NEPA documents, like the Federal Energy Regulatory Commission's (FERCs) DEIS, to evaluate the coastal effects of a proposed project per the federal consistency regulations at 15 CFR Part 930. A CZMA coastal effects evaluation includes reasonably foreseeable effects to natural resources and cultural resources, as well as impacts to economics, aesthetics, and recreation reliant on coastal resources. Comments we submitted during the Notice of Intent (NOI) scoping period in 2017 emphasized the necessity of a robust and comprehensive DEIS in order to be able to conduct an adequate review to determine consistency of this federally-licensed and permitted project with the OCMP. Although other state agencies have identified issues that may apply to the entire project under their respective jurisdictions, for CZMA consistency review, DLCD focuses on our coastal partners' issues and concerns within Oregon's coastal zone. Detailed information for any coastal partner issue included below is provided in each state agency comment section. State agency comment sections may raise additional issues as well.

In the published NOI, FERC staff identified issues (pg 7-8) that merited attention and inclusion in the relevant sections of the DEIS (40 CFR § 1502.9). Additionally, Oregon state agencies identified additional issues, including those related to enforceable policies of Oregon's networked coastal program, in comments to the FERC on August 15, 2017. The DEIS should have thoroughly address those identified issues in order to provide an assessment of impacts and mitigation for impacts in Oregon's coastal zone. Table 1 lists the issues identified by FERC staff and state coastal partners of the OCMP, to what extent the issue was analyzed in the DEIS, what is missing from the FERC's analysis, and the relevance of the information and analysis to federal consistency review.

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Table 1. Topics identified in Notice of Intent or in scoping period comments and remaining deficiencies in the DEIS with relationship to the CZMA federal consistency review process.

Issues	Source	Extent Analyzed in 2019 DEIS	Missing from 2019 DEIS	Relationship to CZMA Analysis
Reliability and safety of LNG carrier traffic and natural gas pipeline	Commission Staff in NOI	Section 4.10.1.1 Marine Traffic	--Safety of other commercial and recreation vessels, aside from collisions with LNG carriers (i.e. increased wait times to enter Coos Bay in changing weather conditions because of LNG carrier security zone) --Time of year 70 construction vessels or 120 LNG carriers will be present. If all year, how will vessels safely navigate winter weather conditions or location of anchorage if within Territorial Sea if not able to enter bay. --Locations where marine traffic can wait safely in bay while LNG carrier passes. See Figure 1 based on a carrier 50 yards wide. --No discussion regarding what maximum size carrier the bay can accommodate safely.	Coastal effects evaluation for local coastal economies.
		Section 4.13.1.3 Safety and Reliability focuses on collisions with LNG carriers. Conclusion Section 5.1.10: Increased marine traffic would be less than historic ship traffic and so no significant impact to other marine traffic.		
Impacts to aquatic resources from dredging access channel and slip and pipeline crossings	Commission Staff in NOI	Section 4.3 Water Resources and Wetlands	--Please see DEQ comments for detailed information for missing analysis regarding water quality. --Please see ODFW comments for detailed information on missing analysis regarding: --Fish, wildlife, and associated habitats; e.g. the deepwater draft slip; salinity intrusion from dredging; impacts to aquatic organisms; and other aquatic concerns. Lack of assessment of riparian and	Coastal effects evaluation for impacts to natural/cultural resources and related local coastal economies.
		Section 4.6 T&E Species Appendix H: Lists temporary and permanent impacts Conclusion Section 5.1.3.1; 5.1.3.2; 5.1.3.3:		

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SA2-356 As stated in the Coast Guard's Letter of Recommendation, the Coast Guard would work with the Pilots and patrol assets to control traffic and will allow vessels to transit the Safety/Security zone based on a case-by-case assessment conducted on scene. In addition, Coast Guard would also limit LNG marine vessel transits during certain weather condition such as high winds.

SA2-357 See the response to comment SA2-356. Note, as discussed in section 4.10.1.1, during construction, the LNG terminal would receive approximately 70 water deliveries over a 2-year period. Deliveries would be via a mix of ocean-going vessels and barges and would not be subject to a Coast Guard safety and security zone. In addition, section 4.9.1.8 of the EIS has been revised to provide more details regarding the Coast Guard safety and security zone for LNG vessels.

SA2-358 Section 4.9.1.8 has been revised to provide more details regarding the Coast Guard safety and security zone for LNG vessels. Non LNG vessels would be allowed to transit through the safety zone and would also be allowed in the safety zone during passage, provided that these other vessels do not impede the safe navigation of the LNG carriers in the restricted channel, and that the other vessels do not pose a security threat or concern to the LNG carriers in transit.

SA2-359 As stated in section 2.2.1 of the FEIS, the marine berth would be able to accommodate LNG marine vessels up to 217,000 cubic meters in capacity; however, the WSA and LOR are based on LNG marine vessels up to 148,000 cubic meters. Larger vessels would be a modification that would require approval from FERC and U.S. Coast Guard. See IND23-10. The enclosures to Coast Guard's Letter of Recommendation provides additional details on the current channel draft (37 feet) and LNG marine vessels transiting Coos Bay needing to maintain 10 percent under keel clearance per the Project's LNG Transit Management Plan.

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		No significant impacts	<p>steep slope impacts of the pipeline project.</p> <p>--Mitigation for temporary impacts to aquatic resources is a concern. Applicant and DEIS have specified mitigation actions for permanent impacts, however, the DEIS does not identify the temporary impacts fully for both JCEP and PCGP or propose mitigation. (i.e. impacted wetlands on pipeline route may take 4+ years to recover ecological function from pipeline impacts).</p> <p>--Mitigation for temporally related habitat function impacts.</p> <p>--Without specified mitigation that is tailored to address fish and wildlife habitats/ecology, it is not possible to balance impacts with offsets and come to a conclusion regarding total environmental impacts for the project.</p>	
Potential impacts on the LNG terminal resulting from an earthquake or tsunami	-Commission Staff in NOI -State of Oregon scoping period comments; DOGAMI comments August 15, 2017; pg 8	Section 4.1 Geological Resources Section 4.13 Reliability and Safety	<p>-- Please see DOGAMI comments for detailed information regarding missing analyses including the following topics:</p> <p>-- Geologic hazards have not been comprehensively identified, addressed in the DEIS, nor mitigation proposed for impacts.</p> <p>-- Dependencies on existing infrastructure, such as roads and levees, which may fail during disasters causing public and environmental safety concerns have not been</p>	Coastal effects evaluation for impacts to local coastal economies and natural/cultural resources.

SA2-360

SA2-360 There is no legal requirement under NEPA to mitigate all impacts from a Project.

SA2-361 Geologic hazards including mitigation have been addressed in sections 4.13 and 4.1.2.3, and 4.1.2.4 of the EIS.

SA2-362 The risk to existing infrastructure from natural disasters would not change with the proposed Project.

SA2-361

SA2-362

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			<p>included.</p> <p>--Tsunami hazards analyses, including tsunami hazards with the proposed channel and estuarine modifications from related Port project, specifically how currents, debris and ballistics may negatively impact the surrounding areas and safety of people, have not been included.</p> <p>--An explanation of how the applicant will design, engineer, construct and operate the facility to integrate disaster resilience design to ensure recovery of operations after major disasters.</p> <p>--An assessment of future climate conditions for the expected life span of the proposed facility and the potential impacts of those conditions on the proposed facility</p> <p>-- ASCE 7-16 (issued 2016) design standards include tsunami requirements, while the older versions do not. No discussion regarding new tsunami requirements or why most recent standards were not used.</p>	
Impacts of pipeline construction on federally listed threatened and endangered species including northern	Commission Staff in NOI State of Oregon scoping period comments; ODFW comments August 15,	Section 4.6 lists impacts to federally listed species throughout. May affect and likely to adversely affect 12 species. Section 4.7 lists	<p>--Please see ODFW comments for detailed information regarding missing analyses.</p> <p>--The DEIS notes some mitigation (i.e. older stand management); however, without specific assessment of impacts in relation to mitigation it is difficult to balance effects and come to a</p>	Coastal effects evaluation for impacts to natural/cultural resources and local coastal economies (salmon; recreational and commercial).

SA2-362 cont.

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SA2-363 The risk to the surrounding public from tsunami induced debris and projectiles would not change with the proposed Project.

SA2-364 As discussed throughout section 4.13.1.5 of the FEIS, the facility use applicable codes, standards, and best practices to design, fabricate, construct, and operate the Project. Following any natural or operational disaster event, the facility would be shut down, inspected, and repaired as necessary. Also, see comment response SA2-16.

SA2-365 The impacts of climate change in the Pacific Northwest is discussed in section 4.14 of the draft EIS.

SA2-366 See comment response SA2-332 and SA-364.

SA2-367 There is no legal requirement under NEPA to mitigate all impacts from a Project. Information related mitigation that is being proposed by the Applicant or required by the agencies is disclosed in the EIS.

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spotted owl, marbled murrelet, and salmon	2017; pg 15-34	total late successional (old) forest acres on BLM land. 159.19 acres, BLM Coos Bay District, Section 2.1.7 Non-federal land mitigation still in development. Section 5.1.6 states no mitigation has been proposed by applicant to date.	conclusion regarding total environmental impacts for the project.	
Impacts of pipeline construction to private landowners including the use of eminent domain	Commission Staff in NOI	Section 2.3.2 Statement of ability for Project to use the right of eminent domain	--Entire analysis of impacts of exercising eminent domain on landowners, livelihoods, land-associated businesses, and property values.	Coastal effects evaluation for impacts to coastal economies.
Cumulative effects from additional large-scale projects in Coos Bay; particularly related Channel Modification project.	State of Oregon scoping period comments; ODFW comments August 15, 2017; pg 15	Section 4.14: Statements acknowledge cumulative effects of the Port's Channel Modification throughout. Acknowledged project is likely to have the largest contribution to cumulative impacts on Coos Bay. (pg 4-794) Appendix N lists	--Please see ODFW comments for detailed information regarding missing analyses including: --Limited analysis of impacts and lack of quantification of mitigation to offset impacts including, but not limited to: cumulative cubic yards, cumulative duration of disturbance in the waterway, cumulative conversion of shallow to deep-water habitat, cumulative changes in water current, cumulative changes to natural and conservation estuary management units in	Coastal effects evaluation for impacts to natural/cultural resources and economics.

SA2-367 cont.

SA2-368

SA2-369

SA2-368 The use of eminent domain is described in section 2.3.2, as noted in the comment. Potential impacts to property values are discussed in sections 4.9.1.3 and 4.9.2.3 of the DEIS. Potential land use impacts are assessed in section 4.7.

SA2-369 See response to comment SA2-117.

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		total acres whether upland or aquatic) from all regional projects.	Bay, cumulative mitigation for permanent aquatic habitat changes including oyster, clam, shrimp, crab and other aquatic ecosystem-dependent economies. --Unable to locate Table 4.14.2.3-1 as reference in Section 5 (pg 5-11). Projects with largest estuarine impacts warrant deeper, quantifiable cumulative analysis.	
Impacts to non-listed species and upland habitats and associated mitigation for impacts.	State of Oregon scoping period comments; ODFW comments August 15, 2017; pg 28	Section 2.1.7 Non-federal land mitigation still in development. Section 4.6 briefly describes state listed species.	-- Please see ODFW comments for detailed information regarding missing analyses including the following: -- No analysis for state species of concern, habitats of concern, state protected wildlife, associated mitigation for species habitats via state's habitat mitigation policy.	Coastal effects evaluation for impacts to natural/cultural resources

SA2-369 cont.

SA2-370

SA2-371

Additional topics of concern that are not sufficiently addressed in the DEIS are in Table 2.

Table 2. Additional deficiencies of the DEIS identified by DLCD.

Topic	Sections/Pages	Missing from 2019 DEIS	Relationship to CZMA Analysis
Impacts of spatial restrictions of channel use to recreational and commercial fisheries. Please see Figure 1.	Section 4.8.1.1 JC Terminal Recreation and Visual Resources: Acknowledges impacts to crabbing/clamming, boating, and fishing because of LNG carrier security zone (pg 4-540-541) Section 4.9.1.7 Recreation/Tourism and 4.9.1.8 Commercial	Analysis regarding economic impacts from LNG carrier security zone requirements (i.e. missing preferred fishing times, tides, or other critical natural resource timing issues due to 2-3.5 hour delay (page 2-14) while LNG carrier is in navigation channel). The time estimation in Section 4.8 (pg 4-541) conflicts with information on pg 2-14 and also on pg 4-598 (20-30 minutes). Bar pilots guiding commercial ships report passing approx. 6 recreational boats (pg 4-541) and 2 commercial fisheries boats (pg 4-597) per trip. The width of carrier plus security zone (likely 500 yard radius around moving ship (pg	Coastal effects evaluation for impacts to local coastal economies from safety considerations and associated delays

SA2-372

SA2-373

SA2-370 Table 4.14.2.3-1 is located in section 4.14 of the EIS

SA2-371 State-protected species (including State listed and State sensitive species) are discussed in section 4.6, as well as in Appendix I. Habitat is discussed in section 4.5.

The State can require a habitat mitigation plan that evaluates mitigation sites with respect to the ODFW Fish and Wildlife Habitat Mitigation Policy as part of their State permit. This is not a requirement that would be included in the federal EIS. It is not the role or scope of the federal EIS to assess the Project's compliance with State regulations, including ODFW Fish and Wildlife Habitat Mitigation Policy.

SA2-372 Delays are estimated to be from 20 to 30 minutes as discussed in section 4.9.1.8 of the draft EIS. Section 4.9.1.8 has also been revised to provide more details regarding the Coast Guard safety and security zone for LNG vessels. Non-LNG vessels would be allowed to transit through the safety zone and would also be allowed in the safety zone during passage, provided that these other vessels do not impede the safe navigation of the LNG carriers in the restricted channel, and that the other vessels do not pose a security threat or concern to the LNG carriers in transit.

SA2-373 Jordan Cove estimated that it may take an LNG carrier up to 90 minutes to transit the waterway from the buoy to the terminal at speeds between 4 and 10 knots. The text in section 2.1.1.7 has been revised to be consistent with section 4.9.1.8. Jordan Cove has indicated that the impact on boats at any point in the channel would last about 20 to 30 minutes, the same as when other deep-draft vessels use the channel.

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	Fishing: Acknowledges impacts from LNG carrier security zone (4-596-598). Sections 5.1.8.1 and 5.1.9 Conclusion: No significant impacts commercial or recreational fisheries vessels or economies.	4-623]), is approximately ¼ of a mile (See Figure 1). No spatial analysis of security zone for LNG carrier including pinch points, safe waiting areas, vessel delays, and associated impacts to fisheries-dependent economies. The security requirements for LNG carriers are not similar to other deep-draft vessel use of the channel, warranting additional analysis.		SA2-374
Impacts to regional resources and economy from global climate change due to additional atmospheric carbon inputs	Section 4.14: Cumulative Impacts Acknowledges broad impacts to nation from climate change. (pg 4-804-807).	Analysis does not include unique challenges to coastal region from: climate change and sea level rise, decreased income for natural resource-dependent economies, or increased wildfire. Analysis does not include alternative to require stricter emission mitigation, or mitigation to offset regional impacts.	Coastal effects evaluation for impacts to local coastal economies and natural resources.	SA2-375
				SA2-376
Impacts to culturally-important resources in project area (Terminal and pipeline)	Section 4.11 Cultural Resources; Acknowledges the TCP nomination document as part of an impending ethnographic study (pg 4-637). Appendix L: Tables within list many sites in need of further survey and testing or that are currently unevaluated. L-13 mentions TCP and need to assess.	The DEIS does not include relevant information compiled in the traditional cultural property historic district nomination document or the impending ethnographic study from the applicant. Without the information, impacts cannot be assessed, or alternatives identified to avoid, minimize, or mitigate impacts to resources.	Coastal effects evaluation for impacts to cultural resources.	SA2-377

Of most concern to DLCD are the sweeping mitigation and inventory recommendations that rely on the applicant providing the FERC information after issuance of the certificate order for the proposed project. That approach denies other permitting processes at the federal and state level, including federal consistency review, necessary information. Oregon created a networked coastal program, which means

SA2-378

SA2-374 As noted in response to comment SA2-372, section 4.9.1.8 of the EIS has been revised to provide more details regarding the Coast Guard safety and security zone for LNG vessels. As noted in this section, the estimated impact on other vessels at any point in the channel would last about 20 to 30 minutes, the same as when other deep-draft vessels use the channel.

SA2-375 Section 4.14.1.10 of the final EIS has been revised to acknowledge several additional observations of environmental impacts that have been attributed to climate change in the Northwest region, including: impact on shellfish species and commercial and recreational shellfishing; reduced snowpack and reduced impact from snowpack-related activities; and potential increased wildfires.

SA2-376 Air quality and emission regulations that are applicable to the Project are described in section 4.12.1.1 of the EIS. We do not analyze, nor do we require an Applicant to adhere to, alternative standards that are stricter than existing regulations. Air quality mitigation measures proposed by the Applicant or additional measures recommended by FERC staff are described in sections 4.12.1.3 and 4.12.1.4 of the EIS. As part of our review we do not require mitigation to offset regional air quality impacts.

SA2-377 We have changed the text in the final EIS in Section 4.11.1.3 to acknowledge that the Oregon SHPO has determined the TCP "Q'alay ta Kukwis schichdii me" Historic District to be eligible for the NRHP. A detailed description of the TCP is not included in the EIS due to the sensitive nature of the resource. Existing ethnographic information for all tribes has been incorporated as able and appropriate. FERC staff have included requirements for the Applicant to submit additional required information/reports, including the ethnographic study, to finalize the impact assessment and any required mitigation prior to any construction.

SA2-378 As indicated in section 5, if the Project is authorized, the authorization would be conditional on the Applicant acquiring all applicable federally delegated permits and other authorizations.

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coastal partners and their state authorities are part of the federal consistency review currently under way. Relying on mitigation agreements after the certificate order, leaves partner state agencies without the information necessary to process permits and make decisions, including DLCD. A particular example is Recommendation #6 (pg. 5-13), which requires to the applicant to request and allows FERC to approve major alterations after order issuance ("minor field adjustments," as defined in the DEIS, do not require FERC approval). Such alterations would likely require permit modifications by various state agencies in the coastal zone, and depending upon the significance of the change, implicate an additional federal consistency review per 15 CFR § 930.66. Similar challenges exist for Recommendation #33 for cultural resource inventories and associated plans and comments. Many of these 'post-order' conditions circumvent the state's opportunity to analyze impacts and provide the FERC comments on the extent of impacts and adequacy of mitigation for a broad array of issues in order to inform the final EIS.

SA2-378 cont.

SA2-379

The deficiencies of the DEIS identified above and the lack of analysis for relevant topics identified by FERC staff and state coastal partners lead DLCD to recommend that FERC prepare a revised or supplemental DEIS document, as provided for in 40 CFR § 1502.9, that includes the missing environmental analysis with an additional opportunity for public comment before moving toward a final EIS. Without necessary data and information, and adequate analysis of the project impacts, DLCD will be challenged to use the EIS to come to a decision regarding the applicant's certification statement for consistency with the OCMP.

SA2-380

Additionally, FERC should consider detailed comments each coastal partner agency offers in this comment document, not only because they identify deficiencies in the DEIS, but also because the missing information is relevant to analysis of OCMP enforceable policies for the federal consistency review of this proposed project. Each partner agency has provided specific issues related to their mission and regulatory authority. Table 3, below, details information gaps and coastal zone impacts that remain of concern in the DEIS and that are explicitly related to enforceable policies of the OCMP. This list is not exhaustive, however marks major issues that have been ongoing for the duration of the proposed project. If the information remains outstanding and the state agency concern is not ameliorated, it will affect the ability of FERC to issue a license that is consistent with the OCMP. DLCD recommends that FERC resolve these issues before issuance of the final EIS, as well as include them in the final EIS, not only to fully address impacts and mitigation associated with impacts from the project, but also to help align the project more fully with the OCMP.

Table 3. Outstanding issues in the DEIS that are related to CZMA federal consistency review in the Coastal Zone portion of the proposed project. Table 3 is demonstrative; not exhaustive. Additional details for each issue, as well as additional issues, are in each coastal partner comment section. Additional enforceable policies may apply for issues listed.

Broad Issue/Concern	Coastal Partner	Applicable OCMP Enforceable Policy (not exhaustive)
Upland mitigation and temporal mitigation that directly addresses specific impacts for fish and wildlife for the pipeline route. Mitigation noted in DEIS is exclusively for federal lands (currently none on non-federal land; pg 2-36; Section 2.1.7). Mitigation actions address federal lands management goals and may not provide net benefit for fish	ODFW	ORS 496.012

SA2-381

SA2-379 See response to similar comments from the State of Oregon

SA2-380 Comment noted. We do not believe that the State has supported their determination that a supplemental EIS would be needed, and we do not see a requirement for a supplemental EIS based on the information provided in the draft EIS.

SA2-381 This comment is not accurate. Mitigation has been proposed by the Applicant for non-federal lands and some additional mitigation has been required by the federal agencies, and this mitigation is disclosed in the EIS.

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and wildlife.			SA2-381 cont.
Avoidance of Category 1 habitat.	ODFW	ORS 496.012; ORS 496.182	SA2-382
Mitigation for T&E species (no proposed mitigation; pg 5-5; Section 5.1.6)	ODFW, ODA	ORS 496.012; ORS 506.109; ORS 564.115; ORS 564.120	SA2-383
Salvage plans and permits (incidental take) for aquatic construction; protected wildlife have been acknowledged, but not completed by applicant.	ODFW	ORS 496.012; ORS 506.109	SA2-384
Fish passage requirements for crossings.	ODFW	ORS 509.585; ORS 509.610	SA2-385
Ability of project to meet water quality standards such as turbidity, biocriteria, and applicable statewide narrative criteria.	DEQ	Various provisions in ORS chapter 468B	SA2-386
Adequacy of plans for turbidity, sedimentation, dredge material management, construction and post construction stormwater.	DEQ	Various provisions in ORS chapter 468B	SA2-387
Analysis demonstrating avoidance/minimization of wetland impacts at individual wetland/waterway scale.	DSL	ORS 196.800; ORS 196.805; ORS 196.810; ORS 196.815; ORS 196.818; ORS 196.825; ORS 196.830; ORS 196.845; ORS 196.855; ORS 196.880; ORS 196.905	SA2-388
Alternatives to selected dredge material disposal sites and methods.	DSL	ORS 196.800; ORS 196.805; ORS 196.810; ORS 196.815; ORS 196.818; ORS 196.825; ORS 196.830; ORS 196.845; ORS 196.855; ORS 196.880; ORS 196.905	SA2-389
Alternative analysis for size and shape of slip and access channel.	DSL	ORS 196.800; ORS 196.805; ORS 196.810; ORS 196.815; ORS 196.818; ORS 196.825; ORS 196.830; ORS 196.845; ORS 196.855; ORS 196.880; ORS 196.905	SA2-390
Identification of sources and release sites of hydrostatic testing water to avoid out-of-basin diversions, impacts, and identify alternatives.	WRD	Various provisions in ORS chapters 536 and 537	
Identification of water sources for project needs like dust control to understand impacts and identify alternatives.	WRD	Various provisions in chapters 536 and 537	
Identification of water sources that may result in changes to established diversion locations.	WRD	Various provisions in chapter 537	

SA2-382 The State can require avoidance of Category 1 habitat as part of their State permit. This is not a requirement that would be included in the federal EIS.

SA2-383 The State can require additional mitigation for T&E species (beyond what is required by the FWS or disclosed in the EIS) as part of their State permit. This is not a requirement that would be included in the federal EIS.

SA2-384 Comment noted. Those plans would be developed prior to project construction if the project is approved and authorized.

SA2-385 The EIS acknowledged what actions would do to fish passage during project construction. All these actions would have no or short-term effects on passage of fish (see section 4.5.2.4.

SA2-386 See response to similar comments from the State of Oregon

SA2-387 It is not the role or scope of the federal EIS to assess the Project's compliance with State regulations or OARs. We assume that the State would determine if the Project is in compliance with the State requirements and OARs during their review of the Applicant's State permit applications. As disclosed in section 5 of the EIS, any authorization from the Commission would be conditional on the Applicant acquiring all applicable federal and federally delegated permits.

SA2-388 Most of the material excavated and dredged during construction would be placed in upland areas and used to raise the elevation of the proposed LNG facilities site. Some material would also be deposited in upland areas at the adjacent Roseburg Forest Products property. Material dredged for the marine waterway modifications would be deposited in upland areas at the APCO Sites 1 and 2. A small portion of the dredged material would also be placed at the Kentuck Project mitigation site. Because most of the material would be placed within the Project site and within upland areas, we have not evaluated alternative disposal methods or sites in the EIS. However, Jordan Cove evaluated alternative disposal options as presented in its Dredged Material Management Plan included as Appendix N.7 with Resource Report 7 of its application to the Commission. Further, as noted in section 3.0 of the EIS, when making a decision on whether to issue a permit for the Project, the COE must consider whether the Project represents the least environmentally damaging practicable alternative pursuant to the CWA section 404(b)(1) guidelines. The COE may only permit discharges of dredged or fill material into waters of the U.S. that represent the least damaging practicable alternative, so long as the alternatives do not have other significant adverse environmental consequences.

SA2-389 The 800-foot slip width would be needed in order to be able to move an LNG vessel off of the LNG berth on the east side of the slip in the event of an incident within the LNG upland facilities that might threaten the safety of the LNG vessel at berth. Having the 800-foot slip width provides the flexibility needed for tugs to move the LNG vessel away from a hazard at the terminal or at the LNG loading dock to the relative safety of the west side of the slip. The Coast Guard has determined the full 800-foot slip would be needed for the safe use of the terminal by LNG carriers. Therefore, we have not evaluated alternative slip or access channel designs.

SA2-390 See responses to comments SA2-225, SA2-227, and SA2-228.

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Lastly, the DEIS provides a general discussion of the required CZMA consistency certification at section 1.5.1, and a brief analysis for the certification at section 1.5.1.8, section 4.7.1.2, and 4.7.2.3. Specifically, there is a recommended condition at 4.7.1.2 that states:

"Jordan Cove and Pacific Connector should not begin construction of their respective Project facilities until the companies each file with the Secretary a copy of ODLCD's determination of consistency with the CZMA" (DLCD's emphasis added).

It is unclear whether, or in what manner, FERC could or would enforce this condition. In particular, the use of the word "should" in directing the applicants to not begin construction prior to filing the required consistency certification makes this condition advisory in nature.

The requirement of the CZMA is clear and unambiguous: any license provisionally granted by the FERC is not valid until Oregon has formally concurred with the applicant's certification of consistency. There is specific purpose for the requirement that concurrence with the state's consistency certification is issued before federal permits; that purpose is to ensure that state program requirements have been fully considered and incorporated into any final federal decision. The implementing regulations of the CZMA clearly anticipate and authorize state-imposed conditions to modify a project in order to achieve consistency. Specifically, the provisions of 15 CFR § 930.62(d), state:

"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."

Given that the federal consistency review could result in state-imposed conditions to modify the project, FERC must know the outcome of this review before issuing a decision. However, most importantly, if FERC does issue a license provisioned on obtaining a concurrence from Oregon, it is a matter of federal regulation that the applicant does not begin construction prior to a federal consistency decision. Based on these requirements of the CZMA, DLCD requests that the recommended condition at section 4.7.1.2 be changed to reflect Condition #30 (Section 5.2, pg 5-19) and language altered to be consistent throughout the EIS. The FERC should clarify that pursuant to CZMA § 307 (c)(3)(A), the FERC license is not effective until Oregon concurs with the applicant's consistency certification and that any conditions included with the concurrence will become conditions of the FERC license.

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SA2-391 As disclosed in section 5 of the EIS, any authorization from the Commission would be conditional on the Applicant acquiring all applicable federal and federally delegated permits.

SA2-392 Comment noted. As disclosed in section 5 of the EIS, any authorization from the Commission would be conditional on the Applicant acquiring all applicable federal and federally delegated permits.

SA2-391

SA2-392

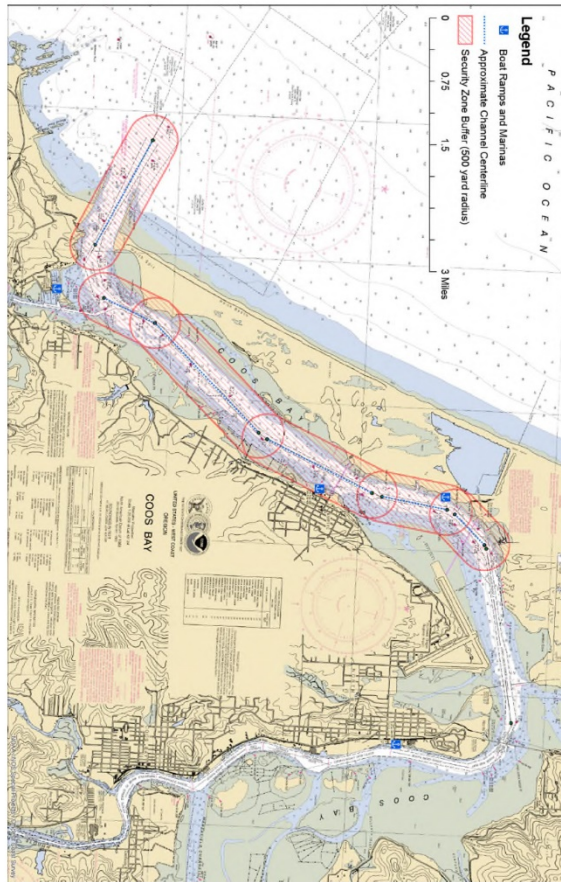


Figure 1

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Oregon Parks and Recreation Department, State Historic Preservation Office

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As a federal undertaking, compliance with the National Historic Preservation Act (NHPA), specifically, Sections 101 and 106 is necessary for the Jordan Cove Energy Project. The SHPO, as well as other consulting parties, have defined roles in the Section 106 process, included in the implementing regulations (36 CFR 800). Many of our comments below relate directly to the 36 CFR 800 process, which is separate from, but can be coordinated with the National Environmental Policy Act (NEPA) review.

The NHPA review is addressed in the document, and summarized in the Conclusions and Recommendations (5.1) section of the DEIS. In that section FERC states that the cultural resources investigations are incomplete; that they have not yet completed the process of complying with Sections 101 and 106 of the NHPA; and that consultation with tribes, SHPO and applicable federal land-managing agencies have not been concluded. FERC additionally recommends that Jordan Cove and Pacific Connector "not construct or use any of their proposed facilities, including related ancillary areas for staging, storage, temporary work areas, and new or to-be-improved access roads, until all studies and consultation necessary to complete compliance with the NRHP have been completed. A memorandum of agreement (MOA) is recommended to address adverse effects and define treatment plans to mitigate impacts." Regarding these conclusions and recommendations, please consider the following: SA2-393

Consultation with SHPO

As mentioned above, FERC acknowledges that consultation has not concluded. Consultation is addressed throughout the document, such as on Page 1-27 to 1-28, where it states: "The FERC is responsible under Section 106 and its implementing regulations, to consult with the Oregon State Historic Preservation Office (SHPO), identify historic properties within the APE, and make determinations of NRHP eligibility and project effects, on behalf of all the federal cooperating agencies." On page 4-633 it further states that consultations began with the issuance of the Notice of Intent (NOI) on June 9, 2017. On the following page, it states that previous versions of the projects between 2006 and 2015 informed FERC's current consultations.

While useful for understanding the long history of the undertaking, Oregon SHPO wishes to caution FERC that prior consultations from 2006 to 2015 are less applicable, because in many ways the undertaking is very different. The facility has changed, pipeline routes have changed, staffs have changed, and our understanding of effects to historic properties have become more informed. Due to these changes, meaningful, early and often consultation would provide a solid foundation for compliance with Section 101 and 106 of the NHPA. However, consultation with the lead federal agency has been sporadic, general, and consequently, not meaningful as would be hoped for such a large and complex undertaking. SA2-394

For example, consultation for the current undertaking is primarily described as the mass- mailed scoping document NOI. Our office responded to the NOI, identifying it as a scoping document, and not consultation. That being said, there was a reference to the need for consultation (per 36CFR800.4) in the NOI, where FERC states: "The project-specific Area of Potential Effects (APE) will be defined in

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SA2-393 The final EIS states in section 4.11.5 that we would develop, in consultation with the consulting parties, an MOA to resolve adverse effects at affected historic properties.

SA2-394 We disagree. The NOI initiated consultations with the SHPO under Section 106. The SHPO had the opportunity to review and comment on cultural resources reports that contained the Applicant's definition of the direct APE. These reports were submitted by the Applicant and their contractors to the SHPO at our direction. The SHPO also had the opportunity to comment on the DEIS which contained the definition of the direct APE.

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consultation with the SHPO as the Project develops.” Our office responded in a June 27, 2017 letter stating that we looked forward to consulting with FERC on the APE. Our response letter to the NOI is referenced in Appendix L, where under the column heading Purpose/Description it reads: “SHPO will assist FERC staff with the development of a definition for the area of potential effects (APE) for the new project”. However, since that letter, our office has not been consulted with on the APE (per 36 CFR 800.4).

It is therefore surprising to see the APE defined in the DEIS on page 4-645, with the incorrect statement “as stated in our NOI, we define the APE as...”. The statement is incorrect because the NOI did not define the APE. It merely indicated FERC would consult with SHPO to determine the APE. Since our June 2017 response to the NOI, consultation has not occurred, and the APE was developed without addressing the 36 CFR 800.4 process.

Page 4-633 states that consultation began with the NOI on June 9th, 2017. In the same paragraph, it states that the NOI “contained Section 106-specific text initiating consultations with the SHPO...”. As stated above, the NOI is not a consultation document, but rather a public comment /scoping document. For one of the largest undertakings in Oregon, references to consultation mainly include NOI soliciting SHPO for its views on effects on historic properties in a single sentence, and a table in Appendix L that includes two letters from FERC to SHPO (one the NOI, and the second, an invitation to help produce the EIS), and three letters from SHPO to FERC. According to 36 CFR 800.3(c)(3), the agency official should consult with the SHPO in a manner appropriate to the nature of the undertaking. While we understand that the Section 106 process is still on-going, we are concerned at the level of consultation related to the nature of the undertaking, and the failure to include SHPO in consultation on the APE. Our office also feels strongly that consultation with appropriate consulting parties would be incredibly beneficial for this undertaking.

General Comments

As stated above, FERC recommends that Jordan Cove and Pacific Connector “not construct or use any of their proposed facilities, including related ancillary areas for staging, storage, temporary work areas, and new or to-be-improved access roads, until all studies and consultation necessary to complete compliance with the NRHP have been completed.” With all the iterations of the project over the years, including the current version, there have been numerous permits and projects conducted that are outside the NHPA process, but should be included due to the potential to effect historic properties. As the lead federal agency, these are issues that could be discussed during meaningful, early and often consultation with consulting parties regarding the undertaking. It is also worth mentioning that communications between consulting parties and the project proponent are referenced in the DEIS as support for FERC consultation. However, when these groups convened to develop a draft Memorandum of Agreement for the undertaking, FERC is on record stating that they will not sign, but instead develop their own MOA and circulate among consulting parties for comment. On that topic, please note, much has been learned since the 2011 MOA, and a similar document would not be considered appropriate or adequate. Since the current group has been meeting for several months, it would be beneficial if FERC engaged the consulting parties in the development of an MOA as opposed to circulating something without their significant input.

Regarding the statement that surveys have identified archaeological sites that require monitoring during construction, and that further testing has been recommended for some sites that cannot be avoided, please note that there are also areas of high probability that would need monitoring, as opposed to only areas where sites have been identified. In addition, there are other types of historic properties that will

SA2-394
cont.

SA2-395

SA2-396

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SA2-395 The final EIS states in section 4.11.5 that the we would develop, in consultation with the consulting parties, an MOA to resolve adverse effects at affected historic properties.

SA2-396 The referenced text is specific to the archaeological resources identified by surveys. High probability areas have not been identified us, other than those where geoarchaeological and subsurface testing has been conducted by the Applicant. The only other type of historic properties that has been identified to FERC is “Q’alay ta Kukwis schichdii me.” Additional TCPs may be identified by the ethnographic study that we have requested and is requiring before construction begins.

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be affected by the undertaking. Part of that is addressed in the DEIS where FERC acknowledges that the Section 101 and 106 processes have not yet been concluded. | SA2-396 cont.

Oregon Department of Transportation

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The Oregon Department of Transportation (ODOT) has the responsibility to preserve the operational safety, integrity, and function of the state's highway facilities. ODOT must also ensure that improvements to the highway system can be accomplished without undue impacts or damage to utilities within the highway right-of-way. It is ODOT's understanding that the proposed Jordan Cove Energy (natural gas terminal facilities) and Pacific Connector Natural Gas pipeline projects and associated activities could or will interface with state and/or interstate highways by crossing the highway, running parallel to the highway within the right-of-way, or running parallel to the highway just outside of the right-of-way. It is also ODOT's understanding that additional access may be needed to ODOT's facilities, and that traffic on ODOT's facilities may increase due to the projects (both during construction and upon project completion during regular operations and project maintenance).

General Requirements

Construction that may impact the state right-of-way (including interstate highways) is subject to Oregon Revised Statute (ORS) 374.305, under which no person, firm, or corporation may place, build, or construct on any state highway right-of-way, any approach road, structure, pipeline, ditch, cable or wire, or any other facility, thing, or appurtenance without first obtaining written permission from ODOT. The developers (Jordan Cove Energy Project, L.P. and Pacific Connector Gas Pipeline, L.P.), therefore, must obtain permits from each ODOT District Office where project work will occur *prior to commencing construction within the highway right-of-way or usage of access connections to the right-of-way*. The developer must also meet the requirements in Oregon Administrative Rule (OAR) Chapter 734 Division 51 for approach permitting and Division 55 for utility permitting through special provisions and should review rule requirements before completing plan sets and construction plans to understand stipulations related to the construction phase and future project operations and maintenance. ODOT Districts have some discretion in the issuance of a permit in order to address site specific situations such as weather/season, traffic volume, terrain, etc.

The following conditions must be fulfilled before a permit to work in the ODOT right-of-way will be issued:

- Developers must notify and work directly with ODOT where the proposed location of the terminal and pipeline facilities and associated activities are shown to be within the Potential Impact Radius (PIR) of any state highway. The PIR is based on minimum federal safety standards found in 49 CFR Part 192.
- Developers shall provide ODOT with a set of plans that include, but are not limited to, detailed construction staging plans for the terminal facility and associated LNG transfer facilities (e.g., Wharf, LNG storage tanks), expansion of upland industrial lands and access road improvements as well as pipeline route maps and construction staging plans. Developers will work with ODOT to develop

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design standards for all pipes and related structures within the PIR of a state highway. Design requirements include the following:

- o Minimum of 10 feet of cover from the top of the pipe will be the norm unless special acceptance of a lesser amount is authorized for a specific reason. A minimum of 10 feet of cover should be used as the standard within ODOT right-of-way.
- o All pipe crossings of the highway shall be properly cased, or – for uncased pipeline crossings – a substantial increase in the pipeline design standards will be required.
- o In no instance shall the pipeline be installed in an open trench across a state highway.
- o In no instance shall the pipeline attach to or be suspended within state highway bridge structures.
- o State highway access to all pipeline surface structures and assemblies, such as but not limited to gate valves and monitoring equipment, shall comply with OAR 734 Division 051 and all required conditions stated herein. A preferred location for pipeline surface structures and assemblies is outside of state highway right-of-way.
- o Temporary state highway access locations, used for construction activities, shall also comply with OAR 734-051 and all required conditions stated herein. Modifications appropriate to provide safe operation shall be constructed at all temporary state highway access locations, prior to construction usage. Safety modifications must be removed and the state highway and access points be returned to their original condition upon completion of construction activities.
- o Applicant must address specific site concerns associated with their terminal and pipeline route and associated project facilities. These concerns shall be addressed to the satisfaction of the appropriate Oregon Department of Transportation District offices prior to issuance of a permit to perform work within the state's highway right-of-way.
- o Annually, or as changes dictate, updated emergency contact information (names and phone numbers) shall be delivered to each ODOT District Manager in which the terminal and pipeline and associated project facilities may affect state highway operations and maintenance activities.

The developers are responsible to secure all state, federal, and local permits and clearances as required under federal, state, and local statutes or codes for all areas within ODOT state highway right-of-way that are impacted by the development.

All impacts to the traveling public on state highways will be approved by the ODOT local District Office(s) prior to those impacts occurring. Utility coordination will be the responsibility of the developers. The terminal and pipeline projects will need to provide traffic mitigation for all state highways affected, and the mitigation approved by ODOT prior to and for the duration of the impact.

Highway Classification and Milepoints

It is unclear throughout the DEIS when a "state highway" is being referenced. A permit from ODOT would be required for any work on a highway that is part of the state highway system including interstate highways and other highways on the National Highway System. It would be prudent to

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SA2-397 The cited text has been revised to say: "Major federal, state, and county highways that would be crossed by the pipeline include." Detailed information on proposed access roads and road crossing methods is provided by road and pipeline milepost in Appendix D, Table D-2 to the EIS. It is not the role or scope of the federal EIS to assess the Project's compliance with State regulations. We assume that the State would determine if the Project is in compliance with the State requirements during their review of the Applicant's State permit applications. As disclosed in Section 5 of the EIS, any authorization from the Commission would be conditional on the Applicant acquiring all applicable federal and federally delegated permits. Pacific Connector would be responsible for identifying highway and road classifications as part of its permit application processes and communications with other agencies and owners.

SA2-397

specifically identify all highways and roads by their appropriate jurisdictional authority; as part of the National Highway System, State Highway System, County Highway System, and other local, private, and federal land management agency roads. Properly identifying the correct highway and road classification is necessary to submit permit requests to ODOT as well as the other agencies or owners.

SA2-397 cont.

Highway Classification

In DEIS Section 4.10.2.1 (Access Roads), not all of the highways listed on page 4-626 to be crossed by the pipeline "Major state and federal highways that would be crossed by the pipeline include" are part of the state highway system, as follows:

- Highway 227, and Butte Falls Highway, are both under Jackson County road authority and therefore are not part of the State Highway System. Crossings of those County highways should be coordinated with that County road authority.
- ODOT does not allow open cut crossings on the State Highway System, including Interstate Highways.

SA2-398

Highway Milepoints

Also in DEIS Section 4.10.2.1, and also in Appendix C: Pipeline Route and Work Area Maps, ODOT recommends clarifying that the Milepoints ("MP") depicted both in written text in Section 4.10.2.1 and as displayed on maps and other graphics in the DEIS and Appendix C are "Pipeline MPs". ODOT also recommends that on the Pipeline Location Maps in Appendix C that every location where the pipeline intends to cross a State or Interstate Highway, the approximate State Highway Milepoint (MP) should also be displayed and in a different color than the pipeline Milepoints. This will eliminate confusion for the reader and should add consistency with Section 4.10.2.1 with the [corrected] listing of "Major state and federal highways that would be crossed by the pipeline include".

SA2-399

Traffic Impacts

In DEIS Section 4.10.1.2 (Motor Vehicle Traffic), on page 4-625, the DEIS recommends, and ODOT agrees and further recommends to the FERC, that:

Prior to construction, Jordan Cove should file documentation that it has entered into development agreements with ODOT, Coos County, and the City of North Bend, as recommended in the *Traffic Impact Analysis* report.

SA2-400

Over-sized Loads

ODOT recommends that the DEIS clearly state and reference requirements for Over Dimensional (O-D) permitting for the operation of the pipe delivery trucks, and any other over-dimensional loads, that will operate on state and interstate highways. O-D permitting on ODOT highways requires District approval for specific length trucks. Routing, time-of-day, and pilot vehicle requirements will be enforced, as appropriate, for the "hauling routes" in all affected ODOT Districts. The developers should reference ODOT's Over-Dimension Operations website in the DEIS for permitting procedures and requirements: <https://www.oregon.gov/ODOT/MCT/Pages/Over-Dimension.aspx>

SA2-401

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SA2-398 Section 4.10.2.1 has been revised to state that ODOT does not allow open cut crossings on the State Highway System, including Interstate Highways.

SA2-399 A footnote has been added to section 4.10.2.1 to clarify that references to mileposts are to pipeline mileposts, not highway mileposts. MPs identified on maps in the DEIS and Appendix C are readily identifiable as pipeline MPs because of their sequential numbering along the pipeline route. Highway MPs have not been added to the maps in Appendix C because they are not referenced in the document. PCGP would be responsible for meeting all ODOT mapping and other requirements as part of their ODOT permitting process.

SA2-400 Comment noted.

SA2-401 It is not the role or scope of the federal EIS to assess the Project's compliance with State regulations. We assume that the State would determine if the Project is in compliance with the State requirements during their review of the Applicant's State permit applications. As disclosed in Section 5 of the EIS, any authorization from the Commission would be conditional on the Applicant acquiring all applicable federal and federally delegated permits. As stated in section 4.10.2.1 of the EIS, Pacific Connector would implement all measures described in its Transportation Management Plan, including the following: Obtain all necessary permits from ODOT, BLM, Forest Service, and the counties to cross and/or use roads, and implement all permit stipulations. Details regarding O-D permitting, pipeline building/trenching and depth, and utility coordination with ODOT would be addressed as part of the ODOT permitting process, which is outside the scope of this EIS and FERC's responsibilities.

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Pipeline Building/Trenching and Depth

The proposed pipeline burial methods and pipeline depth information provided in the DEIS do not fully conform to ODOT's standard requirements. All ODOT highways are required to be crossed via boring, directional drilling, or other tunneling techniques. Developers must work with ODOT District Permitting and receive approval prior to any digging activities on or along ODOT right-of-way.

SA2-402

ODOT requires the pipeline to be installed with a minimum of 10 feet of cover within the entire roadway right-of-way, measured at the lowest point within the right-of-way—for instance, below the lowest ditch bottom—for all Districts. *This includes all ODOT state highway and interstate highway crossings within those highways' right-of-way boundaries.*

Additionally, the pipeline design team will need to submit calculations that insure that the pipe wall thickness, at all highway crossings, is increased so that bursting pressure meets or exceeds the "49 CFR PART 192, Class 3" standards, for a Potential Impact Radius (PIR) > 900 feet. ODOT recommends that the DEIS reference this calculation consistent with all appropriate state and interstate highway crossings and that those highway crossings be indicated by approximate highway Milepoint (in text and in graphics as relevant).

SA2-403

Utility Coordination

Utility relocation requires approval and coordination with ODOT for any work in/across/under ODOT right-of-way if not otherwise included in permit requests. Specific utility relocation requests will be handled through the appropriate ODOT District Office. Any permit issued by ODOT would be issued to the utility company that owns the utility line or facility, not to their contractor. If Pacific Connector is the utility owner, then the permit would be issued to them.

SA2-402 See response to comment SA2-401

SA2-403 See response to comment SA2-401

Oregon Department of Water Resources

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No.	Citation	Issue Identification	Recommended Resolution
1	Section 2 – Description of the Proposed Action. Pg.2-61 & 2-62 (PDF Pgs. 132-133)	Diverted Open-Cut Crossing, with references to Flume, or Dam and Pump. This section fails to account for interference with and/or damage to an existing water right holder, or diversion structures that might be located in an area that water would be diverted from during use of these methods.	This Department recommends that the applicant research any stretches of streams where these methods are contemplated, to determine if water rights exist. Water right holders that could be affected may need to be contacted to determine the best way to mitigate impacts.
2	Section 4.3 – Water Resources and Wetlands, In-Stream Flow sub-section. Pg.4-109 (PDF Pg. 297)	Hydrostatic Testing. This section speaks to the sources for obtaining water for hydrostatic testing, and that for any surface-water use, proper authorization would be obtained from OWRD. Existing water rights, other than municipal use, cannot be used because they are issued for a specific use in a specific location, possibly during a specific time.	Water from any source other than a municipality will require authorization from OWRD. A Limited License under ORS 537.143 is a typical method for obtaining water on a short term or fixed duration basis. The applicant is advised to contact the Department well in advance of water needs to determine best sources.
3	Section 4.3 – Water Resources and Wetlands, In-Stream Flow sub-section. Pg.4-111 (PDF Pg. 299)	Out-of-basin diversions. This section speaks to release of hydrostatic test water and the <i>Draft Hydrostatic Testing Plan</i> developed with input from several groups. OWRD was not consulted on this draft plan. The document states, "Where possible, test water would be released within the same basin from which it is withdrawn." ORS 537.801 et seq. addresses diversion of waters from basins of origin and defines "Basin" to mean "one of the	The applicant is advised to work closely with the Department to locate sources of water and to determine the appropriate mechanisms for appropriating water. Insofar as a significant amount of water may be transported outside the boundaries of the basin of origin, the applicant must work with the Department through the processes provided in ORS 537.803 – 870.

SA2-404

SA2-405

SA2-406

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SA2-404 See section 4.3.2 for the discussion of how water diverters would be contacted prior to diversion. All known points of surface diversions were identified and indicated in this section. All of the bypass areas for stream crossing would be short (less than 100 feet) and unlikely to encounter an unknown surface diversion.

SA2-405 Comment noted.

SA2-406 The Applicant indicated they would obtain the needed permits, which would be required prior to commencing construction if the project is approved.

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		river basins within this state" as defined by Department maps. ORS 537.801(3) states, "...the waters of the state may not be appropriated, stored or diverted for use outside the basin of origin except in compliance with ORS 537.801 to 537.860, including, if applicable, the prior approval of the Legislative Assembly under ORS 537.810."	
4	Section 4.3 – Water Resources and Wetlands, In-Stream Flow sub-section. Pg.4-112 (PDF Pg. 300)	Dust Control. This section speaks to the sources for obtaining water for dust control, and that for any surface-water use proper authorization would be obtained from OWRD. Existing water rights, other than municipal use, cannot be used because they are issued for a specific use in a specific location, possibly during a specific time.	Water from any source, other than a municipality, will require authorization from OWRD. A Limited License under ORS 537.143 is a typical method for obtaining water on a short term or fixed duration basis. The applicant is advised to contact the Department well in advance of water need to determine appropriate sources.
5	Section 4.3 – Water Resources and Wetlands, Point of Diversion Effects sub-section. Pg.4-118 (PDF Pg. 306)	Alternate Point of Diversion Locations. This section discusses consulting with the landowner if impacts on a water supply's point of diversion cannot be avoided, identifying an alternate location to establish the diversion.	Changing the location of a point of diversion under an existing water right requires state approval through a transfer application process, pursuant ORS 540 and OAR 690-380. The Draft EIS does not address or contemplate this requirement. The applicant is advised to work closely with the Department in regards to alternate points of diversion locations and apply for the required transfer well in advance of water needs.
6	Section 5 – Conclusions and Recommendations, #25. Pg.5-18 (PDF Pg. 1104)	Instantaneous Flow Reduction. This recommendation relates to the Hydrostatic Test Plan, requiring that any water withdrawal from a flowing stream does not exceed an instantaneous flow reduction of more than 10 percent of	Please be aware that withdrawal not exceeding an instantaneous flow reduction of more than 10 percent of stream flow may, in the absence of mitigation, cause an impact or injury to existing water rights, including but not limited to, instream water rights.

SA2-406 cont.

SA2-407

SA2-408

SA2-409

SA2-407 See response to comment SA2-406.

SA2-408 The Applicant indicated they would obtain the needed permits, which would be required prior to commencing construction if the project is approved. Note that these State permits are outside the scope of this federal EIS (see previous responses to this effect).

SA2-409 Comment noted.

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	stream flow.	
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SA2-409 cont.

Oregon Department of Forestry

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The ODF's comments are primarily related to the clearing, grading, construction, operation, and maintenance of project components that would be located across state and privately owned forest lands. In these instances project operators are responsible for review and compliance with applicable requirements found in statute and code.

Depending on the location of project activities, operator requirements and considerations may include but are not limited to the following conditions:

State and Private Forest Lands - Project activities involving commercial forest activity on state and private forest lands are governed by the Oregon Forest Practices Act, Oregon Revised Statute (ORS) 527, and Oregon Administrative Rules (OAR) chapter 629 divisions 605 through 665. These apply even though the forest activity is a peripheral component of the project (DEIS Section 4.5.2 Timber). The forest practice rules are intended to provide resource protection and to set standards for planning forestry practices including harvesting, road construction and maintenance, protecting water quality in waters of the state, limiting effects on specified wildlife and other resource sites, chemical and petroleum product provisions, fish passage, peak flows, providing for public safety down slope of high landslide hazards, and determining reforestation or land conversion requirements.

Conversion of Forestlands - While nothing in the Forest Practices Act shall prevent the conversion of forestland to any other use (ORS 527.730), administrative rules address the conversion to non-forest use to ensure the conversion process is coordinated with other relevant federal, state, and local agencies.

Protection of forestlands from wildfire (Permit to Use Fire or Power Driven Machinery (PDM)) The Oregon Department of Forestry is responsible for matters related to wildfire on forests within the state and project activities occurring on forest land may be subject to wildfire prevention and suppression requirements of Oregon Revised Statute chapter 477 and the associated administrative rules. In addition, every person conducting an operation inside or within 1/8 of a mile of an ODF forest protection district that uses fire or power driven machinery must first obtain a written permit (within the Notification), also known as a PDM. Fire prevention requirements must be adhered to. Some of these include but are not limited to: the need to limit or stop work during periods of elevated fire danger, the need to provide firefighting tools, the need to provide water supplies and pumping equipment, the need to provide fire watch personnel, the need to suppress wildfires originating from forest activities and construction, the need to dispose of debris in a specified manner, and the need to accept liability for the state's cost of suppressing wildfires originating from forest activities and construction. Following completion of the initial project activity, operation and maintenance activities will be subject to many of these same requirements. Additional information regarding these requirements is available at the Oregon Department of Forestry's website, <http://www.oregon.gov/odf/Pages/fire/fire.aspx>.

Additional comments are provided in the following table:

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No.	Citation	Issue Identification	Recommended Resolution
1	Section 1.5.2.6, Oregon Department of Forestry, Page 1-32, Para 2	This section acknowledges the need for Notification for a forest operation but fails to address that need for a written plan for all ownerships where operations occur.	The DEIS discusses harvest and loss of forestland but fails to acknowledge the submission of a written plan in addition to notification. Written plans are part of the submission and such plans are an accompanying document to Notification. The Notification serves three purposes: notification of a forest operation (ORS 527.670), a request for a Permit to Use Fire or Power Driven Machinery (PDM, ORS Chapter 477), and notice to the Department of Revenue of timber harvest (ORS 321.550). Notifications are to be submitted via the online E-Notification system (www.ferns.odf.state.or.us/E-Notification). A separate notification should be filed for each county and timber owner affected by the project. All notifications require a 15 day waiting period before activity may begin unless a waiver is requested.
2	Section 4.7.2.2, Existing Land Use, Forestland, Page 4-417, Para 1	This section refers to regulatory requirements and route and clearing upland forest and land use change. This section fails to mention the need for an Alternate Practice where land use change results in a conversion of forestland.	The DEIS discusses harvest and loss of forestland, in which case conversion of forestland to other land uses (ORS 527.730) or practices not in statute or rule requires the submission of a Plan for Alternate Practice and written approval from the State Forester at the time of the operation.
3	Section 4.1.2.4 Landslide Hazards and Slope Stability Page 4-18 thru 4-25, Para 1	Section refers to Landslide and Slope Stability, but does not reference forest operations. Forest Practices Act landslide hazard assessment and standards may be applicable. Reference to forest operations is absent.	It is anticipated that most or all landslide public safety hazards associated with the project will fall under other jurisdictions due to land use conversion. Where clearings are not permanent and forest land use is maintained or proposed roads have a combined Pipeline and forest use, provisions for public safety under Forest Practices Act Rule Division 623 may be necessary. Reference to appropriate sections of the final EIS with equal or greater protection standards may also meet requirements.

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SA2-410 Text revised.

SA2-411 It is not the role or scope of the federal EIS to assess the Project's compliance with State regulations. We assume that the State would determine if the Project is in compliance with the State requirements during their review of the Applicant's State permit applications. As disclosed in section 5 of the EIS, any authorization from the Commission would be conditional on the Applicant acquiring all applicable federal and federally delegated permits.

SA2-412 There is no "forest operations" proposed as part of this project. This is not a forest management project. It is not the role or scope of the federal EIS to assess the Project's compliance with State regulations or OARs. We assume that the State would determine if the Project is in compliance with the State requirements and OARs during their review of the Applicant's State permit applications. As disclosed in section 5 of the EIS, any authorization from the Commission would be conditional on the Applicant acquiring all applicable federal and federally delegated permits.

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4	Potentially Contaminated Soils and Groundwater, Accidental Spills Section 4.2.2.2, Pages 4-59 through 4-68.	Forest Practices Act and Chemical Rules standards may be applicable in the course of forest operations, reference to the FPA and forest operations is absent.	Provisions for spills of hazardous materials or applications of chemicals may have applicable standards under Forest Practices Act Rule Division 620 or reference to appropriate sections of the final EIS with equal or greater protection standards.	SA2-413
5	Surface Water, Pacific Connector Pipeline Project Section 4.3.2.2, Page 4-92 and other sections relevant to water quality	Forest Practices Act and water quality linkage, document does not identify relationship with FPA required written plan or alternate plan where water quality elements are	Through the Notification process, provisions for surface water quality under the Forest Practices Act (FPA) and rules will need to be addressed. Details would be submitted in either a Written Plan or Alternate Plan. Details may include specific provisions for meeting the FPA or reference appropriate sections of the final EIS with equal or greater protection standards or where land use conversion places water protection under other jurisdictions.	SA2-414
6	Wetlands Section 4.3.3, Pages 4-118 through 4-134	Forest Practices Act and wetland, lake linkage	Through the Notification process, provisions wetlands under the Forest Practices Act (FPA) and rules may need to be addressed (Divisions 645, 650, 655). Details would be submitted in either a Written Plan or Alternate Plan. Details may include specific provisions for meeting the FPA or reference appropriate sections of the final EIS with equal or greater protection standards or where land use conversion places water protection under other jurisdictions.	
7	Other Special Status Species Section 4.6.3 page 4-368 Para 1	This section speaks about additional wildlife species that have special status or consideration by other federal or state agencies, beyond those listed as Threatened or Endangered under the federal ESA. The Oregon Forest Practices Act requires protections for certain wildlife species under Oregon Administrative Rule 629, Division 665. The FPA has specific rules for Northern Spotted Owl nest sites (OAR-629-	Forestry recommends that the applicant address protections afforded to wildlife under the Oregon Forest Practices Act in the EIS. Of particular note is the great-blue heron. Although this species is protected by law through the FPA, in association with forest operations, it is not addressed as a special status species in the EIS. Furthermore, these protection standards need to be addressed throughout the EIS. Activities such as timber harvest operations that occur near a known site of one of these species may require a written plan to address	SA2-415

SA2-413 It is not the role or scope of the federal EIS to assess the Project's compliance with State regulations or OARs. We assume that the State would determine if the Project is in compliance with the State requirements and OARs during their review of the Applicant's State permit applications. As disclosed in Section 5 of the EIS, any authorization from the Commission would be conditional on the Applicant acquiring all applicable federal and federally delegated permits.

SA2-414 It is not the role or scope of the federal EIS to assess the Project's compliance with State regulations or OARs. We assume that the State would determine if the Project is in compliance with the State requirements and OARs during their review of the Applicant's State permit applications. As disclosed in Section 5 of the EIS, any authorization from the Commission would be conditional on the Applicant acquiring all applicable federal and federally delegated permits.

SA2-415 The State can require this as part of their State permit. These are not requirements that would be included in the federal EIS.

It is not the role or scope of the federal EIS to assess the Project's compliance with State regulations. We assume that the State would determine if the Project is in compliance with the State requirements during their review of the Applicant's State permit applications. As disclosed in section 5 of the EIS, any authorization from the Commission would be conditional on the Applicant acquiring all federal and federally designated authorizations.

Note that the great blue heron is discussed in section 4.5.

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		665-0210); Bald Eagle nest sites (OAR 629-665-0220), winter roost sites (OAR 629-665-0230), and foraging perch sites (OAR 629-665-0240); Osprey nest sites (OAR 629-665-0110), and Great Blue Heron rookeries (OAR 629-665-0120). Written plans which describe how forest operations will be conducted to avoid a conflict may also be required for operations near known sites of marbled murrelets under OAR-629-0170(5)(d) or OAR-629-0190(2). Similarly, written plans may be required for operations near certain band-tailed pigeon mineral springs or golden eagle nest sites under OAR-629-0170(5)(a) or OAR-629-0190(1).	how the operation will be conducted to avoid a conflict with the wildlife site. Exceptions to the FPA rules for spotted owls or marbled murrelets may apply if the applicant has a valid Incidental Take Permit from the USFWS. Other exceptions would need to be addressed through a Plan for Alternate Practice which must indicate how the operation will be conducted to result in a net equal or greater outcome for the species in question.
8	Other Special Status Species Section 4.6.3 page 4-368 Para 1	The proposed route indicates that the Pacific Connector pipeline project may go through or near known nest patches of spotted owls.	Forest operations on non-federal lands near a known nest site of a spotted owl may require a Written plan or Plan for Alternate Practice. This may include a requirement to designate a 70 acre core area of suitable spotted owl habitat, as described in rule in OAR 629-665-0210(1)(a). Exceptions to the FPA rules for spotted owls may apply if the applicant has a valid Incidental Take Permit from the USFWS. Other exceptions would need to be addressed through a Plan for Alternate Practice which must indicate how the operation will be conducted to result in a net equal or greater outcome for the species in question.
9	Section 4.6.3 page 4-368 Para 1	This section describes "special status species". The FPA and species which receive protection under the FPA are not included in this section or Appendix I.	Recommend adding Oregon Department of Forestry and species protected under the Forest Practices Act to this section and Index referencing "special status species".

SA2-415 cont.

SA2-416

SA2-417

SA2-416 The State can require this as part of their State permit. These are not requirements that would be included in the federal EIS.

It is not the role or scope of the federal EIS to assess the Project's compliance with State regulations. We assume that the State would determine if the Project is in compliance with the State requirements during their review of the Applicant's State permit applications. As disclosed in Section 5 of the EIS, any authorization from the Commission would be conditional on the Applicant acquiring all federal and federally designated authorizations.

Northern spotted owls are discussed in section 4.6, including a discussion of the 70 acre nest patch. Additionally, we submitted a Biological Assessment to the Services on July 29, 2019, with a request to initiate formal consultation under Section 7 of the federal Endangered Species Act.

SA2-417 Species protected under the Forest Practices Act (FPA) such as osprey, great blue heron, and bald eagles are discussed in section 4.5.

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SA2-418 See response to comment SA2-233. There is no legal requirement under NEPA to mitigate all impacts from a Project. Information related mitigation that is being proposed by the Applicant or required by the federal agencies is disclosed in the EIS.

SA2-419 See response to comment SA2-423.

Appendix B (Cont.): Expansion of riparian discussion from Department comments on the JCEP/PCGP DEIS.

<p>Chapter 2.0 Table 2.1.5-1 Chapter 4.0; and Appendix F</p>	<p>Riparian Habitat Impacts: A. Riparian vegetation within the Riparian Management Area (RMA) zone near streams, wetlands, and waterways is critically important for the h fish populations, especially in the drier parts of the pipeline corridor such as the Rogue and Klamath watersheds. Fish in the state are predominantly cold-water species that evolved in stream conditions that were generally in most cased related to climax or second growth hardwood and conifer forest, thus near maximum shade that the stand would produce. Oregon Dept. of Environmental Quality has identified 303d temperature listed streams including numerous streams through the pipeline route. These listings relate directly to removal of riparian</p>	<p>Riparian Habitat Impacts: A. The Department recommends for riparian vegetation: <ul style="list-style-type: none"> RMA vegetation meet or exceed State and local government requirements be implemented on non-federal lands. All disturbed areas need to be replanted with native vegetation. The department recognizes that the proposed crossing locations may be on lands where private landowners may not allow the full setback to be replanted. In these situations, the Department does not object if mitigation for permanent riparian impacts occurs off-site provided that it occurs within proximity within the same HUC 6 watershed and on private lands. <p><i>(Note: The department recognizes recommendation in this section may not be possible).</i> Riparian ordinances in Coos and Douglas counties have been defined as a 50ft. minimum setback. Where the pipeline is adjacent to a stream corridor, the department recommends that riparian hardwood native vegetation be replanted and allowed to regenerate from the OHW mark to a distance of 50ft. minimum upslope in the pipeline corridor. The Department recommends:</p> <ul style="list-style-type: none"> Plants should include a minimum of at least 3 shrub species and 2 hardwood and 2 conifer tree species native to the location. Plants should be installed from bare root or preferred 1 gallon or 2 gallon stock from a genetic source within 60 air miles and 1000ft. of elevation of the site. Planting spacing should be 3ft. maximum and </p>
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SA2-418

SA2-419

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SA2-420	<p>vegetation since the 1800's. The department notes that PCGP staff have developed a water temperature model to evaluate the impacts of the project at specific stream crossings. Chapter 4.3 identifies through modeling efforts that some streams impacted by the PCGP will be cooler following removal of the riparian corridor, which is not scientifically logical.</p> <ul style="list-style-type: none"> OC Coho salmon production across the pipeline route has been significantly deleteriously impacted by historical removal of vegetation from the RMA. Further impacts are considered as highly negative for this species as well as Fall Chinook Salmon, winter steelhead, and Coastal Cutthroat Trout. 	<p>continue upslope.</p> <ul style="list-style-type: none"> (Note: The Department recognizes the need for the pipeline to maintain a maintenance corridor. Accordingly, the above recommendations in A. are likely not feasible and in lieu of on site mitigation off-site mitigation is recommended such . <p>B. The Department recommends coordination with Department staff to develop Riparian Mitigation off-set mitigation (see comments below).</p>	SA2-419 cont.
SA2-421	<ul style="list-style-type: none"> The DEIS identifies extensive measures on federal lands where RMA's are currently considered in "Good" condition to further improve these stands. These measures are noted by the Department, but will fully fail to address damage to RMA's on private lands. 	<p><u>Note: In Jackson County, the riparian setback for all streams except the Rogue River is 50 feet from the ordinary high water level; the setback on the Rogue is 75 feet. As part of its review process for land use actions, Jackson County typically requires applicants to fill out a Riparian Landscape Plan showing how the proposed project will mitigate for unavoidable impacts to riparian areas. These plans must be reviewed and approved by the department before the County will accept them. Planting measures should be the same as section A.</u></p> <p><u>C. If the Applicant is unable to ensure the recommendations above in A and B,</u> The Department recommends the 30-foot wide area centered on the pipeline where the current proposal is to allow no trees taller than 15 feet be allowed to grow; as there will be a 30-foot wide area which will be maintained in an herbaceous state that provides very limited RMA function. The maintenance corridor will alter the vegetation in riparian areas for the life of the project and should require mitigation. Pacific Connector should calculate the amount of permanent impact from this loss of vegetation using the local riparian setback ordinances and be required to provide mitigation accordingly. Most riparian habitats will be considered Habitat Category 2 or 3 under the department Habitat Mitigation policy. In order to meet a "Net Benefit" through habitat restoration, the</p>	SA2-422
SA2-423	<p>B. The Department has repeatedly raised concerns over inadequacy of</p>		

SA2-420 The description of likely temperature change included multiple sources including this analysis, additional analysis on other project area streams, as well as literature sources from similar clearing actions to make determination of likely affects.

SA2-421 There are no legal requirements under NEPA to mitigation for all impacts to Riparian Management Areas on private lands.

SA2-422 The amount of riparian area changed from construction and operation is provided in the EIS (see section 4.5.2.3). There is no legal requirement under NEPA to mitigate all impacts from a Project. Information related mitigation that is being proposed by the Applicant or required by the federal agencies is disclosed in the EIS.

SA2-423 The Applicant's revegetation plan includes commitments on private land to plant within the ODF RMA designation areas with native vegetation including trees outside of the 30-foot access corridor. These planting would be in riparian areas in the same 4th field watershed which may include the same channel or nearby channels. Planting would be in the ratio of 1:1 for construction phase removals and 2:1 for operation areas (areas primarily along the 30-foot-wide access right-of-way) (Thermal Impact Assessment Appendix Q.2 of PCGP RR2). Additionally upland trees would be planted beyond designated riparian areas on forested lands that were cleared for project construction other than the 30 foot access corridor. There is no legal requirement under NEPA to mitigate all impacts from a Project. Information related mitigation that is being proposed by the Applicant or required by the federal agencies is disclosed in the EIS. Additional mitigation may be required for obtaining State designated permits, but these potential mitigative actions are not part of this federal NEPA analysis.

SA2-424 Comment noted.

<p style="color: red; font-weight: bold;">SA2-423 cont.</p>	<p>proposed riparian vegetation buffers for the PCGP on non-federal land. The proposed 25-foot replanting zones on private and state lands are not consistent with county or state requirements for riparian areas which may also vary depending on specific location within state and private forest lands. Agreed riparian buffers on federal land are 100 ft. minimum. For example, Douglas County Land Use and Development Ordinance (LUDO) requires the department to complete an inspection for any land use action that will affect the Riparian Vegetation Corridor. Other counties that the pipeline passes through have similar riparian vegetation-related ordinances. The Douglas County ordinance requires the Department to grant approval to reduce the setback or, if that is not possible, there is an appeals process through the county planners.</p> <p>C. Providing shade to streams is a critically important function of riparian areas, but there are many other functions. Healthy riparian areas contribute wood to streams which create habitat for</p>	<p>D. <u>Thinning as Mitigation</u>: The department recommends:</p> <ul style="list-style-type: none"> • This treatment be used only on a very limited basis if at all. • This type of treatment only be used in subbasins where no stream or downstream reach of a connected stream is considered 303d listed. <p><u>Additional Riparian Recommendations</u>: The department recommends revisiting analysis and discussion of the following specific riparian impacts/mitigation components of the 2009 project FEIS:</p> <p>Revisit the sufficiency of the Compensatory Mitigation Plan (CMP) to fully mitigate project impacts. The CMP which was developed in close consultation with the USFS and other federal agencies and has been considered by the applicant to be sufficient to mitigate for impacts to federal and private lands. The department does not concur with the above conclusion.</p> <ul style="list-style-type: none"> • The vast majority of proposed mitigation will occur on Federal lands whereas impacts to habitats will occur across Federal, State, and private ownerships creating an inequitable disparity between impact site and mitigation site location. <p>According to the DEIS, a total of 90.7 acres of various types of riparian vegetation will be removed within riparian zones on federal property with additional acres on private ownership that are within watersheds that provide critical habitat for either Oregon Coast (OC) and Southern Oregon/Northern California Coast (SONCC) coho salmon. Most of this habitat (70%) is on private land. The CMP focuses on a late successional and mid-seral forest subset within the lost riparian</p>	<p style="color: red; font-weight: bold;">SA2 -424</p>
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	<p>fish and slow down stream flows during storms. Plant roots hold the soil in place which helps to prevent erosion. Riparian vegetation filters runoff reducing the amount of sediment and pollutants that enter the stream. Many terrestrial wildlife species rely on riparian vegetation for food, shelter, and migration corridors.</p> <p>D. <u>Thinning as Mitigation:</u> The DEIS notes in TABLE Table 2.1.5-1 and other locations thinning of the riparian forest as mitigation. The department recognizes that this treatment will produce harvest revenue, however, assuming that this treatment is aimed at producing greater growth through reducing stock densities, the department considers this treatment experimental and unlikely to yield benefits for fishery resources on medium and small streams as:</p> <ul style="list-style-type: none"> • Due to existing stream protection buffers on federal lands most stands timber near streams are >60yrs. in age. Individual trees in these stands largely have attributes (sufficient size and 	<p>vegetation habitat. Most of this habitat (63%) is on private land. Yet, nearly the entire menu of mitigation for these impacts occurs on public land. Throughout project reviews, the department has recommended that mitigation occur on private lands where it may not occur otherwise.</p> <ul style="list-style-type: none"> • The Department recommends further consideration of mitigation options on non-federal lands in order to achieve mitigation site locations commensurate to impact site locations. • The Department recommends that mitigation proposals should be expanded for impacts to fish species in addition to late successional and mid-seral forest riparian habitat across the pipeline route including the range of both OC and SONCC coho salmon. The proposed project would result in a loss of function of other riparian habitat types due to a lack of adequate proposed mitigation. <p>The Department recommends other priorities for mitigation in addition to large wood. These include, but are not limited to:</p> <ul style="list-style-type: none"> • 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, and • Restoration of riparian habitat such as fencing and planting, non-native vegetation control, etc. (multi-year projects) See Appendix B in this document. <p>FERC's staff has previously recommended that PCGP develop a stream mitigation plan. The department has previously requested this as well.</p> <ul style="list-style-type: none"> • The Department recommends that the applicant complete a stream, riparian, wetland, and upland mitigation plan for all
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SA2-425

SA2-426

SA2-427

SA2-428

SA2-425 Comment noted.

SA2-426 There is no legal requirement under NEPA to mitigate all impacts from a Project. Information related mitigation that is being proposed by the Applicant or required by the federal agencies is disclosed in the EIS.

SA2-427 It is not the role or scope of the federal EIS to assess the Project's compliance with State regulations or OARs. We assume that the State would determine if the Project is in compliance with the State requirements and OARs during their review of Applicant's State permit applications. If the State chooses it could make the requested requirements and mitigation actions contingent for the State permit approval. As disclosed in Section 5 of the EIS, any authorization from the Commission would be conditional on the Applicant acquiring all applicable federal and federally delegated permits.

SA2-428 The COE and ODSL are currently working with the Applicant on wetland mitigation requirements. Per the requirements of the Clean Water Act, the Applicant would have to demonstrate that all impacts to wetlands are avoided or minimized to the extent practical as part of the 404 and 401 permitting process. There is no legal requirement requiring an riparian or upland mitigation plan to be developed.

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	<p>height) to provide good-excellent LWD for small streams and fair-good for smaller medium sized streams.</p> <ul style="list-style-type: none"> • A number of small tributaries where treatments are proposed feed into larger tributaries that are 303d listed for temperature. If a particular stand is providing maximum shading overstocked and thinning will reduce shading there becomes a need for discussion to determine "Limiting Factors" for salmonids by individual watershed prior to thinning treatment. Increasing water temperature at time zero in the context of increasing LWD 100-200yrs. in the future fails to meet ecological objectives. • Thinning of overstocked stands decreases tree mortality, improves growth rates, and theoretically extends the life expectancy of trees. Overstocked stands have more disease issues and greater mortality, thus contributing more snag habitat and large wood to streams in upcoming years, while allowing 	<p>Impacts (on federal and non-federal lands), which is acceptable to state and federal natural resource agencies and approved by the department prior to FERC authorization of this project.</p> <p>The Department notes that proposed mitigation measures in the CMP are likely not adequate. Each of these stream crossings will need to be assessed during a site visit with a department biologist to assess project-related impacts. These site visits will be used to determine:</p> <ul style="list-style-type: none"> • The Department anticipates that the applicant will use all measures available to determine fish distribution, however, in the rare instance that there remains uncertainty concerning fish use of a stream department staff will need to assist with historic and present fish presence/absence if unknown and species expected to be present. • Individual Habitat Categorization under the department Habitat Mitigation Policy and to assist the project proponents in determining suitable mitigation to offset those • The Department strongly objects to the Environmental Investigator (EI) determining mitigation needs during implementation as described in the FERC Wetland and Waterbody Construction and Mitigation Procedures. Site specific impacts will need to be assessed at each stream or river crossing to determine mitigation needs for each unique site based on the department Fish and Wildlife Habitat Mitigation Policy.
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SA2-428 cont.

SA2-429

SA2-429 Comment noted. This is not required per the NEPA process, but the State can require this as part of the State's permit review process.

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CONFEDERATED TRIBES OF
COOS, LOWER UMPQUA AND SIUSLAW INDIANS
TRIBAL GOVERNMENT
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**TR1 Confederated Tribes of Coos, Lower Umpqua and Siuslaw
Indians, page 1 of 4**

April 23, 2019

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

RE: Dockets CP17-494-000, CP17-495-000

Dear Secretary Bose:

The Confederated Tribes of Coos, Lower Umpqua and Siuslaw Indians ("CTCLUSI" or "Tribe") submits the following comment on the proposed Jordan Cove LNG Terminal ("JCLNG") and Pacific Connector Gas Pipeline ("PCGP"), Dockets CP17-494-000, CP17-495-000, (collectively "the Applicant" or "the Projects"). Specifically, the Tribe requests that FERC act to ensure that ongoing project actions on the Project site comply with federal cultural resource laws.

FERC is currently considering whether to approve a proposal by the Applicant to construct a liquefied natural gas ("LNG") export facility on 500 acres of the North Spit in Coos Bay, Oregon. That property has a permitted landfill with three cells on the North Spit permitted by the Oregon Department of Environmental Quality ("ODEQ"). As part of its proposal to develop the LNG export facility, the Applicant is developing plans to close the landfill, which would require revised Operations, Conceptual Closure and Post-Closure Care plans under its current permit. In April 2018, ODEQ received those revised plans from the Applicant.

In July 2018, DEQ approved the revised Operations, Conceptual Closure and Post-Closure Care plans. Under the 2018 Operations Plan, Cells 2 and 3 would no longer receive new waste. In addition, the 2018 Conceptual Closure Plan and Post-Closure Care Plan for both Cells 2 and 3 have changed. Under the new plans, Cell 3 will no longer be closed and capped. Instead, waste would be removed from inside the liner in two phases. In the first phase, some waste would be removed and taken to a permitted landfill offsite. In the second phase, the remaining waste and the liner would also be removed and disposed of offsite. Any removal in the second phase will be reviewed and approved by ODEQ as part of the closure permit. The Conceptual Closure Plan for Cell 2 is not changing. That cell will be closed and capped.

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ODEQ is waiting for revised plans from the Applicant to draft the closure permit. The Applicant prepared a dewatering plan to reduce the amount of liquid from the bottom of Cell 3. ODEQ approved the dewatering plan in March 2019.

The Draft Environmental Impact Statement (“DEIS”) acknowledges that the landfill exists and that its closure is required for this project to proceed – “The LNG terminal site comprises primarily privately controlled land consisting of a combination of brownfield decommissioned industrial facilities, an existing landfill requiring closure, and open land.” DEIS at 5-6; *see also* DEIS at 4-404 (“Lands affected during construction include areas that would be permanently and temporarily altered.”).

These closure actions will result in significant ground disturbance and have the potential to impact cultural resources on the site. Despite this and FERC’s acknowledgement that the actions are related to potential LNG export facility development, there has been no efforts of the agency to ensure that the landfill closure actions comply with federal laws designed to avoid impacts with cultural resources.

Section 106 of the National Historic Preservation Act (“NHPA”) requires federal agencies to consider the effects of their undertaking on historic properties.¹ Thus, although FERC’s regulations to some extent delegate Section 106 review to project applicants², the agency is nevertheless statutorily obligated to independently evaluate and mitigate an undertaking’s effects on historic properties.

The Section 106 process is triggered when a federal action is determined to be an undertaking, defined by the Advisory Council on Historic Preservation (ACHP) as “a project, activity, or program funded in whole or in part under the direct or indirect jurisdiction of a Federal agency, including those carried out by or on behalf of a Federal agency; those carried out with Federal financial assistance; and those requiring a Federal permit, license or approval.”³ FERC regulations confirm that its Section 106 responsibilities apply to undertakings on both public and private lands.⁴

Once a project is determined to be an undertaking, then the federal agency must initiate initial consultation with relevant parties.⁵ Relevant parties include tribes that attach religious and cultural significance to the affected properties, even where the properties are not within the Tribe’s current territorial boundaries.⁶ These parties are referred to as consultation parties.

¹ 54 U.S.C. § 306108.

² 18 C.F.R. § 380.14.

³ 36 C.F.R. § 800.16(y). The ACHP has the authority to review an agency’s compliance with Section 106 and provide advisory opinions and recommendations on ways to better fulfill legal responsibilities. 36 C.F.R. § 800.9.

⁴ 18 C.F.R. § 380.14(a)(1).

⁵ 36 C.F.R. § 800.5(a).

⁶ 36 C.F.R. § 800.2 (c)(2)(ii). Furthermore, tribes with religious and cultural attachments should be given “a reasonable opportunity to identify its concerns about historic properties, advise on the identification and evaluation of historic properties, including those of traditional religious and cultural importance, articulate its views on the undertaking’s effects on such properties, and participate in the resolution of adverse effects.” 36 C.F.R. § 800.2 (c)(2)(ii)(A).

TR1 continued, page 2 of 4

TR1-1 The draft EIS did not specifically call out the Cell 3 landfill, because the closure of the landfill is not part of the Project within FERC’s jurisdiction. The landfill closure is not directly related to the Jordan Cove LNG export terminal. The landfill was created by the Menasha/Weyerhaeuser mill complex, that operated between about 1961 and 2003. The removal of the landfill is part of the mill closure plan between Weyerhaeuser and the ODEQ. We agree that removal of the landfill may result in ground disturbance, that has the potential to impact cultural resources. The landfill is within the South Dunes area, that will be utilized by Jordan Cove for its temporary construction laydown area, Workers Housing Complex, administrative offices, and the non-jurisdictional SORSC. As documented in Appendix L of the EIS, the South Dunes area has been inventoried by several different investigations, including, but not limited to Byram and Purdy 2007, Byram and Shindruk 2012, Byram and Rose 2013, and Punke et al. 2018. No cultural resources were identified by those surveys in the vicinity of the Cell 3 landfill. Those surveys were conducted as part of FERC’s efforts to comply with Section 106 of the NHPA for the Project. In an August 6, 2019 filing in response to FERC’s July 22, 2019 environmental information request, Jordan Cove stated that: “Since the Cell 3 closure is not part of the Project nor subject to FERC jurisdiction, additional cultural resources surveys, testing, or permitting related to the closure of Cell 3 are not required and have not been undertaken.”

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If, after initial consultation, it is determined that the undertaking has the potential to adversely impact historic properties, then the federal agency must initiate resolution consultation with these parties.⁷

Resolution consultation involves a comprehensive assessment of actual adverse impacts on historic properties and of ways to "avoid, minimize or mitigate the adverse effects", including the proposal of alternatives.⁸ Consultation must be more than "simply an exchange of views."⁹ Instead, it is a "process of seeking, discussing, and considering the views of others, and, where feasible, seeking agreement with them on how historic properties should be identified, considered, and managed."¹⁰ Moreover, agencies must recognize the government-to-government relationship between federal and tribal governments and approach consultation with sensitivity and respect for sovereignty.¹¹ Such an approach is also necessary to comply with an agency's duties under the federal trust obligation.¹²

FERC is bound by the requirements of the NHPA in making its decision to approve or deny the Projects. FERC acknowledged, albeit impliedly, that the Projects constitute a federal undertaking when it initiated Section 106 consultation in the "Notice of Intent to Prepare an Environmental Impact Statement for the Planned Jordan Cove LNG Terminal and Pacific Connector Pipeline Projects." Any related investigatory or preparative work by FERC or the Applicant should be considered a part of that undertaking. This includes any work directly related to the closure of the landfill, which would not occur BUT FOR potential development of the site for the LNG export facility. Consistent with FERC's own regulations, the agency has NHPA obligations on all public *and* private land affected by the Projects.

Through correspondence with FERC staff over the past year, the Tribe has repeatedly voiced its concern that there is a potential for adverse effects as a result of these Projects. Consequently, FERC must engage in resolution consultation with the State Historic Preservation Officer ("SHPO") and the Tribe to resolve all potential adverse effects of this undertaking, even where impacts occur on private lands. To comply with regulations, guidelines, and the federal trust obligation, FERC is required to involve the Tribe, as a consulting party, in discussions aimed at avoiding, minimizing, and mitigating any adverse effects on cultural resources. Such involvement must be a bilateral collaborative effort, rather than merely noting the Tribe's concerns and moving on.

TR1-2

TR1 continued, page 3 of 4

TR1-2 As stated in section 4.11 of the draft EIS, the Jordan Cove Project is an undertaking (as defined in 36 CFR 800.16(y)) for which FERC will comply with the NHPA. As part of our effort to comply with Section 106 of the NHPA, FERC ensured that cultural resources inventories were conducted to cover the South Dunes area, where Project components are planned. The Cell 3 landfill is within the South Dunes area. However, the closure of this landfill has nothing to do with the Jordan Cove LNG export terminal. The closure of the Cell 3 landfill fails the "but for test." The landfill would be closed regardless of the Jordan Cove Project. The landfill was created by the Menasha/Weyerhaeuser mill complex, that operated between about 1961 and 2003. The removal of the landfill is part of the mill closure plan between Weyerhaeuser and the ODEQ.

FERC engaged in consultations with the Oregon SHPO and interested Indian Tribes regarding compliance with the NHPA for the Project, as documented in section 4.11 and appendix L of the DEIS. Both the SHPO and Tribes had the opportunity to review and comment on the surveys that covered the South Dunes area, including the Cell 3 landfill. Since no cultural resources were identified in the vicinity of the Cell 3 landfill, there are no adverse effects to resolve at that location. However, as noted in the EIS, FERC continues to consult with the CTCLUSI.

⁷ 36 C.F.R. § 800.5(d).

⁸ 36 C.F.R. § 800.6(a).

⁹ *The Secretary of the Interior's Standards and Guidelines for Federal Agency Historic Preservation Programs Pursuant to the National Historic Preservation Act*, 63 Fed. Reg. 20496, 20498 (April 24, 1998).

¹⁰ *Id.* at 20504.

¹¹ 36 C.F.R. § 800.2(c)(2)(ii).

¹² FERC recognizes its trust obligation in its own regulations. 18 C.F.R. § 2.1c. The U.S. Supreme Court has concluded that when dealing with tribal interests, the United States is "bound by every moral and equitable consideration to discharge its trust with good faith and fairness." *U.S. v. Payne*, 264 U.S. 446, 448 (1924) (citing *Choctaw Nation v. U.S.*, 119 U.S. 1, 298 (1886)). Furthermore, the Supreme Court has expressed that the trust obligation imposes "the most exacting fiduciary standards." *Seminole Nation v. U.S.*, 316 U.S. 286, 296-97 (1942).

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TR1 continued, page 3 of 3

Accordingly, we request that FERC engage in Section 106 consultation for any actions that are directly related to its approval of the Jordan Cove site as a LNG export facility including the ongoing landfill closure process.

TR1-2
cont.

If you have any questions about these comments, please feel free to contact Margaret Corvi, our Culture and Natural Resource Director, at (541) 4357151, or Stacy Scott, our THPO, at (541) 888-7513.

Sincerely,



Margaret Corvi
Culture and Natural Resource Director

cc:
ODEQ
SHPO

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CONFEDERATED TRIBES OF
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May 10, 2019

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

RE: Dockets CP17-494-000, CP17-495-000: Request for Extension of Comment Period on DEIS and for Government-to-Government Consultation

Dear Secretary Bose:

This letter is sent on behalf of the Confederated Tribes of Coos, Lower Umpqua and Siuslaw Indians ("CTCLUSI" or "Tribe") on the proposed Jordan Cove LNG Terminal ("JCLNG") and Pacific Connector Gas Pipeline ("PCGP"), Dockets CP17-494-000, CP17-495-000, (collectively "the Projects"). Specifically, the Tribe requests: (1) that FERC grant a thirty (30) day extension of the comment period for the draft environmental impact statement ("DEIS") for the Projects and (2) that FERC engage in meaningful government-to-government consultation regarding the Projects and the DEIS.

First, the DEIS is composed of more than 1,100 pages and 34 appendices covering two significant Projects impacting Coos Bay and a large portion of the State of Oregon. The DEIS is intended to address a far ranging set of impacts from cultural resources to air quality to fisheries. Significant time is required to fully review and develop comments on the DEIS. Attempting to complete a meaningful review of these thousands of pages by July 5, 2019 will present a significant hardship for the Tribe. This is particularly the case given that FERC has yet to engage in government-to-government consultation with the Tribe on the DEIS and substantive supplemental information continues to be added to the docket¹ (to date, FERC staff has had two in-person meetings with the Tribe on these Projects over the thirteen project years).

Given the significance of these Projects, the disproportional impact to the Tribe, and the volume of the DEIS and its supporting documents, a 30 day extension is warranted.

Second, as stated above, FERC has not consulted with the Tribe on the DEIS and has held one staff-level meeting with the Tribe early in the process. While we appreciate the invitation of FERC staff to meet at an open meeting during the week of June 20, 2019, a staff-level meeting

¹ Recent supplemental information on the electrical systems of the Project facility represents another significant difference between the previously proposed project and the currently proposed Project. See https://elibrary.ferc.gov/dmws/file_list.asp?accession_num=20190502-5124.

TR2 Confederated Tribes of Coos, Lower Umpqua and Siuslaw Indians, page 1 of 3

TR2-1 The comment period for the Jordan Cove Energy Project is consistent with the National Environmental Policy Act (NEPA), which established a minimum of a 45-day period for public review and comment. The comment period was extended to 90 days due to federal requirements related to the Forest Service and BLM Plan Amendment appeal process. The Commission believes that 90 days is sufficient to review and provide comment on the draft EIS and no additional extensions have been granted; however, as a matter of standard practice staff fully considered all comments received after the close of the comment period to the extent possible, prior to the publication of the final EIS, in our assessment.

TR2-1 FERC has engaged in government-to-government consultations with the CTCLUSI regarding this Project; see section 4.11.1.2 and appendix L of the DEIS. The regulations for implementing Section 106 of the NHPA at 36 CFR 800 do not specify that consultations with Indian Tribes be in-person. 36 CFR 800.2(a)(4) states that an agency should "...use to the extent possible existing agency procedures and mechanisms to fulfill the consultation requirements of this part." It is FERC practice to use notices, telephone calls, emails, and letters as part of our consultation process. As documented in this and previous EIS produced by FERC that covered the Jordan Cove LNG Project, between 2006 and 2019 the CTCLUSI has written at least 16 letters to FERC. Just for Docket No. CP17-495-000 alone, CTCLUSI leaders met directly with the Chair of the Commission at FERC headquarters in Washington, D.C., and representatives of the CTCLUSI met face-to-face with Commission staff in Oregon on March 22 and June 28, 2017, July 17, 2018, and June 25, 2019. As stated on page 4-638 of the March 29, 2019 DEIS, we consider those meetings, our NOIs, our letters to the CTCLUSI, and letters from the Tribes to the Commission to constitute government-to-government consultations.

TR2-2 CTCLUSI leaders did meet with the Chair of the Commission to discuss this Project. The Commission delegated the responsibility of consulting with Indian Tribes to FERC staff. Staff held four face-to-face meetings with CTCLUSI representatives regarding Docket No. CP17-495-000. We consider those meetings, our NOIs, our letters to the CTCLUSI, and letters from the Tribes to the Commission to constitute government-to-government consultations. The applicants do not represent FERC. We agree that meetings between CTCLUSI and the applicants do not constitute government-to-government consultations.

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open to the public does not amount to government-to-government consultation with decision makers from both sides. The CTCLUSI's consultation procedures² are clear that consultation occurs "between policy-level decision-makers from the Tribes and the federal agency."

Meaningful consultation is a key requirement for this proceeding. FERC regulations call for the agency to work with the Tribe on a government-to-government basis to address effects of projects on tribal resources:

The Commission will endeavor to work with Indian tribes on a government-to-government basis, and will seek to address the effects of proposed projects on tribal rights and resources through consultation pursuant to the Commission's trust responsibility, the Federal Power Act, the Natural Gas Act, the Public Utility Regulatory Policies Act, section 32 of the Public Utility Holding Company Act, the Interstate Commerce Act, the Outer Continental Shelf Lands Act, section 106 of the National Historic Preservation Act, and in the Commission's environmental and decisional documents.

18 CFR § 2.1c(e).

The importance of consultation in large infrastructure projects was highlighted by the recent GAO report which concluded that existing consultation with tribes is inadequate because:

- Agencies are initiating consultation late in project development stages.
- Agencies are not adequately considering tribal input when making decisions about proposed infrastructure projects.
- Agencies are not respecting tribal sovereignty or the government-to-government relationship between federally recognized tribes and the federal government.

See Tribal Consultation: Additional Federal Actions Needed for Infrastructure Projects, GAO-19-22 (Mar 20, 2019). These findings emphasize the need for FERC to consult in a meaningful way at this stage of the proceeding with appropriate decision makers. In a word, the FERC Commission should meet directly with CTCLUSI Tribal Council. To that end, we welcome preliminary staff level meetings; but there is no substitute for direct consultation between the Commission and the Tribal Council.

Importantly, communications between CTCLUSI and the Applicant are not a proper substitute for direct government to government consultation. While CTCLUSI welcomes the opportunity to engage with the Applicant, these meetings do not fulfill FERC's obligations under Section 106 of the National Historic Preservation Act.

Finally, FERC has the obligation to make a reasonable effort to identify cultural resources, such as traditional cultural properties ("TCP"), in conjunction with their Federal activity, 36 C.F.R. Part 800. We are unaware of any such efforts by FERC. Instead, the Tribe has been the only entity to make a reasonable and good faith effort to evaluate the abundance of cultural resources

² Available at <https://ctclusi.org/assets/57f698a9c9c22c806e00000f.pdf>.

TR2 continued, page 2 of 3

TR2-3 FERC made a reasonable effort to identify cultural resources, including TCP, within the APE; documented in section 4.11 and appendix L of the DEIS. Based on a finding by the Oregon SHPO, in its letter to FERC staff dated July 19, 2019, we agree that the TCP District "Q'alay ta Kukwis schichdii me" is eligible for the NRHP.

The Commission delegated the responsibility of consulting with Indian Tribes to FERC staff. FERC staff will continue to consult with representatives of the CTCLUSI.

TR2-2
cont.

TR2-3

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TR2 continued, page 3 of 3

within the APE. Our effort has concluded with our TCP application, *Q'alya Ta Kukwis Shichdii Me*, submitted to the State Historic Preservation Office ("SHPO") in November and reviewed by the State Advisory Committee on Historic Preservation in February whom recommended the application be submitted to National Park Service without changes. We fully expect the National Park Service will make a listing or an eligibility determination on the TCP this summer – well in advance of any final FERC decisions associated with the project. FERC accordingly should assume the TCP is, at a minimum, eligible for listing and should accordingly evaluate all potential impacts to contributing features, in consultation with interested Indian tribes, as required by section 106 of the NHPA.

TR2-3
cont.

While the Tribe always welcomes staff coordination meetings, in order for this meeting to be elevated to formal government to government consultation, appropriate FERC decision makers must be present

If you have any questions about this request, please feel free to contact me at (541) 435-7151, or Stacy Scott, our THPO, at (541) 888-7513.

Sincerely,



Margaret Corvi
Culture and Natural Resource Director

cc: Senator, Oregon's 5th Senate District, Amie Roblan
Representative, Oregon House District 9, Caddy McKeown
ACH, John Fowler
SHPO, Chrissy Curran
USACE, Tyler Krug
BLM, Dave Johnson



The Confederated Tribes of the Grand Ronde Community of Oregon
Umpqua Molalla Rogue River Kalapuya Chasta

Tribal Council 1-800-422-0232
 Phone (503) 879-2301 9615 Grand Ronde Road
 Fax (503) 879-5964 Grand Ronde, OR 97347

July 3, 2019

Federal Energy Regulatory Commission
 ATTN: Kimberly D. Bose, Secretary
 888 First Street NE
 Washington, DC 20426

Filed electronically at
www.ferc.gov

RE: Tribal comments on Draft EIS (dEIS) for Docket Numbers CP17-494-000 and CP17-495-000,
 Jordan Cove Energy Project/Pacific Connector Gas Pipeline

Dear Secretary Bose:

On behalf of The Confederated Tribes of the Grand Ronde Community of Oregon ("Grand Ronde" or "Tribe"), thank you for the opportunity to comment on the dEIS for the Jordan Cove Energy Project ("JCEP") and Pacific Connector Gas Pipeline ("PCGP") (collectively, "Projects"). The Tribe filed a Motion to Intervene on November 15, 2017, and continues to participate in the FERC licensing process as an Intervenor. Grand Ronde reserves the right to consult on the Projects on an ongoing basis, and to make additional and/or updated comments beyond those contained in and attached to this letter. Grand Ronde Tribal Council reserves the right to make and/or update any and all statements of Tribal policy or position on an ongoing basis.

Procedural Interactions and Connections between Grand Ronde and FERC

Grand Ronde staff have met with FERC staff and consultants directly on the Projects, the most recent meeting being in-person at Tribal offices in Grand Ronde on June 11, 2019. The Tribe appreciates the willingness of FERC and Project staff to answer questions and provide project information to Tribal staff. Many of the comments Grand Ronde submits in writing today were brought up verbally during the most recent meeting and addressed by FERC staff at that meeting.

To date, there has not been any government-to-government consultation between FERC and Grand Ronde. Grand Ronde Tribal Council has formally requested such a meeting in writing, but that request has so far gone unfulfilled. It is understood that there are challenging logistics involved with bringing Commissioners to Oregon and meeting with Grand Ronde Tribal Council, and at the June 11 meeting staff discussed potential solutions to address these challenges. All the same, we would appreciate that any references in the dEIS to "consultation" or "government-to-government consultation" with Grand Ronde, either directly or as one of several "interested tribes", be removed from the dEIS to avoid confusion as to whether government-to-government consultation with Grand Ronde has happened at all.

TR3-1

Grand Ronde Tribal History and Interests in the Project Area

Treaties
 Rogue River 1853 & 1854 ~ Umpqua-Cow Creek 1853 ~ Chasta 1854 ~ Umpqua & Kalapuya 1854
 Willamette Valley 1855 ~ Molalla 1855

TR3 The Confederated Tribes of the Grand Ronde Community of Oregon, page 1 of 15

TR3-1 We conducted government-to-government consultations with interested Indian Tribes, including the Grand Ronde Community, as documented in section 4.11.1.2 and appendix L of the DEIS. The Commission delegated the responsibility of consulting with Indian Tribes to FERC staff. The regulations for implementing Section 106 of the NHPA at 36 CFR 800 do not specify that consultations with Indian Tribes should be in-person. As stated in 36 CFR 800.2(a)(4), the agency should "...use to the extent possible existing agency procedures and mechanisms to fulfill the consultation requirements of this part." In keeping with FERC practice, consultations with Indian Tribes may be conducted by notices, telephone calls, email, or letters. As listed on table L4 in appendix L of the DEIS, FERC sent its NOI for the Project to Indian Tribes to initiate consultations, we sent one letter and two emails to the Grand Ronde about the Project, and FERC staff held two conference calls with tribal representatives, and on June 11, 2019 staff met face-to-face with tribal representatives at Grand Ronde. We consider that meeting, our NOI, our letter to the Grand Ronde Community, and letters from the Tribes to the Commission to constitute government-to-government consultations. We have not yet met with the Grand Ronde Tribal Council; but such a meeting is complicated by the intervenor status of the Tribes and FERC ex-parte rules.

TR3 continued, page 2 of 15

Grand Ronde is a sovereign Tribal nation with a special trust relationship with the U.S. Government and Federal agencies. Grand Ronde also has a government-to-government relationship with the State of Oregon and its agencies. Grand Ronde is made up of more than 30 antecedent tribes and bands with homelands in Oregon, southwest Washington, and northern California. Grand Ronde and its antecedent tribes and bands have hunted, fished, and gathered in portions of the Project area since time immemorial. The Rogue River Treaties of 1853 and 1854 ceded tribal lands of the tribes and bands living in the Rogue River basin to the U.S. The Treaty with the Umpqua and Calapooia of 1854, and the Treaty with the Molalla of 1855, ceded tribal lands of the tribes and bands living in the upper Umpqua River basin to the U.S. Please see Attachment 1, Grand Ronde Ceded Lands Map. Subsequently, the people represented by the signers of these ratified treaties, who were known at the time by the Euro-American settlers as "Rogue Rivers", "Upper Umpquas", "Grave Creek Umpquas", and "Molallas", were forcibly removed to the Grand Ronde Indian Reservation.

Even after the removal from their treaty homelands, however, members of the Confederated Tribes of Grand Ronde maintained deep connections to the resources and sacred places of their ancestral homes. In addition to the treaty areas, other important Tribal homelands include the adjacent Usual and Accustomed (U&A) areas of the Tribe. These U&A areas adjacent to treaty areas, although not associated with treaty rights under the treaties named above, are places of longtime cultural significance and ongoing connection for members of the Confederated Tribes of Grand Ronde. That connection continues today, largely through Tribal stewardship of resources and through partnerships with government agencies and non-governmental organizations. The Tribe is interested in protecting, enhancing, and restoring Tribal cultural, environmental, and natural resources potentially affected by the Projects.

The area of the PCGP, particularly the approximate area of milepost 45 through milepost 175, cuts across and directly impacts the combined areas of the treaties mentioned above. In addition, adjacent areas of the Projects directly impact the adjacent U&A areas of Grand Ronde. All cultural, environmental, and natural resources located in or otherwise connected to these areas are potentially impacted by the construction and ongoing operation and maintenance of the Projects; they are likewise potentially impacted by the cumulative effects of related/connected construction and development. Water quality is a core Tribal cultural and natural resource, and one upon which other Tribal resources rely for their survival and integrity.

TR3-2

Grand Ronde seeks to protect, enhance, and restore Tribal cultural, environmental, and natural resources potentially affected by the Projects themselves and all related/connected cumulative impacts. These resources include but are not limited to:

- Archaeological values
- Historic values
- Aesthetic/visual values
- Tribal Cultural Landscapes as defined by the Tribe
- Quality and integrity of water, air, and soil
- All native habitats, regardless of current land ownership or status
- All native species, whether they have any special status under federal or state law, and regardless of current management responsibility.

Tribal Comments and Concerns

TR3-2 Water quality was discussed in section 4.3 of the draft EIS. Cumulative impacts on cultural resources were addressed in section 4.14.1.9.

TR3 continued, page 3 of 15

Grand Ronde appreciates the outreach from FERC regarding the dEIS, and the participation of staff from the U.S. Bureau of Land Management and the U.S. Army Corps of Engineers in the most recent staff meeting. Coordination among sovereigns and sharing of relevant information are guiding principles of effective Tribal consultation. Other guiding principles include but are not limited to:

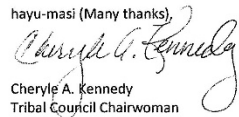
- Due diligence must be fully exercised in identifying Tribal resources before FERC or the applicant may be said to have fully analyzed Project impacts.
- Impacts to Tribal resources, once identified and analyzed, should be avoided to the extent possible.
- If avoidance is not entirely possible, then impacts to Tribal resources should be minimized to the extent possible.
- Impacts to Tribal resources that have not been fully addressed through avoidance or minimization must be fully mitigated to the maximum extent.

In applying these principles, Grand Ronde has ongoing concerns regarding Tribal cultural and natural resources that are potentially affected by the Projects, particularly with the lack of due diligence in identifying these resources and analyzing impacts. Please find technical comment documents attached to this letter: Attachment 2 lists cultural resources comments, and Attachment 3 lists environmental/natural resources comments. Please note that most natural resources are also considered cultural resources of the Tribe. Unless and until these concerns are fully addressed to the Tribe's satisfaction, Grand Ronde considers the EIS to be inadequate and respectfully requests that FERC not issue a Final EIS (fEIS) or Record of Decision (ROD) for the Projects; Grand Ronde would further request that the Commission not approve the issuance of a License for the Project on the grounds of inadequate analyses under the National Environmental Policy Act and National Historic Preservation Act

TR3-3

Thank you once again for the opportunity to comment, and for already acknowledging many of the Grand Ronde comments that have been submitted verbally to FERC staff.

hayu-masi (Many thanks)



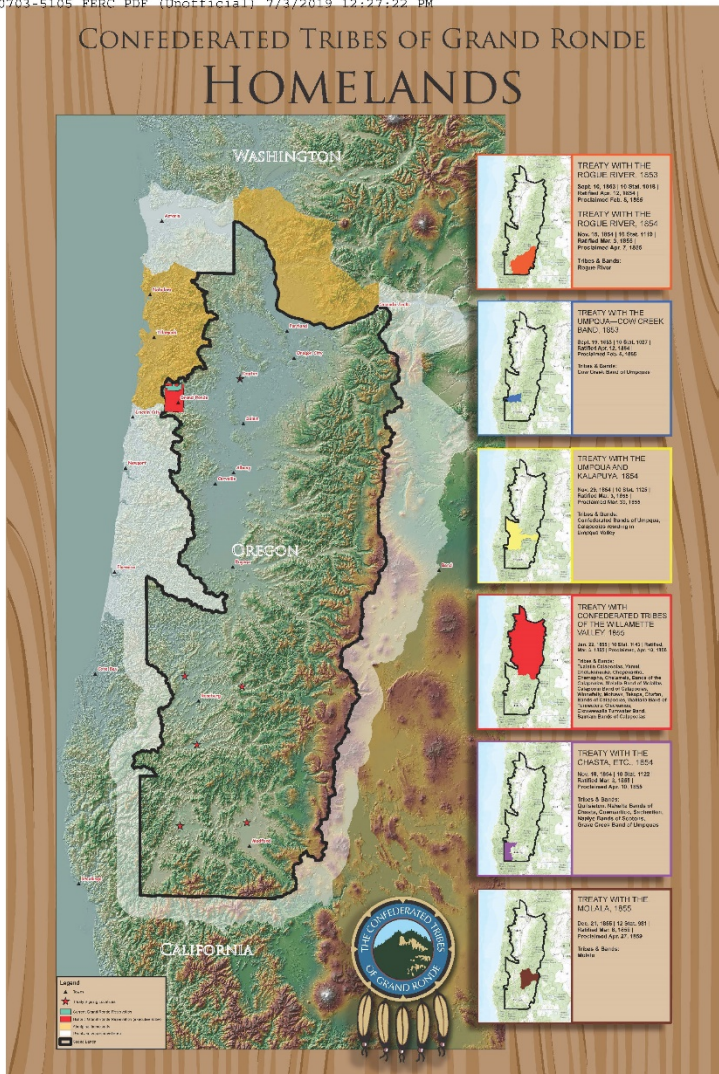
Cheryl A. Kennedy
Tribal Council Chairwoman

Cc: Tribal Council
Tribal Attorney's Office
David Fullerton, General Manager
Stacia Hernandez, Chief of Staff

Enc: Attachment 1, Grand Ronde Ceded Lands Map
Attachment 2, Cultural Resources Comments
Attachment 3, Environmental/Natural Resources Comments

TR3-3 The draft EIS is adequate under NEPA. The Commission may authorize the Projects prior to the completion of the process to comply with the NHPA. However, the authorization should include a recommendation from the EIS as a condition to the Commission Order that construction not be allowed to proceed until the NHPA compliance process is completed.

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TR3 continued, page 4 of 15

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Attachment 2
 Confederated Tribes of Grand Ronde
 Technical comments on the dEIS pertaining to Cultural Resources

The following are comments submitted to the Federal Energy Regulatory Commission (FERC) by technical staff of the Confederated Tribes of Grand Ronde Community of Oregon's (Grand Ronde) Historic Preservation Office on the Jordan Cove Energy Project (JCEP) and Pacific Connector Gas Pipeline (PCGP) [Docket Nos. CP17-495 and CP 17-494]. These technical cultural resources focused comments do not represent statements of policy or positions of Grand Ronde; those types of statements would be made by Tribal Council. On an ongoing basis, the Tribe and its staff reserve the right to make additional comments or update existing comments.

General Comment: I did not see mention for need of DOGAMI permit.

General Comment: Since Tribes are the descendants of those individuals and cultural groups who are responsible for the establishment of 'archaeological sites' and all the materials therein (artifacts, and remains) and associated cultural resources they are disproportionately adversely impacted by the potential taking and destruction of their past relative to the Euro-american archaeological sites and cultural resources. As such this should be considered a Social Justice issue. Likewise the permanent impact to the visual and physical landscape that may be a part of cultural practices and worship for Tribal members should be assessed as an environmental justice concern.

General Comment: There is no Social Justice Section of this dEIS.

Section ES

Text from dEIS:

(Page ES-3) Comments from Indian Tribes expressed concern about meaningful consultation, cultural resources, environmental resources including fish (salmon) and vegetation, impacts on traditional use(s) of the land, environmental justice, cumulative impacts, and documentation of concerns in the EIS.

Comment: The focus of cultural resources to date has been the material culture remains of archaeological sites and artifacts. It has not encompassed the true breadth of cultural resources of Tribes in the forms as outlined in the National Historic Preservation Act (section 101 D.6.a – D.6.b) and 36CFR800.4 (c) (1).

Section 1 introduction

Text from dEIS:

(Page 1-27) However, the FERC remains responsible for all findings and determinations.

Comment:

We recommend a thorough and complete due diligence be undertaken and reported to the commission in advance of any issuance of permits. To date, the focus of cultural resources has been limited in scope and focus to 'pre-contact period' archaeological sites. It has not included people or practices that may have- or continue to be undertaken within the extents (indirect and direct APE) of this proposed action. It has not included places or other cultural resources of importance to the Tribe dating from the 'historic period'.

TR3-4

TR3-5

TR3-6

TR3 continued, page 5 of 15

TR3-4 A permit from DOGAMI is not necessary before the Commission could authorize the Project. See footnote 20 on page 1-30 of the DEIS. Permit needs are addressed in Section 1. Note that it is not the role or scope of the EIS to assess the Project's compliance with State regulations or OARs. We assume that the State would determine if the Project is in compliance with the State requirements and OARS during their review of the Applicant's State permit applications.

TR3-5 Environmental Justice defined by Executive Order 12898 (e.g., as referred to as "Social Justice" in this comment), including a discussion of potential disproportional impacts on Indian Tribes and Native American communities in census blocks, is addressed in section 4.9 of the EIS.

TR3-6 As stated in section 4.11.3.1 of the draft EIS, we have requested that the applicants prepare a revised Ethnographic Study that would address resources other than archaeological sites that may be important to Indian Tribes, including, but not restricted to, sites of traditional cultural or religious importance, and plants and animals traditionally hunted, fished, or gathered. The EIS recommended that the Commission Order include this as a condition, so that the revised Ethnographic Study would have to be submitted for review by staff and interested Indian Tribes prior to construction, if the Projects are authorized.

Section 1.5.1.4

Text from dEIS:

"In carrying out our responsibilities under Section 106 of the NHPA, the FERC consulted on a government-to-government basis with Indian tribes that may attach religious and cultural importance to properties in the area of potential effect (APE), in accordance with the implementing regulations at 36 CFR 800.2(c)(2)(ii)."

TR3-7

Comments:

- The Confederated Tribes of Grand Ronde Tribal Council formally requested government-to-government consultation with the FERC. To date, this has not occurred. Technical conversations have occurred between Tribal staff and FERC staff.

Section 2.6.1 Jordan Cove Environmental Inspection Program

Comment: There is no description of cultural resources monitoring.

TR3-8

3.4 PIPELINE ROUTE ALTERNATIVES AND VARIATIONS

(page 3-14) In addition to alternatives and variations evaluated in this EIS, during the course of refining the proposed route, Pacific Connector incorporated a number of minor route modifications to address agency concerns and landowner requests, constructability issues or constraints, to avoid cultural resources or geological hazards, or reduce impacts on special status, threatened, or endangered species.

TR3-9

Comment: These changes and modifications are largely attributable to prior dockets along a similar APE.

Comment: A number of alternative and variation routes and paths would have had fewer direct impacts to known or previously identified sites than the selected alternative.

Section: Nationwide Rivers Inventory

Text from dEIS:

(page 4-100) The South Umpqua River listing includes the reach from Tiller (Section 33, T.30S., R.2W.) downstream to the confluence with the North Umpqua River at River Forks (Sections 31 and 32, T.26S., R.6W.). This reach was added to the list in 1993 for outstanding and remarkable fish and historical values. The pipeline would cross this section of river in two locations, MP 71.3 and MP 94.7.

TR3-10

Comment: This river crossing is a place of cultural significance as demonstrated by the number and diversity of cultural resources in the vicinity.

Section: 4.6.3.4 Tribal Species of Concern

(Pages 4-396 - 4-397) although one Tribe (CIT) provided a list of species of concern this should not be considered exhaustive or inclusive of species of concern for other Tribes. The Confederated Tribes of Grand Ronde is hesitant to provide plant and animal species lists because it implies a prioritization of specific species over others.

TR3-11

Section: 4.8.2.2 Pacific Connector Pipeline

(page 4-566) Visual impacts.

Comments: View shed impacts on behalf of the FERC were not evaluated in coordination with the Tribe.

TR3-12

TR3 continued, page 6 of 15

TR3-7 We conducted government-to-government consultations with the Grand Ronde Community. The Commission delegated the responsibility of consulting with Indian Tribes to FERC staff. We have sent notices, emailed, had telephone calls, sent a letter, and had staff meet in-person with representatives of the Grand Ronde Community. We have not yet met with the Grand Ronde Tribal Council; but such a meeting is complicated by the intervenor status of the Tribes and FERC ex-parte rules.

TR3-8 Cultural resources monitoring was discussed in section 4.11 and appendix L of the DEIS.

TR3-9 The Grand Ronde Community has not put forward any specific route alternatives that would have fewer impacts on identified cultural resources. Therefore, such alternatives could not be analyzed in the EIS.

TR3-10 There are two crossings of the South Umpqua River, at MPs 71.3 and 94.7. The tribes did not indicate which crossing is considered culturally important to the Grand Ronde Community. This is the first time that the Tribes have indicated on the record that the South Umpqua River crossing is culturally important. We would include that information in the final EIS, were it provided.

TR3-11 The Grand Ronde Community can provide us with information about species of concern in a non-public manner by filing data as privileged.

TR3-12 The Tribes comments on the Visual Resource Assessment as summarized in the draft EIS represent consultations on visual impacts. We agree that the pipeline right-of-way may have impacts on HPRCSITs.

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Where impacts appear to have been conducted they are not inclusive of wider indirect APE of the proposed corridor.

The corridor Right-of-way (ROW) should be considered as a direct permanent above ground adverse visual impact due to the proposed maintenance strategies for the proposed ROW easement. This will break up the visual effects of the landscape as it exists prior to construction. This will be a particular detriment to lands in 'natural' land cover. This may have adverse impacts to Historical Properties of Religious and Cultural Significance to Indian Tribes (HPRCSITs).

Section 4.11.1.3

Text from dEIS:

"The [Grand Ronde] Tribes requested a study be done to identify sacred places, gathering places, locations of burials, and other places of cultural significance to the Tribes. In response to an earlier request from the FERC staff, the applicants filed with the FERC on April 4, 2018 a draft ethnographic study (Deur 2018). However, in a May 4, 2018 environmental information request to Pacific Connector, the FERC staff asked that the document be revised. The revised ethnographic study is expected to address natural resources that are important to the Tribes, such as traditionally gathered plants, fisheries, and hunted species that may still exist in the Project area. However, more recently, Pacific Connector has convened a Native American Working Group, and offered individual tribes financial support for them to produce their own ethnographic studies."

Comments:

The characterization of Deur (2018) as an ethnographic study is inaccurate. Based on our review of the document it is more accurately a listing of documentation needs and potential sources for addressing those needs. Also, our staff is not aware of any ethnographic study (draft or revised) that is being conducted for this project that addresses our concerns. In regards to the offer from Pacific Connector for financial support of ethnographic studies, \$25,000 and a 3 month timeline is not commensurate with the needs for an ethnographic study of this magnitude. This is especially apparent when compared with the years and funds expended on archaeological investigations for the project. An adequately funded ethnographic study with an appropriate timeframe for completion is needed for this project in order to ensure that Historic Properties of Religious and Cultural Significance to Indian Tribes are adequately identified, evaluated and protected.

Section 4.11.2.2

Text from dEIS

"Pacific Connector defined the direct APE as all geographic areas that will potentially experience ground disturbances from the construction, operation, and maintenance of the pipeline. We agree with this definition of the direct APE."

"Pacific Connector defined the indirect APE to include all geographic areas that would potentially experience visual intrusions or changes as a result of the construction, operation, and maintenance of the pipeline. The SHPO, in a letter to Pacific Connector's consultants dated January 22, 2016, concurred with the methodology for defining the indirect APE. We agree."

Comments:

The Notice of Intent dated 6/9/17 states "The project-specific Area of Potential Effects (APE) will be defined in consultation with the SHPO as the Project develops." Has the APE been defined in consultation with the SHPO? If so, where can this information and related correspondence including

TR3-12
cont.

TR3-13

TR3-14

TR3 continued, page 7 of 15

TR3-13 We agree that Deur (2018) is not an adequate Ethnographic Study. That is why we included a recommendation in the EIS that the Commission Order should include a condition that the applicant must produce a revised study that identifies HPRCSIT, for review by staff and interested Indian Tribes prior to construction.

TR3-14 We consulted with the SHPO on the definition of the APE. The SHPO agreed with the applicant's definition of the in-direct APE. Previously recorded sites within 0.5-mile of the pipeline were identified by the applicant; however, those data were filed as privileged. It is not appropriate to include that data in the final EIS. It is unlikely that there would be a catastrophic failure of the proposed facilities; and the CEQ regulations for implementing NEPA only require an assessment of reasonable impacts.

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SHPO's concurrence on the direct APE be found? Please include a copy of this correspondence in the final EIS.

TR3-14
cont.

In regards to the indirect APE, the Area of POTENTIAL Effect should also include a review of those cultural resources that would be impacted in the event of a catastrophic failure of the pipeline. At the very least, a list of currently recorded archaeological sites within 1-2 miles of the direct APE and their current NRHP status should be included in the final EIS.

Section 4.11.1.3 Issues Raised by Indian Tribes

Text from dEIS

The Grand Ronde Tribes have apprehensions about the proposal for the Tribal Working Group. (4-641)

Comments: It should be noted the Tribe has repeatedly stated its position that participation in the Tribal Working group should not be considered a certification of the project nor should it be considered consultation, coordination or other official tribal government endorsement. Participation was to insure tribal perspectives related to cultural resources were expressed to the proponent. These perspectives and suggestions were repeatedly rebuffed.

TR3-15

Section 4.11.3.1

Text from dEIS

Ethnographic Studies

On April 4, 2018, the applicants filed a first draft Ethnographic Report (Deur 2018). The FERC staff and several interested Indian tribes reviewed that draft, and the FERC staff, in environmental information requests dated May 4 and October 23, 2018, requested that the applicants revise the ethnographic report. In a filing on November 2, 2018, the applicants declined to revise the ethnographic report, claiming that it is not required for purposes of compliance with Section 106 of the NHPA. This is not true. The regulations for implementing Section 106 at 36 CFR 800.2(c)(2)(ii) require consultations with Indian tribes to identify sites of religious and cultural importance to tribes, in keeping with Section 101(d)(6) of the NHPA. Further, section 6.1 (8) of the FERC staff's guidelines (FERC 2017) directs applicants to produce and file an "ethnographic analysis to identify any living Native American groups or other groups with ties to the project area to identify properties of traditional, religious, or cultural importance to Tribes and other groups." In addition, several interested Indian tribes requested the additional data we asked for in the revision request. In order to meet our obligations under Sections 101 and 106 of the NHPA, we recommend that:

Prior to construction of facilities and/or use of any staging, storage, temporary work areas, or new or to-be-improved access roads, Jordan Cove and Pacific Connector should file with the Secretary a revised Ethnographic Report describing sites of religious and cultural significance to Indian Tribes and other tribal information as outlined in the FERC staff's October 23, 2018 environmental information request#14, for the review of interested Indian tribes and the FERC staff, and for written approval by the Director of OEP.

TR3-16

Comments:

We agree with this recommendation for an ethnographic study to be conducted. This study should be conducted and reported in full prior to the issuance of any permits for this project in order for the Commission to base their decisions on the most complete understanding of cultural resources impacts.

The Tribe understands Ethnographic studies to include but not limited to discussions of Tribes and Bands of an area, archaeological sites, archaeological isolates, Traditional Cultural Properties, Historical

Properties of Religious and Cultural Significance to Indian Tribes (HPRCSITs), gathering areas, hunting area, fishing areas, view-sheds, managed areas, trails, river corridors, named places, connections to landscape, Ikanam, residences of individuals, and individuals as they relate to Grand Ronde Tribes and its antecedents Tribes and bands.

TR3-16
cont.

Section 4.11.3.3

Text from dEIS:

In most cases, the applicants prepared treatment plans for these sites, which were reviewed and accepted by appropriate interested Indian tribes, federal land management agencies, the Oregon SHPO, and the FERC staff.

TR3-17

Comment:

Methodologies proposed in the treatment plans are still under review by technical staff and have not been accepted by the Tribe.

Section 5.1.11 Cultural Resources

Text from dEIS:

It is expected that the resolution of adverse effects through an MOA and implementation of treatment plans would mitigate impacts at affected historic properties to a less-than-significant finding, should the Project be approved by the Commission.

TR3-18

Comment:

-What is "less-than-significant findings"?
-Any future discussions and development of an MOA will need to include treatment plans and unintended/unanticipated/inadvertent and the like discoveries plans for the protection of cultural resources.

Section 5.2.32 FERC STAFF'S RECOMMENDED MITIGATION

Text from dEIS:

32. Prior to construction of facilities and/or use of any staging, storage, temporary work areas, or new or to-be-improved access roads, Jordan Cove and Pacific Connector shall file with the Secretary a revised Ethnographic Report describing sites of religious and cultural significance to Indian Tribes and other tribal information as outlined in the FERC staff's October 23, 2018 environmental information request #14, for the review of interested Indian tribes and the FERC staff, and for written approval by the Director of OEP. (section 4.11.3.1)

TR3-19

Comment:

Point 32 is more a condition rather than mitigation. Mitigation should be commensurate with the undertaking (permanence, scale, scope, damages, and temporal measures)

Appendix L – Cultural Resources Appendix

Comments:

Page L-11 – The transition from a discussion of the Grand Ronde Agency back to the Miluk language is confusing. Please revise.

TR3-20

TR3 continued, page 9 of 15

TR3-17 It is our understanding that the applicant provided the Grand Ronde Community with copies of all the treatment plans, and that the Tribes previously provided comments on those plans.

TR3-18 The treatment plans would require data recovery excavations at the affected historic properties. Those excavations may be considered adverse impacts on the historic properties in terms of Section 106 of the NHPA. We agree that the treatment plans and UDP should be included by reference in the agreement document.

TR3-19 The draft EIS made a recommendation that the Commission's Order should include a condition for the production of the revised Ethnographic Study. That study would be similar to an inventory report, in that it would identify HPRCSIT; it is not considered to be a mitigation program.

TR3-20 We have considered these comments while revising the text in appendix L for the final EIS.

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Page L-12 – Please change the date the first treaty was ratified from 1864 to 1854.

Page L-16 – The description of where present day tribal governments are currently located should not be limited to the northern California tribes, but should also include all of the affected Oregon tribes as well.

Page L-17, Table L-1 - Why is there discussion of an MOA that pertains to a different filing and different project? This is not pertinent to the current project.

TR3-20
cont.

TR3-21 Section 4.11.4 of the DEIS stated that the UDP is incomplete and needs to be revised.

Appendix Z (referred to as Unanticipated Discovery Plan (page 2-70)

Text from dEIS:

This plan provides the procedures Jordan Cove, Pacific Connector, its personnel and consultants would follow in the event that unanticipated discoveries of historic properties, archaeological objects, archaeological sites, or human remains are made during the construction and operation of the Project.

Comment: This plan is not completed.

TR3-21

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Attachment 3

Confederated Tribes of Grand Ronde

Technical comments on dEIS pertaining to Tribal environmental/natural resources

The following are comments submitted to the Federal Energy Regulatory Commission ("FERC") by technical and policy staff of the Confederated Tribes of Grand Ronde ("Grand Ronde" or "Tribe") on the Draft Environmental Impact Statement ("dEIS") for the Jordan Cove Energy Project ("JCEP") and Pacific Connector Gas Pipeline ("PCGP") (collectively, the "Projects"). Each comment includes a brief summary of its procedural history (if the comment has been made by Grand Ronde in the past), and a recommendation that if followed would help make that particular aspect of the dEIS adequate or acceptable to Grand Ronde.

Tribal staff appreciate the staff-to-staff meeting with FERC staff held June 11, 2019, at Tribal offices in Grand Ronde, Oregon (the "June 11 meeting"); reference is made below to discussions of that meeting where appropriate. On an ongoing basis, the Tribe and its staff reserve the right to make additional comments or update existing comments to FERC.

1. Direct and indirect references in the dEIS to "consultation" or "government-to-government consultation" with Grand Ronde should be removed.

a. Procedural history

Grand Ronde Tribal Council requested government-to-government consultation with the Federal Energy Regulatory Commission through a letter dated October 5, 2018; this letter has yet to receive a formal response from FERC. FERC staff have communicated with Tribal staff on a few occasions—there have been two or three conference calls, and the June 11 meeting was the one in-person meeting among staff—but these communications do not amount to government-to-government consultation. For Grand Ronde there is only one activity covered in the definition of government-to-government consultation, and that is a meeting between Tribal Council and the highest decision makers of a government entity (in this case, FERC Commissioners).

b. Issue

There are several statements in the dEIS, mainly in Section 4.11.1 but likely in other places as well, to the effect that "FERC...conducted government-to-government consultations" or simply that "consultation is ongoing" or "consultation was initiated" between FERC and "interested tribes." The issue here is that "consultation" may be misinterpreted by the reader to include government-to-government consultation in the case of Grand Ronde. Although the dEIS contains an accurate sentence to the effect that Grand Ronde requested government-to-government consultation which has proven difficult to fulfill as of yet, this single sentence has high likelihood of getting passed over or missed by the reader.

c. Recommendation

At the June 11 meeting, staff discussed the possibility for Grand Ronde Tribal Council members to visit a FERC Commissioner(s) individually while in Washington D.C. on other business, and we would like to continue exploring this possibility. In the meantime, statements in the EIS about government-to-government consultation (or simply, "consultation") between FERC and interested tribes should be modified to explicitly exclude Grand Ronde from the statement. Alternatively, "consultation" could be modified to "staff-to-staff consultation."

TR3-22

TR3 continued, page 11 of 15

TR3-22 We conducted government-to-government consultations with the Grand Ronde Community. The Commission delegated the responsibility of consulting with Indian Tribes to FERC staff. We consider that staff meetings, our NOI, our letter to the Grand Ronde Community, and letters from the Tribes to the Commission to constitute government-to-government consultations.

TR3 continued, page 12 of 15

2. References to Grand Ronde’s treaties in the Project area should be removed from the EIS.

a. Procedural history

While this comment was not discussed during the June 11 meeting, it was the topic of a one-on-one phone call made by Tribal staff to FERC staff on June 12. The phone call ended pleasantly and it seemed that FERC staff was willing to remove the sentence from the EIS.

b. Issue

On Page 4-640 of the dEIS there is a sentence that reads, “The 1853 treaty with the Rogue River Tribes and 1854 treaty with the Upper Umpqua Tribes did not specify the reservation of fishing, hunting, or gathering rights for Indians on lands ceded by the Tribes.” This sentence is tantamount to interpretation of treaties, which is outside the authority and scope of this EIS. Further, Grand Ronde’s comments and positions on the Projects do not hinge on whether or not its relevant treaty rights include extraction of resources from ceded lands (the Tribe values non-harvested as well as harvested resources), so this sentence is neither necessary nor constructive to the EIS analysis.

TR3-23

c. Recommendation

Tribal staff recommend the entire sentence be removed from the dEIS, and no analysis or interpretation of treaties should be made in the EIS.

3. The Purpose and Need section is inadequate for EIS purposes.

a. Procedural history

To the knowledge of Tribal staff, the Tribe has not yet made this comment.

b. Issue

The Purpose and Need section of the dEIS (Section 1.2) consists of six conclusory sentences about the Project purpose. Nothing about a need for the Project is mentioned, and no supporting facts or data whatsoever are offered. According to the EPA website explaining NEPA, “[A] Purpose and Need Statement: Explains the *reason* the agency is proposing the action and what the agency *expects to achieve*.” (emphasis added)

TR3-24

c. Recommendation

Rewrite the Purpose and Need section, providing adequate and supported reasons why the action is being proposed, as well as what FERC reasonably expects to achieve. Cite to data or facts supporting the statement.

4. Analyses of the potential impacts to resources from pipeline stream crossings are inadequate for EIS purposes.

a. Procedural history

The Tribe has made this comment on the Projects’ applications for 401 and 404 water quality permits, and on the Projects’ application for an Oregon Department of State Lands permit. This comment was discussed at the June 11 meeting, and a partial resolution consisting of monitoring during construction with a plan for shutdown and response in the event of failure was discussed.

TR3-25

TR3-23 We have considered these comments while revising the text for the final EIS.

TR3-24 Contrary to this comment, the FERC is not "proposing this action". The FERC is reviewing an application submitted to the federal government by a private independent company (i.e., the Applicant). The CEQ’s regulations for implementing NEPA, at 40 CFR 1502,13, only requires that an EIS briefly summarize the purpose and need for a project; which we have done. As described in section 1 of the DEIS, FERC environmental staff in the EIS do not make a final determination regarding the Project’s need. The decision regarding the Project’s need is made by the Commission in the Project Order.

TR3-25 The draft EIS addressed water crossings in section 4.3.

b. Issue

Important Tribal resources exist throughout the impact range of the PCGP right-of-way from MP 45 to MP 175. It is the Tribe's understanding that this area of the PCGP includes the following proposed stream crossings:

- South Umpqua River crossing #1, direct pipe installation
- (tentative) South Umpqua River crossing #2, horizontal directional drilling
- Rogue River crossing, horizontal directional drilling
- 44 additional perennial stream crossings, most of which are open-cut pipe installations

While the dEIS describes best management practices in the installation of these stream crossings, there is still a risk of failure of systems intended to contain hazardous or turbidity-causing materials. This is especially true of horizontal directional drilling, where uncontained expulsions of drilling fluid through surrounding soils (also known as "frac-outs") are not uncommon. Some drilling fluids are toxic, with obvious consequences upon release, but even when they are not, the fine particles in them can smother plants and animals, particularly in an aquatic environment. The dEIS contains a qualitative, largely conclusive analysis of these risks based on information and experiences from other pipeline sites. The Tribe would need further information and a complete quantitative analysis of frac-out and associated risks to resources. In the absence of sufficient information, the Tribe will assume a worst case scenario, i.e. that one or more frac-outs are likely to occur in Project construction.

A failure or frac-out during horizontal directional drilling would likely result in mortality to fish, wildlife and plant populations in the vicinity and downstream of the construction site. This would be unacceptable to Grand Ronde as these would constitute important Tribal resources. Where other pipe installation methods, such as open-cut trenches, are employed, a failure event may not be as catastrophic as a frac-out, but could still result in unacceptable water quality conditions. Open-cut pipe installation involves temporary damming upstream of the pipeline crossing, pumping or ditching the stream water around or over the pipe installation site, releasing the water downstream of the pipe installation site, excavating a trench into the bed and banks of the stream to a depth below that of the natural stream bed, and backfilling material into the trench over the pipe once it is installed. Any one or more of these installation elements may fail, resulting in elevated and unacceptable sediment loads in the waterway at the construction site and downstream. The dEIS analysis of risk of failure among 44 open-cut pipeline installations at perennial stream crossings, like its analysis of horizontal directional drilling risks, is qualitative and overly conclusive. In the absence of a complete quantitative analysis, Tribal staff will assume that failure, resulting in unacceptable impact to important Tribal resources, would be likely to occur.

Even if everything were to go perfectly at all 44 open-cut pipeline installations, and there were no failures in containment of construction materials, adverse impacts to important Tribal resources could still occur. Disturbance of archaeological resources, disruption/alteration of stream morphology, and degradation of habitat and viewshed integrity may result, for example. The likelihood of such impacts occurring among 44 open-cut pipeline installations at perennial stream crossings is not currently known by the Tribe, but in the absence of sufficient information or analysis, Tribal staff will assume that these unacceptable impacts would be likely to occur.

TR3-25
cont.

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TR3 continued, page 14 of 15**c. Recommendation**

A complete quantitative analysis of these risks should be performed, and if risks of impact are found to be quantitatively significant at any point during or after construction, provision should be made for a Construction Monitoring and Response Plan to fully address them. If impacts cannot be fully addressed in this manner then a plan for mitigation must be developed.

TR3-25
cont.**5. Analyses of risk associated with ongoing operations and maintenance (O&M) of the Projects into perpetuity are inadequate for EIS purposes.****a. Procedural history**

The Tribe has made this comment on the Projects' applications for 401 and 404 water quality permits. This comment was very briefly mentioned at the June 11 meeting, and the difficulties of analysis were discussed there, but there was no proposed resolution of the issue.

b. Issue

In addition to the catastrophic impacts discussed above, impacts associated with "situation normal" everyday operation and maintenance of the Projects into perpetuity must be taken into account since the Projects are, for lack of a better word, forever. Delivery of a large amount of LNG across hundreds of miles is the purpose of the Projects. This would include construction/maintenance of access roads, vehicular transport of equipment/supplies/personnel, and pipeline testing/repair/replacement at necessary intervals, as well as the transport of large amounts of LNG through the pipeline.

TR3-26

There is no such thing as a perfect product delivery system. Over time, some amount of spills/releases of LNG into the environment will occur, whether small or large, as a result of everyday operation and maintenance of the Projects. And, as with seismic risk, as the Project timeline stretches into perpetuity, the probability of LNG releases into the environment reaching an unacceptable level approaches 100%, or 1. Full analyses of O&M impact have not been seen by the Tribe, but in the absence of sufficient analysis, Tribal staff will assume that unacceptable impacts would be likely to occur.

c. Recommendation

A complete quantitative analysis of these impacts should be performed, and if impacts are found to be quantitatively significant at any point into perpetuity, provision should be made for a Monitoring and Evaluation Plan to fully address them. If impacts cannot be fully addressed in this manner then a plan for mitigation must be developed.

6. There is generally not enough information in the dEIS for FERC to make informed and meaningful decisions as to avoidance, minimization, and mitigation of Project impacts to Tribal resources.**a. Procedural history**

The Tribe has made a similar comment on the Projects' applications for 401 and 404 water quality permits, and has briefly mentioned avoidance, minimization, and mitigation in its comments to the Oregon Department of State Lands.

TR3-27

b. Issue

Because some of the dEIS analyses, such as those for pipeline construction and stream crossings mentioned above, are inadequately qualitative and conclusive, there is little "due diligence"

TR3-26 Note that LNG (i.e., liquefied natural gas) would not be transported through the pipeline. Compressed natural gas would be transported through the pipeline, and then liquified at the LNG terminal. Section 4 of the EIS disclosed the impacts and risks to the natural and human environment from construction and operation of the pipeline and LNG facility. The draft EIS addressed the safety of the transportation of natural via the pipeline in section 4.13.

TR3-27 Comment noted. We believe that the current EIS does address and disclose potential impacts in compliance with the requirements of NEPA. Where deficiencies were identified though agency and public review, these deficiencies have been corrected.

information available on the relevant potential impacts for FERC to make an informed and meaningful decision as to whether avoidance of a particular geography or method may be sufficient to address potentially significant impacts. Likewise, there is little "due diligence" information available to make an informed and meaningful decision as to whether it may be necessary and/or possible to rely on minimization and/or mitigation measures in order to address potentially significant impacts.

TR3-27

c. Recommendation

Complete quantitative analyses of impacts to resources should be performed, as mentioned above, resulting in a "due diligence" level of empirical information available. If impacts cannot be adequately analyzed in this manner then protective assumptions, developed in collaboration with the Tribe and other stakeholders, would need to serve as the basis for impact analysis.

7. Conclusion

Due to the continued lack of sufficient information analyzing risk of impact to Tribal resources, and the incomplete nature of the avoidance/minimization/mitigation steps for addressing impact as discussed above, Tribal staff must make the most protective assumptions possible regarding Tribal resources. The assumption is that important Tribal environmental and natural resources will be unacceptably impacted by the Projects. Further, the assumption is that the unacceptable impact to Tribal resources will not be completely avoided, minimized, or mitigated, since there is not enough analytical information available in the EIS to determine how to adequately avoid, minimize, and/or mitigate impacts. For this reason, Tribal staff cannot recommend that the Tribe support the dEIS, fEIS, or ROD unless and until these issues are fully resolved to the Tribe's satisfaction.