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BEFORE THE UNITED STATES  
SECRETARY OF COMMERCE

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Appeal from the Oregon Department of Land Conservation and Development's  
Consistency Objection under the Coastal Zone Management Act

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**SUPPLEMENTAL REPLY APPENDIX OF APPELLANTS JORDAN COVE ENERGY  
PROJECT L.P. AND PACIFIC CONNECTOR GAS PIPELINE, LP**

Ariel H. Stavitsky  
Stoel Rives LLP  
760 SW Ninth Avenue  
Suite 3000  
Portland, OR 97205  
Phone: 503.294.9354  
Email: ariel.stavitsky@stoel.com

Michael B. Wigmore  
Corinne Snow  
Matthew X. Etchemendy  
Abby M. Meredith  
Vinson & Elkins LLP  
2200 Pennsylvania Avenue, NW  
Suite 500 West  
Washington, DC 20037  
Phone: 202.639.6778  
Email: mwigmore@velaw.com  
Email: csnow@velaw.com  
Email: metchemendy@velaw.com  
Email: ameredith@velaw.com

*Counsel for Appellants*

June 5, 2020

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171 FERC ¶ 61,136  
UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

Before Commissioners: Neil Chatterjee, Chairman;  
Richard Glick, Bernard L. McNamee,  
and James P. Danly.

Jordan Cove Energy Project L.P.  
Pacific Connector Gas Pipeline, LP

Docket Nos. CP17-495-001  
CP17-494-001

ORDER ON REHEARING AND STAY

(Issued May 22, 2020)

1. On March 19, 2020, the Commission issued an order pursuant to section 3 of the Natural Gas Act (NGA)<sup>1</sup> and Part 153 of the Commission's regulations<sup>2</sup> authorizing Jordan Cove Energy Project L.P. (Jordan Cove) to site, construct, and operate a liquefied natural gas (LNG) export terminal and associated facilities (Jordan Cove LNG Terminal) in unincorporated Coos County, Oregon (Authorization Order).<sup>3</sup> The Commission also authorized, pursuant to NGA section 7<sup>4</sup> and Parts 157 and 284 of the Commission's regulations,<sup>5</sup> Pacific Connector Gas Pipeline, LP (Pacific Connector) to construct and operate a new interstate natural gas pipeline system (Pacific Connector Pipeline) in Klamath, Jackson, Douglas, and Coos Counties, Oregon.

2. On April 17, 2020, the Commission received requests for rehearing from Jordan Cove and Pacific Connector, the Cow Creek Band of Umpqua Tribe of Indians (Cow Creek Band), and the Klamath Tribes. On April 20, 2020, the Commission received requests for rehearing from the Confederated Tribes of the Coos, Lower Umpqua, and Siuslaw Indians (collectively, Confederated Tribes); Citizens for Renewables, Inc.,

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<sup>1</sup> 15 U.S.C. § 717b (2018).

<sup>2</sup> 18 C.F.R. pt. 153 (2019).

<sup>3</sup> *Jordan Cove Energy Project L.P.*, 170 FERC ¶ 61,202 (2020) (Authorization Order).

<sup>4</sup> 15 U.S.C. § 717f (2018).

<sup>5</sup> 18 C.F.R. pt. 157 (2019).

Citizens Against LNG, and Jody McCaffree (collectively, Jody McCaffree); Oregon Department of Energy, Oregon Department of Environmental Quality, Oregon Department of Fish and Wildlife, and Oregon Department of Land Conservation and Development (collectively, State of Oregon); the Natural Resources Defense Council (NRDC); and, jointly, Sierra Club, Niskanen Center (on behalf of Bill Gow, Sharon Gow, Neal C. Brown Family LLC, Wilfred E. Brown, Elizabeth A. Hyde, Barbara L. Brown, Pamela Brown Ordway, Chet N. Brown, Evans Schaff Family LLC, Deb Evans, Ron Schaff, Stacey McLaughlin, Craig McLaughlin, Richard Brown, Twyla Brown, Clarence Adams, Stephany Adams, Will McKinley, Wendy McKinley, Frank Adams, Lorraine Spurlock, Toni Woolsey, Alisa Acosta, Gerrit Boshuizen, Cornelis Boshuizen, Robert Clarke, John Clarke, Carol Munch, Ron Munch, Mitzi Sulffridge, James Dahlman, John Dahlman), the Western Environmental Law Center, the Klamath Tribes, Center for Biological Diversity, Oregon Wild, Rogue Riverkeeper, Pacific Coast Federation of Fishermen's Associations, Institute for Fisheries Resources, Greater Good Oregon, Friends of Living Oregon Waters, Surfrider Foundation, Oregon Women's Land Trust, Oregon Shores Conservation Coalition, League of Women's Voters of Coos County, League of Women's Voters of Umpqua County, League of Women's Voters of Rouge Valley, League of Women's Voters of Klamath County, Rogue Climate, Umpqua Watersheds, Waterkeeper Alliance, Coast Range Forest Watch, Cascadia Wildlands, Oregon Physicians for Social Responsibility, Hair on Fire Oregon, Citizens for Renewables, Citizens Against LNG, Francis Eatherington, Janet Hodder, Michael Graybill, and Natural Resources Defense Council (collectively, Sierra Club). On April 21, 2020, the Commission received a late request for rehearing and stay from Kenneth E. Cates, Kristine Cates, James Davenport, Archina Davenport, David McGriff, Emily McGriff, Andrew Napell, Dixie Peterson, Paul Washburn, and Carol Williams. NRDC and Sierra Club also requested to stay the Authorization Order until the Commission acts on rehearing.

3. As discussed below, we deny and grant rehearing in part, and deny the stay requests as moot.

## **I. Background**

4. The Jordan Cove LNG Terminal is designed to produce a nominal capacity of up to 7.8 million metric tonnes per annum (MTPA) of LNG for export.<sup>6</sup> The project facilities will include: gas inlet and gas conditioning facilities; five liquefaction trains, each with a nominal capacity of 1.56 MTPA, for a total nominal capacity of 7.8 MTPA; two full-containment LNG storage tanks, each with a net capacity of approximately 160,000 cubic meters (m<sup>3</sup>); a marine slip, including one LNG carrier loading berth

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<sup>6</sup> Authorization Order, 170 FERC ¶ 61,202 at P 7.

capable of accommodating LNG carriers with a cargo capacity of 89,000 m<sup>3</sup> to 217,000 m<sup>3</sup>;<sup>7</sup> and support systems.<sup>8</sup>

5. Construction of the Jordan Cove LNG Terminal will affect about 577 acres of land, and mitigation associated with the project is anticipated to impact about 778 additional acres of land.<sup>9</sup> Once construction is complete, operation of the Jordan Cove LNG Terminal will require the use of approximately 200 acres, across two parcels—Ingram Yard and the South Dunes Site—which are connected by a one-mile-long Access Utility Corridor.<sup>10</sup> The main LNG production facilities will be located on the Ingram Yard parcel, while the interconnection with the Pacific Connector Pipeline will be located on the South Dunes Site parcel.<sup>11</sup>

6. In December 2011, Jordan Cove received authorization from the Department of Energy, Office of Fossil Energy (DOE/FE) to export annually up to 438 billion cubic feet (Bcf) per year equivalent of natural gas in the form of LNG to countries with which the United States has a Free Trade Agreement (FTA);<sup>12</sup> and, in March 2014, Jordan Cove received conditional authorization to export annually up to 292 Bcf equivalent to non-FTA countries.<sup>13</sup> On February 6, 2018, Jordan Cove filed an application with DOE/FE to

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<sup>7</sup> We note that Jordan Cove is only authorized by the U.S. Coast Guard to receive vessels with nominal capacities of up to 148,000 m<sup>3</sup>. Final EIS at 4-91.

<sup>8</sup> Authorization Order, 170 FERC ¶ 61,202 at PP 8-11.

<sup>9</sup> *Id.* P 12.

<sup>10</sup> *Id.*

<sup>11</sup> Fort Chicago LNG II U.S. L.P., an affiliate of Jordan Cove, currently owns 295 acres of land at the terminal site. Jordan Cove will acquire the use of the remaining lands through easements or leases.

<sup>12</sup> *Jordan Cove Energy Project, L.P.*, FE Docket No. 11-127-LNG, Order No. 3041 (December 7, 2011). The 2011 FTA authorization stated that the 30-year term of the authorization would commence on the earlier of the date of the first export or December 7, 2021; and, the 2014 non-FTA, 20-year authorization required Jordan Cove to commence operations within seven years of the date of the authorization (i.e., by March 24, 2021).

<sup>13</sup> *Jordan Cove Energy Project, L.P.*, FE Docket No. 12-32-LNG, Order No. 3413 (March 24, 2014). These authorizations were associated with Jordan Cove's previously-proposed export terminal, in Docket No. CP13-483-000. As explained in the Authorization Order, the Commission denied that proposal, along with Pacific Connector's previously proposed pipeline project (Docket No. CP13-492-000), on

amend its FTA and non-FTA authorizations to modify the quantity of LNG Jordan Cove is authorized to export (reflecting changes Jordan Cove made to its proposed facilities and additional engineering analysis) and to “re-set the dates by which [Jordan Cove] must commence exports.”<sup>14</sup> Specifically, Jordan Cove requested to reduce the approved export volume to FTA countries from 438 Bcf per year equivalent to 395 Bcf per year equivalent, and to increase the approved export volume to non-FTA countries from 292 Bcf equivalent to 395 Bcf equivalent.<sup>15</sup> In July 2018, DOE/FE amended Jordan Cove’s FTA authorization in accordance with Jordan Cove’s request.<sup>16</sup> Jordan Cove’s requested amendment of its non-FTA authorization remains pending before the DOE/FE.<sup>17</sup>

7. The Pacific Connector Pipeline is designed to provide up to 1,200,000 dekatherms per day (Dth/d) of firm natural gas transportation service from interconnects with existing natural gas pipeline systems near Malin, Oregon, to the Jordan Cove LNG Terminal, for liquefaction and export.<sup>18</sup> The Pacific Connector Pipeline will include approximately 229 miles of 36-inch-diameter natural gas pipeline, a new 62,200-horsepower (hp) compressor station, three new meter stations, and appurtenant facilities.<sup>19</sup> The Pacific

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March 11, 2016. Authorization Order, 170 FERC ¶ 61,202 at P 5 (citing *Jordan Cove Energy Project, L.P.*, 154 FERC ¶ 61,190, *reh’g denied*, 157 FERC ¶ 61,194 (2016) (2016 Order)).

<sup>14</sup> Jordan Cove’s February 6, 2018 Amendment Application filed in FE Docket Nos. 11-127-LNG and 12-32-LNG at 3-5.

<sup>15</sup> Assuming a gas density of 0.7 kg/m<sup>3</sup>, 395 Bcf/year is 7.84 MTPA.

<sup>16</sup> *Jordan Cove Energy Project, L.P.*, FE Docket No. 11-127-LNG, Order No. 3041-A (July 20, 2018). According to the amended authorization, Jordan Cove is authorized to export up to 395 Bcf equivalent to FTA countries for a 30-year term beginning on the earlier date of the first export or July 20, 2028. All other obligations, rights, and responsibilities established in the December 2011 authorization remain in effect.

<sup>17</sup> Jordan Cove’s amended application to export LNG to non-FTA nations is pending before the DOE/FE in FE Docket No. 12-32-LNG.

<sup>18</sup> Authorization Order, 170 FERC ¶ 61,202 at P 15.

<sup>19</sup> *Id.*

Connector Pipeline is 95.8% subscribed under two executed precedent agreements with Jordan Cove for 1,150,000 Dth/d at a negotiated rate.<sup>20</sup>

## II. Procedural Matters

### A. The Authorization Order was Procedurally Valid

8. NRDC claims that the Authorization Order is procedurally invalid, as it was issued after the Commission had already, during a February 20, 2020 open meeting held under the Government in the Sunshine Act, voted, 2-to-1, to substantively deny the project.<sup>21</sup> NRDC states that Commission regulations permit items to be struck from the Commission meeting “without vote or notice,”<sup>22</sup> but that the Commission failed to strike the then-proposed draft from the agenda or make a request to otherwise hold in abeyance the projects’ review until a later date, before casting a vote.<sup>23</sup> NRDC contends that the Commission “must explain how its actions did not result in a substantive denial of Jordan Cove on February 20, 2020.”<sup>24</sup>

9. NRDC’s arguments rest on a misunderstanding of Commission practice and procedure. The Commission, an independent agency that consists of up to five members,<sup>25</sup> acts through its written orders,<sup>26</sup> which are issued following a favorable vote of the majority.<sup>27</sup> At the February 20, 2020 open meeting, the Commission voted 2-to-1 to reject

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<sup>20</sup> The first precedent agreement relates to service during commissioning of the Jordan Cove LNG Terminal and the second is a long-term precedent agreement relating to service once the terminal has achieved commercial operation. Authorization Order, 170 FERC ¶ 61,202 at P 17; Pacific Connector Application at 16-17.

<sup>21</sup> NRDC Rehearing Request at 99 (citing 5 U.S.C. § 552b (2018)).

<sup>22</sup> *Id.* at 102 (citing 18 C.F.R. § 375.204(b) (2019)).

<sup>23</sup> *Id.* at 103.

<sup>24</sup> *Id.* at 104.

<sup>25</sup> *See* 16 U.S.C. § 792 (2018); 18 C.F.R. § 376.102 (2019).

<sup>26</sup> *See, e.g., Indianapolis Power & Light Co.*, 48 FERC ¶ 61,040, at 61,203 & n.29 (“The Commission speaks through its orders.”), *order on reh’g*, 49 FERC ¶ 61,328 (1989).

<sup>27</sup> 42 U.S.C. 7171 (2018) (“Actions of the Commission shall be determined by a majority vote of the members present.”).

an order drafted by Commission staff through the Commission's usual internal practice, that would have authorized the project.<sup>28</sup> Because the Commission rejected the proposed order, and therefore no action was taken on Jordan Cove and Pacific Connector's applications, they remained pending.<sup>29</sup> NRDC is correct that the proposed draft order was not "struck" from the open meeting agenda under the Commission's regulations; however, the Commission was under no obligation to do so.<sup>30</sup> In addition, the fundamental requirement that an agency "disclose the basis"<sup>31</sup> for its decision aptly demonstrates the flaw in NRDC's suggested result: the Commission could not lawfully discharge its responsibilities by voting to deny Jordan Cove and Pacific Connector's applications for the project without issuing an order or opinion disclosing its basis for doing so.

## **B. Late Motion to Intervene**

10. On March 27, 2020, Cow Creek Band filed an untimely motion to intervene in the Jordan Cove LNG Terminal proceeding. Cow Creek Band also filed a request for rehearing in both the Jordan Cove LNG Terminal and Pacific Connector Pipeline proceedings. The Commission has explained that "[w]hen late intervention is sought after the issuance of a dispositive order, the prejudice to other parties and burden upon

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<sup>28</sup> NRDC recognizes both that, at the February 20, 2020 meeting, the Commissioners had before them a proposed "order to approve the Project," and that a Commission vote "substantively approves or denies *orders* as proposed." NRDC Rehearing Request at 101-102 (emphasis added). Thus, even under NRDC's logic, the Commission voted to deny, i.e., not to issue, the proposed order, which was an order to *approve* the project

<sup>29</sup> See *MidAmerican Energy Holdings Co.*, 118 FERC ¶ 61,003, at 61,009 n.45 (2007) ("The Commission, a five-member agency . . . acts through its written orders . . . . Phrased differently, in the absence of such orders, including before it has issued such orders, the Commission cannot be said to have acted.").

<sup>30</sup> See 18 C.F.R. § 375.204(b). Nor was it necessary for the Commission to change the "subject matter" of the meeting in advance. NRDC Request for Rehearing at 100 (citing 18 C.F.R. § 375.204(a)(4)(i)-(ii) (2018)). The subject matter did not change. See Sunshine Act Meeting Notice (Feb. 13, 2020), <https://www.ferc.gov/CalendarFiles/20200213175606-sunshine.pdf>.

<sup>31</sup> See, e.g., *FPC v. United Gas Pipe Line Co.*, 393 U.S. 71, 73 (1968) ("Before the courts can properly review agency action, the agency must disclose the basis of its order and 'give clear indication that it has exercised the discretion with which Congress has empowered it' . . . .") (citing *Phelps Dodge Corp. v. NLRB*, 313 U.S. 177, 197 (1941)).



the Commission of granting the late intervention may be substantial.”<sup>32</sup> In such circumstances, movants bear a higher burden to demonstrate good cause for the granting of late intervention,<sup>33</sup> and generally it is Commission policy to deny late intervention at the rehearing stage.<sup>34</sup>

11. Here, Cow Creek Band explains that although it timely intervened in the Pacific Connector Pipeline proceeding,<sup>35</sup> it did not realize that the Commission would rule on the Jordan Cove LNG Terminal and the Pacific Connector Pipeline in the same order.<sup>36</sup> Thus, it requests party status in the Jordan Cove LNG Terminal proceeding because it realizes the full impact of the order on the Tribe.

12. As stated above, it is Commission policy to deny late intervention at the rehearing stage.<sup>37</sup> Allowing an intervention at the rehearing stage in the proceeding would delay, prejudice, and place additional burdens on the Commission and the certificate holder.<sup>38</sup> Thus, we deny Cow Creek Band’s late motions to intervene and reject its rehearing

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<sup>32</sup> *Nat’l Fuel Gas Supply Corp.*, 139 FERC ¶ 61,037 (2012) (*National Fuel*). See, e.g., *Fla. Gas Transmission Co.*, 133 FERC ¶ 61,156 (2010).

<sup>33</sup> See *Cal. Dep’t of Water Res. & the City of Los Angeles*, 120 FERC ¶ 61,057, at n.3 (2007), *reh’g denied*, 120 FERC ¶ 61,248, *aff’d sub nom. Cal. Trout & Friends of the River v. FERC*, 572 F.3d 1003 (9th Cir. 2009).

<sup>34</sup> See *PennEast Pipeline Co.*, 162 FERC ¶ 61,279 (2018) (denying two motions for late intervention and rejecting requests for rehearing filed 20 and 27 days after the Commission issued a certificate order for the PennEast Project); *Tenn. Gas Pipeline Co., L.L.C.*, 162 FERC ¶ 61,013, at P 10 (2018) (*Tennessee Gas*) (denying late motions to intervene and rejecting requests for rehearing filed two weeks and thirteen months after the Commission issued a certificate order for the Connecticut Expansion Project); *NationalFuel*, 139 FERC ¶ 61,037 (denying a late motion to intervene and request for rehearing filed 30 days after the Commission issued a certificate order for the Northern Access Project).

<sup>35</sup> See Cow Creek Band October 23, 2017 Motion to Intervene in Docket No. CP17-494-000.

<sup>36</sup> Cow Creek Band Late Motion to Intervene in Docket No. CP17-495-000.

<sup>37</sup> See *supra* note 34.

<sup>38</sup> *National Fuel*, 139 FERC ¶ 61,037 at P 18 (“When late intervention is sought after the issuance of a dispositive order, the prejudice to other parties and burden upon the Commission of granting the late intervention may be substantial.”).

request to the extent it deals with the Jordan Cove terminal. We note that Cow Creek Band filed a timely, unopposed motion to intervene in the Pacific Connector Pipeline proceeding; thus, we are addressing its timely request for rehearing as to that proposal in this order. Further, Cow Creek Band's rehearing request as to the Jordan Cove LNG Terminal raises several of the same cultural resource issues raised by other parties, which are addressed below.

### **C. Late Requests for Rehearing**

13. Pursuant to section 19(a) of the NGA, an aggrieved party must file a request for rehearing within 30 days after the issuance of the Commission's order.<sup>39</sup> Under the Commission's regulations, read in conjunction with section 19(a), the deadline to seek rehearing was 5:00 pm U.S. Eastern Time, April 20, 2020.<sup>40</sup> Kenneth E. Cates, Kristine Cates, James Davenport, Archina Davenport, David McGriff, Emily McGriff, Andrew Napell, Dixie Peterson, Paul Washburn, and Carol Williams failed to meet this deadline. Because the 30-day rehearing deadline is statutorily based, it cannot be waived or extended, and their requests must be rejected as late.<sup>41</sup> Nevertheless, these individuals'

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<sup>39</sup> 15 U.S.C. § 717r(a) (2018) ("Any person, State, municipality, or State commission aggrieved by an order issued by the Commission in a proceeding under this act to which such person, State, municipality, or State commission is a party may apply for a rehearing within thirty days after the issuance of such order"). The Commission has no discretion to extend this deadline. *See, e.g., Transcontinental Gas Pipe Line Co.*, 161 FERC ¶ 61,250, at P 10 n.13 (2017) (collecting cases).

<sup>40</sup> Rule 2007 of the Commission's Rules of Practice and Procedure provides that when the time period prescribed by statute falls on a weekend, the statutory time period does not end until the close of the next business day. *See* 18 C.F.R. § 385.2007(a)(2) (2019). The Commission's business hours are "from 8:30 a.m. to 5:00 p.m.," and filings – paper or electronic – made after 5:00 p.m. will be considered filed on the next regular business day. *See* 18 C.F.R. §§ 375.101(c), 2001(a)(2) (2019).

<sup>41</sup> *See Annova Common Infrastructure, LLC*, 170 FERC ¶ 61,140, at P 6 (2020) (dismissing a request for rehearing received by the Commission at 5:45 p.m., after the 5:00 p.m. on the day of the filing deadline); *Tex. LNG Brownsville, LLC*, 170 FERC ¶ 61,139, at P 7 (2020) (dismissing a request for rehearing received by the Commission at 5:48 p.m., after the 5:00 p.m. on the day of the filing deadline); *Atl. Coast Pipeline, LLC*, 164 FERC ¶ 61,110, at P 12 (2018) (dismissing requests for rehearing received at 5:02 p.m. and 10:19 p.m., after 5:00 p.m. on the day of the filing deadline); *NEXUS Gas Transmission, LLC*, 164 FERC ¶ 61,054, at P 12 (2018) (dismissing a request for rehearing received by the Commission at 9:29 p.m., after the 5:00 p.m. on the day of the filing deadline). Here, the rehearing request was received at 7:54 p.m. on April 20, so that it was considered filed on April 21, one day too late.

arguments are addressed below as their rehearing request “incorporate[s] by reference all arguments, facts, and authorities cited in the Request for Rehearing and Stay of Order filed today in this cause by Sierra Club . . . .”<sup>42</sup>

#### **D. Party Status**

14. Under NGA section 19(a) and Rule 713(b) of the Commission’s Rules and Practice and Procedure, only a party to a proceeding is eligible to request rehearing of a final Commission decision.<sup>43</sup> Any person seeking to become a party must file a motion to intervene pursuant to Rule 214 of the Commission’s Rules of Practice and Procedure.<sup>44</sup> The Niskanen Center, Neal C. Brown Family LLC, Wilfred Brown, Chet N. Brown, and Twyla Brown never sought to intervene in either the Jordan Cove LNG Terminal or Pacific Connector Pipeline proceedings and they may not join in the rehearing request filed by Sierra Club. Further, Elizabeth A. Hyde, Richard Brown, Alisa Acosta, and James Dahlman never sought to intervene in the Jordan Cove LNG Terminal proceeding; accordingly, they may not join in the rehearing request filed by Sierra Club as to the that proceeding.<sup>45</sup>

#### **E. Deficient Rehearing Request**

15. The NGA requires that a request for rehearing set forth the specific grounds on which it is based.<sup>46</sup> Additionally, Rule 713 of Commission’s regulations provide that requests for rehearing must “[s]tate concisely the alleged error in the final decision” and “include a separate section entitled ‘Statement of Issues,’ listing each issue in a separately enumerated paragraph” that includes precedent relied upon.<sup>47</sup> Any issue not so listed will

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<sup>42</sup> Kenneth E. Cates et al. Rehearing Request at 1. In addition, as noted below the Commission does not permit rehearing requests to incorporate by reference arguments from other filings. *Infra* PP15, 17.

<sup>43</sup> 15 U.S.C. § 717f(a) (2018); 18 C.F.R. § 385.713(b) (2019).

<sup>44</sup> 18 C.F.R. § 385.214(a)(3) (2019).

<sup>45</sup> On April 13, 2020, Mark Sheldon filed a request for rehearing and stay of the Authorization Order. On May 5, 2020, the Commission issued a notice rejecting Mr. Sheldon’s request for rehearing and stay because he is not a party to the proceedings. *See* 15 U.S.C. § 717r(a) (2018); 18 C.F.R. §§ 385.212(a)(2), 385.214 (2019).

<sup>46</sup> 15 U.S.C. § 717r(a).

<sup>47</sup> 18 C.F.R. § 385.713 (2019).

be deemed waived.<sup>48</sup> Consistent with these requirements, the Commission “has rejected attempts to incorporate by reference arguments from a prior pleading because such incorporation fails to inform the Commission as to which arguments from the referenced pleading are relevant and how they are relevant.”<sup>49</sup>

16. Klamath Tribes’ April 17, 2020 request for rehearing is deficient because it fails to include a Statement of Issues section separate from its arguments, as required by Rule 713 of the Commission’s Rules of Practice and Procedure. Accordingly, we dismiss Klamath Tribes’ rehearing request. However, we note that Klamath Tribes joined Sierra Club’s request for rehearing, which raises the same issues and is addressed below.

17. The rehearing petitions filed by Klamath Tribes, Cow Creek Band, Confederated Tribes, and Ms. McCaffree attempt to incorporate by reference arguments made in prior pleadings, other requests for rehearing, or the dissent to the Authorization Order.<sup>50</sup> As noted above, this is improper and we will not consider such arguments. To the extent the arguments incorporated by reference are properly raised in other requests for rehearing, they are addressed below.

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<sup>48</sup> *Id.* § 385.713(c)(2) (2019).

<sup>49</sup> *San Diego Gas & Elec. Co. v. Sellers of Market Energy*, 127 FERC ¶ 61,269, at P 295 (2009). *See Tenn. Gas Pipeline Co., L.L.C.*, 156 FERC ¶ 61,007, at P 7 (2016) (“the Commission’s regulations require rehearing requests to provide the basis, in fact and law, for each alleged error including representative Commission and court precedent. Bootstrapping of arguments is not permitted.”). *See also ISO New England, Inc.*, 157 FERC ¶ 61,060, at P 4 (2016) (explaining that the identical provision governing requests for rehearing under the Federal Power Act “requires an application for rehearing to ‘set forth specifically the ground or grounds upon which such application is based,’ and the Commission has rejected attempts to incorporate by reference grounds for rehearing from prior pleadings”); *Alcoa Power Generating, Inc.*, 144 FERC ¶ 61,218, at P 10 (2013) (“The Commission, however, expects all grounds to be set forth in the rehearing request, and will dismiss any ground only incorporated by reference.”) (citations omitted).

<sup>50</sup> Klamath Tribes Rehearing Request at 1 (incorporating by reference arguments made in Sierra Club’s request for rehearing); Cow Creek Band Rehearing Request at 8 (incorporating by reference arguments made in prior comments); Confederated Tribes Rehearing Request at 14-15 (incorporating by reference arguments made in prior comments and the dissent to the Authorization Order); McCaffree Rehearing Request at 7, 34 (incorporating by reference arguments made in in prior comments; the State of Oregon’s, Sierra Club’s, and the Confederated Tribes’ requests for rehearing; and the dissent to the Authorization Order).

**F. Answer**

18. On May 5, 2020, Jordan Cove and Pacific Connector filed a motion for leave to answer and answer to the requests for rehearing. Rule 713(d)(1) of the Commission's Rules of Practice and Procedure prohibits answers to a request for rehearing.<sup>51</sup> Accordingly, we reject Jordan Cove's and Pacific Connector's filing.

**G. Evidentiary Hearing**

19. Sierra Club asserts that the Commission must hold an evidentiary hearing to resolve substantial disputed issues regarding the conclusion that the project is in the public interest, and the alleged lack of completed studies, data gaps and lack of information on impacts to local and regional businesses, water quality and quantity impacts, greenhouse gas (GHG) impacts, and health and safety impacts.<sup>52</sup> Sierra Club contends that an evidentiary hearing would allow the Commission to fully meet its obligations under the NGA, National Environmental Policy Act (NEPA), and the Fifth Amendment to the U.S. Constitution.<sup>53</sup>

20. An evidentiary, trial-type hearing is necessary only where there are material issues of fact in dispute that cannot be resolved on the basis of the written record.<sup>54</sup> No party has raised a material issue of fact that the Commission cannot resolve on the basis of the written record. As demonstrated by the discussion below, the existing written record provides a sufficient basis to resolve the issues relevant to this proceeding. The Commission has done all that is required by giving interested parties an opportunity to participate through evidentiary submission in written form.<sup>55</sup> Further, we disagree with Sierra Club's cursory statement that an evidentiary hearing is required to enable the Commission to meet its obligations under the NGA, NEPA, and the Fifth Amendment. Sierra Club is obligated to "set forth specifically the ground or grounds upon which" its request for rehearing is based.<sup>56</sup> Simply making blanket allegations that the Commission violated the law without

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<sup>51</sup> 18 C.F.R. § 385.713(d)(1) (2019).

<sup>52</sup> Sierra Club Rehearing Request at 44-45.

<sup>53</sup> *Id.* at 45.

<sup>54</sup> *See, e.g., S. Union Gas Co. v. FERC*, 840 F.2d 964, 970 (D.C. Cir. 1988); *Dominion Transmission, Inc.*, 141 FERC ¶ 61,183, at P 15 (2012).

<sup>55</sup> *Moreau v. FERC*, 982 F.2d 556, 568 (D.C. Cir. 1993).

<sup>56</sup> 15 U.S.C. § 717r(a) (2018). *See also Constellation Energy Commodities Group, Inc. v. FERC*, 457 F.3d 14, 22 (D.C. Cir. 2006) ("Each quoted passage states a conclusion; neither makes an argument. Parties are required to present their arguments to

any explanation or analysis does not meet this requirement. Accordingly, we affirm the Authorization Order's denial of Sierra Club's request for a trial-type evidentiary hearing.<sup>57</sup>

21. We disagree with Sierra Club's contention that we did not act on Stacey McLaughlin's request for additional procedures.<sup>58</sup> In the Authorization Order, the Commission found that implementing additional procedures was not needed or appropriate: "this order reviews both the non-environmental and environmental issues associated with the proposals."<sup>59</sup> We agree.

### **III. Stay Request**

22. Sierra Club requests that the Commission stay the Authorization Order pending issuance of an order on rehearing.<sup>60</sup> NRDC joins Sierra Club's request for a stay, arguing that by issuing the Authorization Order in the midst of the COVID-19 pandemic, the Commission unnecessarily exposed affected landowners to immediate, irreparable injury through eminent domain condemnation actions, requiring them to divert their attention to ensure that they protect their legal rights due to mandatory filing deadlines under the NGA.<sup>61</sup> On May 5, 2020, Jordan Cove and Pacific Connector filed an answer to the requests for stay. This order addresses and denies Sierra Club's and NRDC's requests for rehearing; accordingly, we dismiss the requests for stay as moot.

### **IV. Discussion**

#### **A. Natural Gas Act**

##### **1. Denial of an Identical Application in 2016**

23. Petitioners assert that the Commission's approval of the projects in the Authorization Order, after denying an "identical" project application in 2016, was arbitrary and capricious

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the Commission in such a way that the Commission knows 'specifically ... the ground on which rehearing [i]s being sought.'").

<sup>57</sup> Authorization Order, 170 FERC ¶ 61,202 at P 26.

<sup>58</sup> Sierra Club Rehearing Request at 44.

<sup>59</sup> Authorization Order, 170 FERC ¶ 61,202 at P 28.

<sup>60</sup> Sierra Club Rehearing Request at 107, 110.

<sup>61</sup> NRDC Rehearing Request at 106.

without a more substantial justification.<sup>62</sup> NRDC states that the “*only* material difference between the ‘new’ Project and the Project denied in 2016 is that Pacific Connector conducted an Open Season in which it received *no creditworthy bids*[.]”<sup>63</sup>

24. The Authorization Order explained in detail how the proposal approved in the Authorization Order differed from the proposal denied in the 2016 Order in several key aspects.<sup>64</sup> As the Commission explained in the Authorization Order, the 2016 Order “denied Pacific Connector’s proposal because Pacific Connector, by failing to provide precedent agreements or sufficient other evidence of need, failed to demonstrate market support for its proposal.”<sup>65</sup> Pacific Connector sought rehearing of the 2016 Order, in an attempt to reopen the record to provide evidence of market demand for the project, in the form of precedent agreements for approximately 77% of the project’s capacity, which had been entered into less than a month after the issuance of the 2016 Order.<sup>66</sup> The Commission declined to reopen the record, finding that Pacific Connector had not met the “heavy burden” required to justify reopening a proceeding; specifically, the Commission found that Pacific Connector had not identified any “extraordinary circumstances” that would overcome an agency’s interest in finality, as Pacific Connector had sufficient time during the life of the proceeding to demonstrate market demand for the project.<sup>67</sup> Significantly, however, the Commission reiterated the finding in the 2016 Order that the denial was without prejudice to Jordan Cove and Pacific Connector submitting an application in the future, “should the companies show a market need for these services in the future.”<sup>68</sup>

25. This is precisely what Pacific Connector and Jordan Cove provided in the instant proceeding. As the Commission explained in the Authorization Order, Pacific Connector provided evidence that it had entered into a long-term precedent agreement with Jordan

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<sup>62</sup> *Id.* at 9-11; State of Oregon Rehearing Request at 43-49; McCaffree Rehearing Request at 10.

<sup>63</sup> NRDC Rehearing Request at 13 (emphasis in original).

<sup>64</sup> Authorization Order, 170 FERC ¶ 61,202 at P 35 (citing 2016 Order, 157 FERC ¶ 61,194 at P 29).

<sup>65</sup> *Id.* P 35.

<sup>66</sup> 2016 Order, 157 FERC ¶ 61,194 at P 13.

<sup>67</sup> *Id.* P 17.

<sup>68</sup> *Id.* P 27 (quoting *Jordan Cove Energy Project, L.P.*, 154 FERC ¶ 61,160 at P 48).

Cove for approximately 96% of the project's capacity, which, as discussed below, is sufficient evidence of market demand for the project.<sup>69</sup> Accordingly, the petitioners' requests for rehearing on this matter are denied.

## 2. Principal Place of Business

26. Ms. McCaffree states that the Commission erred in finding that Jordan Cove and Pacific Connector's principal place of business is Houston, Texas.<sup>70</sup> The Commission's regulations pertaining to applications under section 3 of the NGA require applicants to indicate the "town or city where the applicant's principal office is located."<sup>71</sup> Similarly, the Commission's regulations for applications under section 7 of the NGA require applicants to set forth their principal place of business.<sup>72</sup> The Authorization Order stated that Jordan Cove and Pacific Connector are both Delaware limited partnerships, each with its principal place of business in Houston, Texas, which was what was indicated in the application.<sup>73</sup>

27. Ms. McCaffree contends that Portland, Oregon, is the location where Jordan Cove and Pacific Connector direct, control, and coordinate the project entities' activities and claims that Portland, Oregon, is the applicants' principal place of business.<sup>74</sup> There is no statutory, regulatory, or policy requirement that binds an applicant's principal place of business to the place from which it expects to direct, control, and/or coordinate project activities. Moreover, Ms. McCaffree has not provided any support for the claim that

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<sup>69</sup> Authorization Order, 170 FERC ¶ 61,202 at PP 64-65; Pacific Connector Application at 15. Petitioners cite to *F.C.C. v. Fox Television Stations, Inc.*, 556 U.S. 502 (2009), to support their argument that although the Commission may "change its position, it must provide a substantial justification when the new position rests upon factual findings that contradict the prior position." NRDC Rehearing Request at 14; State of Oregon Rehearing Request at 43. As we explained above, the facts of the 2016 case are substantially different to the facts presented here. In the present case, Pacific Connector provided precedent agreements for service—agreements that were notably lacking from the 2016 case until after the Commission issued its order denying the project, leading the Commission to deny the proposal.

<sup>70</sup> McCaffree Rehearing Request at 36.

<sup>71</sup> 18 C.F.R. § 153.7(a)(3) (2019).

<sup>72</sup> 18 C.F.R. § 157.6(b)(1) (2019).

<sup>73</sup> Authorization Order, 170 FERC ¶ 61,202 at P 4.

<sup>74</sup> McCaffree Rehearing Request at 36.



project activities would not be directed, controlled, and/or coordinated from Houston, Texas. Jordan Cove and Pacific Connector attested in their application that their principal office is in Houston, Texas, and Ms. McCaffree has provided no support for her claims to the contrary. Moreover, the place of business was not a material matter in the Authorization. Accordingly, the request for rehearing on this issue is denied.

### **3. Need for the Pacific Connector Pipeline**

28. Several petitioners allege that in the Authorization Order, the Commission failed to demonstrate that the Pacific Connector Pipeline is required by the public convenience and necessity.<sup>75</sup> Specifically, petitioners asserted that: (1) Pacific Connector's precedent agreements with Jordan Cove are not an adequate indicator of need for the pipeline;<sup>76</sup> (2) the Commission improperly ignored evidence that there was no domestic market demand for the transportation of natural gas on the Pacific Connector Pipeline;<sup>77</sup> and (3) the Commission improperly stated that the Pacific Connector would provide public benefits to American natural gas producers when the gas to be transported on the pipeline would be produced in Canada.<sup>78</sup>

29. First, petitioners assert that is inappropriate for the Commission to rely on Pacific Connector's precedent agreements with Jordan Cove as evidence of the public need for the project.<sup>79</sup> Sierra Club takes issue with the Commission's policy of not "look[ing] behind" precedent agreements, asserting that this policy is arbitrary and capricious, particularly in instances, such as this, where precedent agreements have been entered into with only one affiliate buyer, subscribing capacity for a "speculative" project.<sup>80</sup> Petitioners also argue that the Commission erred in assessing the public benefits of Pacific Connector's precedent agreements with Jordan Cove, as those precedent agreements were "for export," and no public benefits would be derived from

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<sup>75</sup> NRDC Rehearing Request at 17-35; Sierra Club Rehearing Request at 5-18; State of Oregon Rehearing Request at 46-49; McCaffree Rehearing Request at 8-9.

<sup>76</sup> NRDC Rehearing Request at 17-30; Sierra Club Rehearing Request at 5-13; State of Oregon Rehearing Request at 46-47; McCaffree Rehearing Request at 8-9.

<sup>77</sup> NRDC Rehearing Request at 31-35.

<sup>78</sup> *Id.* at 31; Sierra Club Rehearing Request at 15-18; State of Oregon Rehearing Request at 47-49.

<sup>79</sup> NRDC Rehearing Request at 17-30; Sierra Club Rehearing Request at 5-13; State of Oregon Rehearing Request at 42-47.

<sup>80</sup> Sierra Club Rehearing Request at 7.

the service provided, and that it would otherwise be inappropriate to credit export capacity in the Commission's public convenience and necessity analysis, under the U.S. Court of Appeals for the D.C. Circuit's opinion in *City of Oberlin v. FERC*.<sup>81</sup> Further, petitioners allege, beside the precedent agreements, additional evidence indicates that there is a lack of market for the Pacific Connector Pipeline, as no market exists for LNG to be exported from the Jordan Cove LNG Terminal.<sup>82</sup>

30. We affirm the Commission's finding in the Authorization Order that precedent agreements are significant evidence of demand for a project.<sup>83</sup> As the court stated in *Minisink Residents for Environmental Preservation & Safety v. FERC*, and again in *Myersville Citizens for a Rural Community, Inc. v. FERC*, nothing in the Certificate Policy Statement or in any precedent construing it suggests that the policy statement requires, rather than permits, the Commission to assess a project's benefits by looking

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<sup>81</sup> NRDC Rehearing Request at 22-31 (citing *City of Oberlin, Ohio v. FERC*, 937 F.3d 599, 605 (D.C. Cir. 2019) (*City of Oberlin*)); Sierra Club Rehearing Request at 12-19 (same); State of Oregon Rehearing Request at 46-47 (same); McCaffree Rehearing Request at 8 (same).

<sup>82</sup> NRDC Rehearing Request at 31-35; McCaffree Rehearing Request at 8.

<sup>83</sup> Authorization Order, 170 FERC ¶ 61,202 at P 61 (citing *Minisink Residents for Envtl. Pres. & Safety v. FERC*, 762 F.3d 97, 110 n.10 (D.C. Cir. 2014) (*Minisink*); *Sierra Club v. FERC*, 867 F.3d 1357, 1379 (D.C. Cir. 2017) (affirming Commission reliance on preconstruction contracts for 93% of project capacity to demonstrate market need)); *Certification of New Interstate Natural Gas Pipeline Facilities*, 88 FERC ¶ 61,227, at 61,748 (1999), *clarified*, 90 FERC ¶ 61,128, *further clarified*, 92 FERC ¶ 61,094 (2000) (Certificate Policy Statement) (precedent agreements, though no longer required, "constitute significant evidence of demand for the project")); *Twp. of Bordentown v. FERC*, 903 F.3d 234, 263 (3d Cir. 2018) ("As numerous courts have reiterated, FERC need not 'look[] beyond the market need reflected by the applicant's existing contracts with shippers.'") (quoting *Myersville Citizens for a Rural Cmty., Inc. v. FERC*, 183 F.3d 1291, 1301, 1311 (D.C. Cir. 2015) (*Myersville*)); *Appalachian Voices v. FERC*, No. 17-1271, 2019 WL 847199 at \*1 (D.C. Cir. Feb.19, 2019) (unpublished) (precedent agreements are substantial evidence of market need); *see also Midship Pipeline Co., LLC*, 164 FERC ¶ 61,103, at P 22 (2018) (long-term precedent agreements for 64 percent of the system's capacity is substantial demonstration of market demand); *PennEast Pipeline Co., LLC*, 164 FERC ¶ 61,098, at P 16 (2018) (affirming that the Commission is not required to look behind precedent agreements to evaluate project need); *NEXUS Gas Transmission, LLC*, 160 FERC ¶ 61,022, at P 41 (2017), *order on reh'g*, 164 FERC ¶ 61,054 (2018), *aff'd in relevant part*, *City of Oberlin*, 937 F.3d at 605 (finding need for a new pipeline system that was 59% subscribed).

beyond the market need reflected by the applicant's precedent agreements with shippers.<sup>84</sup> As stated in the Authorization Order, approximately 96% of the Pacific Connector's capacity has been subscribed by Jordan Cove under precedent agreements, one of which is a long-term precedent agreement.<sup>85</sup> Thus, there is sufficient evidence in the record to support our finding that the service to be provided by the pipeline is needed.<sup>86</sup>

31. NRDC asserts that the Commission's finding that Pacific Connector's precedent agreements with Jordan Cove are sufficient evidence of demand for the project is inconsistent with its denial of an application to construct a pipeline in *Independence Pipeline Company*.<sup>87</sup> NRDC argues that the facts in *Independence* are "remarkably similar" to those here, and states that because Pacific Connector "had every ability and reason to enter into precedent agreements at least seven years ago" and yet only entered into precedent agreements after the Commission denied Pacific Connector and Jordan Cove's application in 2016, that we should look upon the precedent agreements in this proceeding with suspicion.<sup>88</sup>

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<sup>84</sup> *Minisink*, 762 F.3d at 110 n.10; *see also Myersville*, 183 F.3d at 1311. Further, Ordering Paragraph (G) of the Authorization Order requires Pacific Connector to file a written statement affirming that it has executed contracts for service at the levels provided for in their precedent agreement prior to commencing construction. Authorization Order, 170 FERC ¶ 61,202 at ordering para. (G).

<sup>85</sup> Authorization Order, 170 FERC ¶ 61,202 at PP 17, 65. The other precedent agreement relates to service during commissioning of the Jordan Cove LNG terminal. *Id.* P 17.

<sup>86</sup> *See, e.g., Midship Pipeline Co., LLC*, 164 FERC ¶ 61,103 at P 22 (long-term precedent agreements for 64% of the system's capacity is substantial demonstration of market demand); *NEXUS Gas Transmission, LLC*, 160 FERC ¶ 61,022 at P 41, *order on reh'g*, 164 FERC ¶ 61,054, *aff'd in relevant part, City of Oberlin*, 937 F.3d at 605 (finding need for a new pipeline system that was 59% subscribed); *Elba Express Co., L.L.C.*, 155 FERC ¶ 61,293, at P 8 (2016) (granting partial waiver where five of six shippers executed contracts, representing approximately 58% of the project's capacity); *Dominion Transmission Inc.*, 136 FERC ¶ 61,031, at P 8 (2011) (granting partial waiver where shippers executed contracts representing approximately 75% of the project's capacity).

<sup>87</sup> 89 FERC ¶ 61,283 (1999) (*Independence*).

<sup>88</sup> NRDC Rehearing Request at 17-22.

32. NRDC's argument misapplies the reasoning in *Independence* and inappropriately disregards the factual differences between these two proceedings. As an initial matter, the "remarkable similarities" NRDC points to are almost entirely between the *Independence* proceeding and the 2016 proceeding.<sup>89</sup> As explained in the Authorization Order, in *Independence*, the Commission denied *Independence*'s application construct to an interstate natural gas pipeline after finding that *Independence* failed to provide contractual evidence of market support for the project, and was only able to present the required contractual evidence by creating an affiliate shipper and entering into a precedent agreement with it on the eve of a Commission-imposed deadline to present the required evidence.<sup>90</sup> NRDC asserts that circumstances here are similar to the *Independence* proceeding because in 2016 the Commission denied Pacific Connector's application for similarly failing to demonstrate contractual evidence of market demand for the project, and Pacific Connector only presented evidence of demand for the project after the Commission had indicated it would deny the application.<sup>91</sup>

33. The Authorization Order explained that here, unlike either the *Independence* or Jordan Cove/Pacific Connector 2016 proceedings, Pacific Connector's current application included signed precedent agreements, including a long-term precedent agreement with Jordan Cove for 96% of the Pacific Connector Pipeline's capacity, something we find significant, and sufficient, evidence of demand for the project.<sup>92</sup> Thus, as demonstrated in the Authorization Order, *Independence* is inapposite here.<sup>93</sup>

34. Finally, NRDC's unsupported argument that the Commission must look upon Pacific Connector's precedent agreements with Jordan Cove with skepticism because Pacific Connector could have entered into these agreements any time in the last "four" or "seven" years, and therefore the precedent agreements likely were created only to falsify evidence of market demand,<sup>94</sup> is similarly without merit, and is rejected.<sup>95</sup>

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<sup>89</sup> *Id.* at 18-19.

<sup>90</sup> Authorization Order, 170 FERC ¶ 61,202 at P 63.

<sup>91</sup> NRDC Rehearing Request at 17-22.

<sup>92</sup> Authorization Order, 170 FERC ¶ 61,202 at P 63.

<sup>93</sup> *Id.*

<sup>94</sup> NRDC Rehearing Request at 19-21.

<sup>95</sup> Because Commission findings as to the facts must be supported by substantial evidence to be considered conclusive, 15 U.S.C. § 717r(b) (2018), the Commission

35. Regardless, petitioners argue that the Commission should look beyond the need for transportation of natural gas in interstate commerce evidenced by the precedent agreements in this proceeding and make a judgement based on how the gas will be used after it is delivered at the end of the pipeline and the interstate transportation is completed.<sup>96</sup> However, under Commission policy, if there are precedent or service agreements, the Commission does not, and need not, make judgments about the needs of individual shippers<sup>97</sup> or ultimate end use of the commodity, and we see no justification to make an exception to that policy here.

36. NRDC and the State of Oregon<sup>98</sup> argue that the Authorization Order is inconsistent with the D.C. Circuit's ruling in *City of Oberlin*.<sup>99</sup> NRDC asserts that the D.C. Circuit "held that contracts for the export of gas cannot be factored into a Section 7 public convenience and necessity review[.]"<sup>100</sup> NRDC misreads the D.C. Circuit's holding in *City of Oberlin*, which was that the Commission must fully explain why "it is lawful to credit precedent agreements with foreign shippers serving foreign customers toward a finding that an interstate pipeline is required by the public," not that doing so is unlawful.<sup>101</sup> In compliance with the D.C. Circuit's directive in *City of Oberlin*, the Authorization Order did precisely this.<sup>102</sup> Nonetheless, we provide additional explanation below.

37. As an initial matter, the D.C. Circuit's directive in *City of Oberlin* is not directly implicated here. As noted, the D.C. Circuit directed the Commission to explain why "it is lawful to credit precedent agreements with foreign shippers servicing foreign

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cannot accept unsupported arguments.

<sup>96</sup> McCaffree Rehearing Request at 8-9; State of Oregon Rehearing Request at 43-47; Sierra Club Rehearing Request at 9-11; NRDC Rehearing Request at 9-34.

<sup>97</sup> Certificate Policy Statement, 88 FERC at 61,744 (citing *Transcontinental Gas Pipe Line Corp.*, 82 FERC ¶ 61,084, at 61,316 (1998)).

<sup>98</sup> NRDC Rehearing Request at 22-31; State of Oregon Rehearing Request at 46-47.

<sup>99</sup> 937 F.3d 599.

<sup>100</sup> NRDC Rehearing Request at 22.

<sup>101</sup> *City of Oberlin*, 937 F.3d 599, 607.

<sup>102</sup> See Authorization Order, 170 FERC ¶ 61,202 at PP 84-86.

customers . . . .”<sup>103</sup> In this case, Pacific Connector has provided precedent agreements with Jordan Cove, a domestic shipper, to transport gas in interstate commerce to the Jordan Cove LNG Terminal and it cannot operate without the gas to be delivered via the pipeline.

38. We also find that it is appropriate for the Commission to give credit to the precedent agreements in this case for transportation of gas that the shipper intends to liquefy for export. To determine whether the Commission may give credit to the precedent agreements in this case, we turn to the text of the statute. NGA section 7(e) requires the Commission to issue a certificate if the Commission finds that the applicant’s proposal “is or will be required by the present or future public convenience and necessity.”<sup>104</sup> The courts have stated that the Commission must consider “all factors bearing on the public interest,”<sup>105</sup> Petitioners cite no precedent, and we are aware of none, to suggest that the Commission should exclude Pacific Connector’s precedent agreements from that broad assessment.

39. On the contrary, as we stated in the Authorization Order, Congress directed, in NGA section 3(c), that the importation or exportation of natural gas from or to “a nation with which there is in effect a free trade agreement requiring national treatment for trade in natural gas, shall be deemed to be consistent with the public interest, and applications for such importation or exportation shall be granted without modification or delay.”<sup>106</sup> In addition, NGA section 3(a) requires the approval of export to any country unless the proposed exportation “will not be consistent with the public interest.”<sup>107</sup> The D.C. Circuit has found that the language in NGA section 3(a) demonstrates that “NGA § 3, unlike § 7, ‘sets out a general presumption favoring such authorization.’”<sup>108</sup> While these provisions of the NGA are not directly implicated by Pacific Connector’s application under NGA section 7(c), they do inform our determination that the proposed pipeline is

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<sup>103</sup> *City of Oberlin*, 937 F.3d 599, 607.

<sup>104</sup> *Id.* 717f(e).

<sup>105</sup> *Atl. Refining Co. v. Pub. Serv. Comm’n of State of N.Y.*, 360 U.S. 378, 391 (“This is not to say that rates are the only factor bearing on the public convenience and necessity, for § 7(e) requires the Commission to evaluate all factors bearing on the public interest.”).

<sup>106</sup> 15 U.S.C. § 717b(c) (2018).

<sup>107</sup> *Id.* § 717b(a).

<sup>108</sup> *EarthReports, Inc. v. FERC*, 828 F.3d 949, 953 (2016) (citing *W. Va. Pub. Servs. Comm’n v. Dep’t of Energy*, 681 F.2d 847, 856 (D.C. Cir. 1982)).

in the public convenience and necessity because it will support the public interest of exporting natural gas to FTA countries. We therefore find that it is permissible for the Commission to consider precedent agreements with LNG export facilities as one of the factors bearing on the public interest in its public convenience and necessity determination.

40. We also disagree with the parties' argument that the Commission cannot credit the precedent agreements because the contracts will "purely benefit foreign customers."<sup>109</sup> We view transportation service for all shippers as providing domestic public benefits, and do not weigh various prospective end uses differently for the purpose of determining need. This includes shippers transporting gas in interstate commerce for eventual export, since such transportation will provide domestic public benefits, including: contributing to the development of the gas market, in particular the supply of reasonably-priced gas; adding new transportation options for producers, shippers, and consumers; boosting the domestic economy and the balance of international trade; and supporting domestic jobs in gas production, transportation, and distribution, and domestic jobs in industrial sectors that rely on gas or support the production, transportation, and distribution of gas.

41. In this case, the Authorization Order stated the Pacific Connector will provide additional capacity to transport gas out of the Rocky Mountain production area and that one of the Pacific Connector Pipeline's primary interconnects, Ruby Pipeline, "extend[s] from Wyoming to Oregon, delivering gas from the Rocky Mountain production area to west coast markets."<sup>110</sup> Furthermore, as discussed above, the production and sale of domestic gas contributes to the growth of the economy and supports domestic jobs in gas production, transportation, and distribution. These are valid domestic public benefits of the Pacific Connector Pipeline, which do not require us to distinguish between gas supplies that will be consumed domestically and those that will be consumed abroad.<sup>111</sup>

42. In addition, looking at the situation broadly, gas imports and exports benefit domestic markets; thus, contracts for the transportation of gas that will be imported or exported are appropriately viewed as indicative of a domestic public benefit. The North American gas market has numerous points of export and import, with volumes changing constantly in response to changes in supply and demand, both on a local scale, as local distribution companies' and other users' demand changes, and on a regional or national

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<sup>109</sup> NRDC Rehearing Request 23.

<sup>110</sup> Authorization Order, 170 FERC ¶ 61,202 at PP 47, 85.

<sup>111</sup> Accordingly, despite Ms. McCaffree's contention, the Pacific Connector pipeline is not a "section 3 pipeline." *See* Authorization Order, 170 FERC ¶ 61,202 at PP 48-51.

scale, as the market shifts in response to weather and economic patterns.<sup>112</sup> Any constraint on the transportation of domestic gas to points of export risks negating the efficiency and economy the international trade in gas provides to domestic consumers.

43. Sierra Club next claims that it is inappropriate for the Commission to rely on Pacific Connector's precedent agreements where they have been entered into with only one affiliate buyer.<sup>113</sup> Affiliation with a project sponsor does not lessen a shipper's need for capacity and its contractual obligation to pay for its subscribed service.<sup>114</sup> "[A]s long as the precedent agreements are long term and binding, we do not distinguish between pipelines' precedent agreements with affiliates or independent marketers in establishing market need for a proposed project."<sup>115</sup> We find that the relationship between Jordan Cove and Pacific Connector will neither lessen Pacific Connector's need for capacity nor diminish Jordan Cove's obligation to pay for its capacity under the terms of its contract.<sup>116</sup> When considering applications for new certificates, the Commission's sole

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<sup>112</sup> See, e.g., U.S. Energy Information Administration (EIA), *Colorado State Profile and Energy Estimates* (updated March 12, 2019), <https://www.eia.gov/state/analysis.php?sid=CO#55> (describing Colorado as the seventh-largest natural gas producing state in the nation, with minimal natural gas storage capacity, and transporting gas to the west coast); EIA, *Natural Gas Weekly Update*, October 24, 2018, [https://www.eia.gov/naturalgas/weekly/archivenew\\_ngwu/2018/10\\_25/](https://www.eia.gov/naturalgas/weekly/archivenew_ngwu/2018/10_25/) (pipeline explosion in Canada leads to lower U.S. gas imports and higher regional prices).

<sup>113</sup> Sierra Club Rehearing Request at 7.

<sup>114</sup> See *Mountain Valley Pipeline, LLC*, 161 FERC ¶ 61,043, at P 45 (2017), *order on reh'g*, 163 FERC ¶ 61,197, at P 90 (2018), *aff'd*, *Appalachian Voices v. FERC*, No. 17-1271, 2019 WL 847199, at \*3 (D.C. Cir. Feb. 19, 2019) (*Mountain Valley*). See also, e.g., *Greenbrier Pipeline Co., LLC*, 101 FERC ¶ 61,122, at P 59 (2002), *reh'g denied*, 103 FERC ¶ 61,024 (2003).

<sup>115</sup> *Millennium Pipeline Co. L.P.*, 100 FERC ¶ 61,277, at P 57 (2002) (*Millennium*) (citing *Tex. E. Transmission Corp.*, 84 FERC ¶ 61,044 (1998)). See also *City of Oberlin*, 937 F.3d at 605 (finding petitioners' argument that precedent agreements with affiliates are not the product of arms-length negotiations without merit, because the Commission explained that there was no evidence of self-dealing and stated that the pipeline would bear the risk of unsubscribed capacity); *Myersville Citizens for a Rural Community, Inc. v. FERC*, 783 F.3d 1301, 1311 (D.C. Cir. 2015) (*Myersville*) (rejecting argument that precedent agreements are inadequate to demonstrate market need).

<sup>116</sup> Further, without compelling record evidence, we will not speculate on the motives of a regulated entity or its affiliate.



concerns regarding affiliates of the pipeline as shippers is whether there may have been undue discrimination against a non-affiliate shipper.<sup>117</sup> Here, the Commission did not find<sup>118</sup> any evidence of impropriety or self-dealing to indicate anti-competitive behavior or affiliate abuse. We affirm that determination.

44. Finally, NRDC contends that additional evidence, particularly signals in the LNG market, suggest that the Pacific Connector Pipeline is not needed.<sup>119</sup> Unlike under NGA section 7, the Commission does not assess market need for LNG exports under NGA section 3. Rather, as we have explained previously, DOE has exclusive jurisdiction over commodity exports, and issues inherent in that decision.<sup>120</sup> And here, as noted in the Authorization Order, DOE has already determined that Jordan Cove's exportation of 438 Bcf per year of domestically-produced natural gas to free trade nations is consistent with the public interest. Therefore, no further analysis by the Commission regarding market need for LNG is required or permitted.

#### **4. The Public Interest Determination for the Jordan Cove LNG Terminal**

45. Petitioners assert that the Commission erred in finding that the Jordan Cove LNG Terminal is consistent with the public interest. Specifically, petitioners state that the Jordan Cove LNG Terminal is not consistent with the public interest, as: (1) its only source of gas (the Pacific Connector Pipeline) is not required by the public convenience and necessity;<sup>121</sup> (2) Jordan Cove failed to demonstrate a market need for its LNG (as it did in 2016);<sup>122</sup> and (3) the Commission improperly relied on the economic benefits of the exportation of LNG as a commodity in its determination that Jordan Cove is in the public interest.<sup>123</sup>

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<sup>117</sup> See 18 C.F.R. § 284.7(b) (2019) (requiring transportation service to be provided on a non-discriminatory basis).

<sup>118</sup> Authorization Order, 170 FERC ¶ 61,202 at PP 76-77.

<sup>119</sup> NRDC Rehearing Request at 31-35.

<sup>120</sup> *Rio Grande LNG, LLC*, 170 FERC ¶ 61,046, at n.26 (2020).

<sup>121</sup> NRDC Rehearing Request at 35-36.

<sup>122</sup> McCaffree Rehearing Request at 8-9.

<sup>123</sup> State of Oregon Rehearing Request at 27-29.

46. NRDC, citing to the Commission's 2016 denial of Pacific Connector and Jordan Cove's previous proposals, again argues that Jordan Cove cannot be consistent with the public interest because there is no need for the Pacific Connector Pipeline, the Jordan Cove LNG Terminal's sole source of natural gas.<sup>124</sup> As demonstrated in the Authorization Order<sup>125</sup> and above,<sup>126</sup> the Pacific Connector Pipeline is required by the public convenience and necessity; therefore, this argument fails.

47. Additionally, Ms. McCaffree's assertion that the Jordan Cove LNG Terminal is not consistent with the public interest due to an "unrealistic assessment of market demand"<sup>127</sup> similarly fails. As we discussed above, while it is outside of the Commission's NGA section 3 authority to assess market demand for LNG exports, we view the DOE's approval of Jordan Cove's application to export LNG to FTA nations as sufficient evidence of market demand.<sup>128</sup>

48. The State of Oregon asserts that the Commission cannot disclaim jurisdiction over the export of the LNG commodity pursuant to section 3 of the NGA, while also relying on the benefits of those exports, including "benefits to the local and regional economy" and "the provision of new market access for natural gas producers" in determining the Jordan Cove LNG Terminal is consistent with the public interest.<sup>129</sup> The State of Oregon is mistaken. As the Commission stated in the Authorization Order, and as acknowledged by the State of Oregon, section 3 of the NGA does not provide the Commission any authority to approve or disapprove the import or export of LNG.<sup>130</sup> The Commission, in assessing whether or not the construction and operation of the Jordan Cove LNG Terminal would be consistent with the public interest, does not examine economic claims relating to the exportation of the commodity of natural gas, which are within DOE's exclusive jurisdiction, nor did the Commission rely on these claims in determining that the siting, construction, and operation of the Jordan Cove LNG Terminal was not inconsistent with the public interest. While the Commission acknowledged the economic

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<sup>124</sup> NRDC Rehearing Request at 35-36.

<sup>125</sup> Authorization Order, 170 FERC ¶ 61,202 at PP 294.

<sup>126</sup> *See supra* PP 28-47.

<sup>127</sup> McCaffree Rehearing Request at 8-9.

<sup>128</sup> *See supra* P 44.

<sup>129</sup> State of Oregon Rehearing Request at 27-29.

<sup>130</sup> Authorization Order, 170 FERC ¶ 61,202 at P 32; *see* 15 U.S.C. § 717b (2018); State of Oregon Rehearing Request at 28-29.

benefits of the proposal, the Commission's determination examined other factors, including the prior use of the site, the mitigation of environmental impacts, as well as PHMSA's Letter of Determination that the siting of the LNG terminal would comply with federal safety standards.<sup>131</sup>

## **5. Open Season for Capacity Subject to a Right of First Refusal**

49. As part of its application, Pacific Connector filed a *pro forma* open-access tariff applicable to services provided on its proposed pipeline. Pacific Connector proposed open season procedures if capacity posted for bidding is subject to a right of first refusal (ROFR). Section 284.221(d)(2) of the Commission's regulations gives eligible shippers a regulatory right to request an open season to potentially avoid pre-granted abandonment of their ROFR capacity.<sup>132</sup>

50. Pacific Connector's proposed General Terms and Conditions (GT&C) section 10.4 states that "[Pacific Connector] may ... hold an open season for capacity that is subject to a [Right of First Refusal], no earlier than eighteen (18) Months prior to the termination or expiration date or potential termination date for the eligible Service Agreement."<sup>133</sup> The Commission concluded that the proposed 18-month period would not be consistent with the 6- to 12- month period that the Commission in *Transcontinental Gas Pipe Line Corporation* found to be a reasonable period before a contract ends for a shipper to notify the pipeline company whether the shipper wants to renew its contract.<sup>134</sup> The Commission directed Pacific Connector to revise its open season process for ROFR capacity to be consistent with the timeframe in *Transco I*.<sup>135</sup>

51. On rehearing, Jordan Cove and Pacific Connector object to this directive and renew the proposal to begin the open season for ROFR capacity up to 18 months prior to the end date of a shipper's existing service agreement.<sup>136</sup> Jordan Cove and Pacific Connector state that potential customers at the Jordan Cove LNG Terminal will not contract for liquefaction services without assurance of a corresponding contract for

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<sup>131</sup> Authorization Order, 170 FERC ¶ 61,202 at P 40-43.

<sup>132</sup> 18 C.F.R. § 284.221(d)(2) (2019).

<sup>133</sup> Authorization Order, 170 FERC ¶ 61,202 at P 127.

<sup>134</sup> *Id.* at P 128 (quoting *Transcontinental Gas Pipe Line Corporation*, 103 FERC ¶ 61,295, at P 20 (2003) (*Transco I*)).

<sup>135</sup> Authorization Order, 170 FERC ¶ 61,202 at P 128.

<sup>136</sup> Jordan Cove and Pacific Connector Rehearing Request at 18-24.

pipeline capacity, demonstrating a need to synchronize the contracting processes.<sup>137</sup> Because the market demands of the Jordan Cove LNG Terminal require it to contract for liquefaction capacity more than 12 months in advance, they explain the open season for ROFR capacity on the pipeline must also begin more than 12 months in advance.<sup>138</sup> They assert that this mismatch in timing will materially and adversely impact both the LNG Terminal's and the Pipeline's ability to execute contracts for their services.<sup>139</sup>

52. We grant rehearing and approve Pacific Connector's proposed GT&C section 10.4 of its *pro forma* tariff. There are various competing interests to consider in determining how soon before contract termination the ROFR process must be completed.<sup>140</sup> An existing shipper with ROFR capacity may have an interest in making a final decision close to the time that its contract terminates, giving the shipper an opportunity to decide whether and how much of its capacity to retain, not only in light of the current market value of the capacity as shown by the third party bids in the open season, but also in light of a current assessment of the existing shipper's capacity needs.<sup>141</sup> A third party bidder may have an interest in knowing whether it has obtained the capacity well before the existing shipper's contract terminates.<sup>142</sup> A winning third party bidder may need time to finalize any business arrangements that are premised on obtaining the capacity before it commences service.<sup>143</sup> As Jordan Cove states, the market demands of its LNG terminal require it to contract for capacity more than one year in advance,<sup>144</sup> and liquefaction agreements currently require customers to exercise extension options at least three years in advance.<sup>145</sup> Similarly, Pacific Connector's service agreements with its customers will include optional extension periods that must be exercised three years in advance, to mirror the timeframe when Jordan Cove and Pacific Connector would expect to begin

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<sup>137</sup> *Id.* at 19-20.

<sup>138</sup> *Id.* at 20-21.

<sup>139</sup> *Id.* at 21.

<sup>140</sup> *Dominion Transmission, Inc.*, 111 FERC ¶ 61,135, at P 17 (2005).

<sup>141</sup> *Transco I*, 103 FERC ¶ 61,295 at PP 19-20.

<sup>142</sup> *Dominion Transmission, Inc.*, 111 FERC ¶ 61,135 at P 17.

<sup>143</sup> *Id.*

<sup>144</sup> Jordan Cove and Pacific Connector Rehearing Request at 20-21.

<sup>145</sup> *Id.*

remarketing capacity at the LNG terminal and on the pipeline.<sup>146</sup> The unique relationship between an interstate pipeline that predominantly serves an LNG terminal and that terminal is different than the domestic natural gas pipeline market, and therefore supports a different balance of interests between existing shippers and potential third party bidders. Therefore, we conclude that Pacific Connector's proposal to retain the flexibility to start the bidding process for ROFR capacity as much as 18 months before the termination or expiration date, or the potential termination date, of a contract is reasonable. Accordingly, the Commission grants rehearing and accepts Pacific Connector's proposed 18-month outer limit in GT&C section 10.4.

## 6. Eminent Domain

53. On rehearing, Sierra Club and the State of Oregon argue that the Commission has failed to satisfy the requirements of the Fifth Amendment of the U.S. Constitution, and the NGA, by granting the power of eminent domain through the Authorization Order.<sup>147</sup> Sierra Club contends that the Authorization Order: (1) erred by determining that a finding of public convenience and necessity under the NGA is the equivalent to the finding of "public use" required by the Fifth Amendment;<sup>148</sup> (2) improperly provided for eminent domain authority in a conditioned certificate;<sup>149</sup> (3) failed to condition the use of eminent domain upon final Commission staff review of residential construction plans;<sup>150</sup> (4) violated the due process rights of landowners;<sup>151</sup> and (5) failed to preclude the use of "quick take" procedures.<sup>152</sup> The State of Oregon also contend that the Authorization Order failed to adequately assess a "public use."<sup>153</sup>

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<sup>146</sup> *Id.* at 21.

<sup>147</sup> Sierra Club Rehearing Request at 19, 30-37; State of Oregon Rehearing Request at 12, 43.

<sup>148</sup> Sierra Club Rehearing Request at 19, 31-34.

<sup>149</sup> *Id.* at 30-34.

<sup>150</sup> *Id.* at 35.

<sup>151</sup> *Id.* at 42.

<sup>152</sup> *Id.* at 35-37.

<sup>153</sup> State of Oregon Rehearing Request at 12.

54. The Authorization Order explained that the Commission itself does not confer eminent domain powers.<sup>154</sup> Under NGA section 7, the Commission has jurisdiction to determine if the construction and operation of proposed interstate pipeline facilities are in the public convenience and necessity.<sup>155</sup> Once the Commission makes that determination and issues a natural gas company a certificate of public convenience and necessity, it is NGA section 7(h) that authorizes that certificate holder to acquire the necessary land or property to construct the approved facilities by exercising the right of eminent domain if it cannot acquire the easement by an agreement with the landowner.<sup>156</sup> The D.C. Circuit has held that “[t]he Commission does not have the discretion to deny a certificate holder the power of eminent domain.”<sup>157</sup>

55. The Fifth Amendment to the Constitution provides that private property may not be taken for public use without just compensation.<sup>158</sup> We affirm that, having determined that the Pacific Connector Pipeline serves the public convenience and necessity, we are not required to make a separate finding that the project serves a “public use” in order for a certificate holder to pursue condemnation proceedings in U.S. District Court or a state court pursuant to the NGA section 7(h).<sup>159</sup> The U.S. Supreme Court has explained that “legislatures are better able [than courts] to assess what public purposes should be advanced by an exercise of the taking power.”<sup>160</sup> Here, Congress articulated in the NGA

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<sup>154</sup> Authorization Order, 170 FERC ¶ 61,202 at P 87.

<sup>155</sup> 15 U.S.C. § 717f(e) (2018).

<sup>156</sup> Authorization Order, 170 FERC ¶ 61,202 at P 97 (citing 15 U.S.C. § 717f(h) (2018)).

<sup>157</sup> *Midcoast Interstate Transmission, Inc. v. FERC*, 198 F.3d 960, 973 (D.C. Cir. 2000) (*Midcoast Interstate*).

<sup>158</sup> U.S. CONST. amend. V.

<sup>159</sup> See *Atl. Coast Pipeline, LLC*, 161 FERC ¶ 61,042, at P 79 (2017). See also, e.g., *Midcoast Interstate*, 198 F.3d at 973 (holding that Commission’s determination that pipeline “serve[d] the public convenience and necessity” demonstrated that it served a “public purpose” for Fifth Amendment purposes).

<sup>160</sup> *Hawaii Hous. Auth. v. Midkiff*, 467 U.S. 229, 244 (1984) (“Thus, if a legislature, state or federal, determines there are substantial reasons for an exercise of the taking power, courts must defer to its determination that the taking will serve a public use.”); *Nat’l R.R. Passenger Corp. v. Bos. & Me. Corp.*, 503 U.S. 407, 422-23 (1992) (“We have held that the public use requirement of the Takings Clause is coterminous with the regulatory power, and

its position that “transporting and selling natural gas for ultimate distribution to the public is affected with a public interest, and that Federal regulation in matters relating to the transportation of natural gas and the sale thereof in interstate and foreign commerce is necessary in the public interest.”<sup>161</sup> Neither Congress nor any court has suggested that there was a further test,<sup>162</sup> beyond the Commission’s determination under NGA section 7(e),<sup>163</sup> that a proposed pipeline was required by the public convenience and necessity, such that certain certificated pipelines furthered a public use, and thus were entitled to use eminent domain, while others did not.<sup>164</sup> The D.C. Circuit has confirmed that the Commission’s public convenience and necessity finding necessarily satisfies the Fifth Amendment’s public use requirement.<sup>165</sup>

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that the Court will not strike down a condemnation on the basis that it lacks a public use so long as the taking “is rationally related to a conceivable public purpose. . . .”).

<sup>161</sup> 15 U.S.C. § 717(a) (2018).

<sup>162</sup> *Cf.* Sierra Club Rehearing Request at 20-21 (arguing that no court has held that economic benefit alone is adequate to support a public use determination) (citing, e.g., *Kelo v. City of New London*, 545 U.S. 469, 479-80 (2015) (upholding a city’s use of eminent domain to implement economic development plan)).

<sup>163</sup> *Id.* § 717f(e).

<sup>164</sup> *See, e.g., N. Border Pipeline Co. v. 86.72 Acres of Land*, 144 F.3d 469, 470–71 (7th Cir. 1998) (under the Natural Gas Act, “issuance of the certificate [of public convenience and necessity] to [pipeline] carries with it the power of eminent domain to acquire the necessary land when other attempts at acquisition prove unavailing”); *Maritimes & Ne. Pipeline, L.L.C. v. Decoulos*, 146 F. App’x 495, 498 (1st Cir. 2005) (noting that once a certificate of public convenience and necessity is issued by FERC, and the pipeline is unable to acquire the needed land by contract or agreement with the owner, the only issue before the district court in the ensuing eminent domain proceeding is just compensation for the taking); *Rockies Exp. Pipeline LLC v. 4.895 Acres of Land, More or Less*, 734 F.3d 424, 431 (6th Cir. 2013) (rejecting landowner’s claim for damages from eminent domain taking by pipeline as an impermissible collateral attack on the essential fact findings made by the Commission in issuing the certificate order authorizing the pipeline); *E. Tennessee Nat. Gas Co. v. Sage*, 361 F.3d 808, 823 (4th Cir. 2004) (affirming district court’s determination that the certificate of public convenience and necessity issued by FERC gave the pipeline the right to exercise eminent domain and thus an interest in the landowners’ property).

<sup>165</sup> *See Mid Coast Interstate Transmission, Inc. v. FERC*, 198 F.3d 960, 973 (D.C. Cir. 2000); *see also* Authorization Order, 170 FERC ¶ 61,202 at P 99.

56. Sierra Club challenges this conclusion on rehearing and argues that such a determination was rejected in *City of Oberlin*.<sup>166</sup> Sierra Club contends that the Authorization Order failed to properly balance the potential use of eminent domain against the project's public benefits.<sup>167</sup> Sierra Club's cite to *City of Oberlin* is inapplicable here. There, the D.C. Circuit concluded, given the fact that NGA section 7 authorizes the use of eminent domain, that the Commission had not provided sufficient explanation for why it is lawful to credit precedent agreements with foreign shippers serving customers toward a finding that a pipeline is required by the public convenience and necessity.<sup>168</sup> Here, we affirm the Authorization Order's finding that the Pacific Connector Pipeline is in the public convenience and necessity,<sup>169</sup> a determination which, as discussed above,<sup>170</sup> provides an explanation that the court's sought in *City of Oberlin*.

57. Consistent with the Certificate Policy Statement, the need for and benefits derived from the project are balanced against the adverse impacts on landowners.<sup>171</sup> Here, the Commission balanced the concerns of all interested parties and did not give undue weight to the interests of any particular party. Approximately 43.7% of Pacific Connector's pipeline rights-of-way will be collocated or adjacent to existing powerline, road, and pipeline corridors.<sup>172</sup> Approximately 82 miles of the total pipeline right-of-way are on public land (federal or state-owned land), and the remaining 147 miles are on privately owned land.<sup>173</sup> Of those 147 miles, 60 miles are held by timber companies.<sup>174</sup> On July 29, 2019, Pacific Connector stated that it had negotiated easement agreements from 72 percent of private, non-timber landowners (representing 75% of the mileage from such landowners) and 93% of timber company landowners (representing 92% of the mileage from timber companies). Pacific Connector engaged in public outreach during the

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<sup>166</sup> Sierra Club Rehearing Request at 19-20 (citing *City of Oberlin*, 937 F.3d 599.

<sup>167</sup> *Id.*

<sup>168</sup> *City of Oberlin*, 937 F.3d at 607.

<sup>169</sup> Authorization Order, 170 FERC ¶ 61,202 at P 89.

<sup>170</sup> *See supra* PP 37-44.

<sup>171</sup> Certificate Policy Statement, 88 FERC at 61,744. *See also National Fuel*, 139 FERC ¶ 61,037 at P 12.

<sup>172</sup> Pacific Connector's September 18, 2019 Revised Plan of Development at 8.

<sup>173</sup> Final EIS at Table 4.7.2.1-1.

<sup>174</sup> Pacific Connector's July 29, 2019 Land Statistics Update.



Commission's pre-filing process, working with interested stakeholders, soliciting input on route concerns, and assessing route alternatives to address concerns and impacts on landowners and communities.

58. We affirm the Authorization Order's rejection of the argument that issuing a conditional certificate violates the Fifth Amendment.<sup>175</sup> As a certificate holder under section 7(h) of the NGA, Pacific Connector can commence eminent domain proceedings in a court action if it cannot acquire property rights by negotiation. Pacific Connector will not be allowed to construct any facilities on such property unless and until a court authorizes acquisition of the property through eminent domain and there is a favorable outcome on all outstanding requests for necessary approvals. Further, Pacific Connector will be required by the court in any eminent domain proceeding to compensate landowners for any property rights it acquires.<sup>176</sup>

59. Sierra Club contends that the Authorization Order failed to condition the use of eminent domain upon Commission staff review of final residential construction plans.<sup>177</sup> Under section 7(h) of the NGA, once a natural gas company obtains a certificate of public convenience and necessity it may exercise the right of eminent domain in a U.S. District Court or a state court, regardless of the status of other authorizations for the project.<sup>178</sup> Any additional measures requested by Sierra Club are unnecessary because the Authorization Order appropriately ensures adequate Commission oversight of construction. For instance, Environmental Condition 5 provides that the authorized facility locations shall be as shown in the Final EIS, as supplemented by filed site plans and alignment sheets, and shall include the route variations identified in the order and conditions and must be filed with the Secretary prior to the start of construction.<sup>179</sup> Environmental Condition 5 also states that "Pacific Connector's exercise of eminent domain authority . . . must be consistent with these authorized facilities and locations."<sup>180</sup> Further, the Authorizing Order notes that Jordan Cove and Pacific Connector shall follow the construction procedures and mitigation measures described in their respective applications and supplemental filings and as identified or modified in the Final EIS and Authorizing Order, unless they receive approval in writing from the Director of the

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<sup>175</sup> Authorization Order, 170 FERC ¶ 61,202 at P 101.

<sup>176</sup> *Id.*

<sup>177</sup> Sierra Club Rehearing Request at 35.

<sup>178</sup> 15 U.S.C. § 717f(h).

<sup>179</sup> Authorization Order, 170 FERC ¶ 61,202 at app., envtl. condition 5.

<sup>180</sup> *Id.*

Office of Energy Projects for the use of a modification.<sup>181</sup> The Authorization Order also requires Jordan Cove and Pacific Connector to file implementation plans describing how each will implement those construction procedures prior to commencing construction for review and written approval.<sup>182</sup>

60. Sierra Club further contends that the Authorization Order violates the Due Process Clause of the U.S. Constitution because it alleges not all affected landowners were provided a sufficient notice prior to the taking of their property.<sup>183</sup> Sierra Club appears to conflate the process by which landowners are provided notice that an application for a pipeline certificate is pending at the Commission and their ability to comment on the EIS or the certificate application, and the Due Process rights due to landowners in an eminent domain proceeding in a court. The Commission has no authority to set the notice requirements applicable to eminent domain proceedings. As to the Commission's proceedings, we note that the Commission's regulations require NGA section 7 applicants to demonstrate that they have made "a good faith effort to notify all affected landowners . . . ."<sup>184</sup> Pacific Connector has satisfied this requirement.<sup>185</sup> As explained in the Authorization Order, eminent domain power conferred on Pacific Connector under the NGA "requires the company to go through the usual condemnation process, which calls for an order of condemnation and a trial determining just compensation prior to the taking of private property."<sup>186</sup> Further, "if and when the company acquires a right of way through any [landowner's] land, the landowner will be entitled to just compensation, as established in a hearing that itself affords due process."<sup>187</sup>

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<sup>181</sup> Authorization Order, 170 FERC ¶ 61,202 at app., envtl. condition 1.

<sup>182</sup> Authorization Order, 170 FERC ¶ 61,202 at app., envtl. condition 7.

<sup>183</sup> Sierra Club Rehearing Request at 42-43.

<sup>184</sup> 18 C.F.R. § 157.6(d) (2019).

<sup>185</sup> Pacific Connection October 23, 2017 Updated Landowner List.

<sup>186</sup> Authorization Order, 170 FERC ¶ 61,202 at PP 95-96 (citing *Appalachian Voices v. FERC*, No. 17-1271, 2019 WL 847199, at \*2 (unpublished) (quoting *Transwestern Pipeline Co., LLC v. 17.19 Acres of Prop. Located in Maricopa Cnty.*, 550 F.3d 770, 774 (9th Cir. 2008))).

<sup>187</sup> *Id.* (quoting *Del. Riverkeeper Network v. FERC*, 895 F.3d 102, 110 (D.C. Cir. 2018)).

61. Finally, Sierra Club argues that the Commission should prohibit “quick take” procedures.<sup>188</sup> “Quick-take” procedures are established by the judiciary as one method for carrying out the right of eminent domain. While Sierra Club alleges various constitutional infirmities with quick-take procedures as a category,<sup>189</sup> the Commission’s has no authority to direct courts how to conduct their proceedings.

## 7. Balancing of Adverse Impacts

62. Multiple petitioners contend that the Authorization Order violates sections 3 and 7 of the NGA by failing to take into account the adverse environmental impacts of the projects in determining that the projects are consistent with the public interest.<sup>190</sup> Petitioners assert that the Authorization Order’s public interest determination does not take into account the project’s impacts on threatened and endangered species, wildlife, landowners and communities; petitioners further assert that the public interest determination errs by not considering GHG emissions attributable to the project.<sup>191</sup> Petitioners contend that in addition to failing to account for environmental impacts, the public interest determination overestimates the need for and benefits of the projects.<sup>192</sup>

63. Regarding the Authorization Order’s public convenience and necessity determination for the Pacific Connector Pipeline under section 7 of the NGA, the petitioners misunderstand the nature of the balancing required by the Certificate Policy Statement. The Certificate Policy Statement’s balancing of adverse impacts and public benefits is an economic test, not an environmental analysis.<sup>193</sup> Only when the benefits outweigh the adverse effects on the economic interests will the Commission proceed to consider the environmental analysis where other interests are addressed.<sup>194</sup> If a project

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<sup>188</sup> Sierra Club Rehearing Request at 35-37.

<sup>189</sup> *Id.* at 36 (citing *Knick v. Twp. of Scott, Penn.*, 139 S.Ct. 2162 (2019)).

<sup>190</sup> Sierra Club Rehearing Request at 22-24; NRDC Rehearing Request at 36-43; State of Oregon Rehearing Request at 29, 46; McCaffree Rehearing Request at 10.

<sup>191</sup> NRDC Rehearing Request at 36-43.

<sup>192</sup> McCaffree Rehearing Request at 10-11, Sierra Club Rehearing Request at 22-24; State of Oregon Rehearing Request at 47-48.

<sup>193</sup> *National Fuel*, 139 FERC ¶ 61,037 at P 12.

<sup>194</sup> Certificate Policy Statement, 88 FERC at 61,745.

satisfies the requirements of the Certificate Policy Statement, a Commission order will consider both economic and environmental issues.

64. In any event, we find that, contrary to the petitioners' assertions, threatened and endangered species,<sup>195</sup> wildlife,<sup>196</sup> landowner and community impacts,<sup>197</sup> and GHG emissions<sup>198</sup> are addressed adequately in the Final EIS, considered in the Authorization Order, and addressed, as necessary, below. Further, as discussed above, we find that there is significant evidence of demand for the project.<sup>199</sup> The Authorization Order found that if the Pacific Connector Pipeline is constructed and operated as described in the Final EIS, the environmental impacts are acceptable considering the public benefits of the project, and determined that the Pacific Connector Pipeline was required by the public convenience and necessity.<sup>200</sup> We affirm this finding.

65. In the Authorization Order, the Commission determined that the Jordan Cove LNG Terminal was not inconsistent with the public interest based on *all* information in the record, including information presented in the Final EIS.<sup>201</sup> Although the Final EIS identifies some adverse environmental impacts, the Commission found that the Jordan Cove LNG Terminal, if constructed and operated as described in the Final EIS with required conditions, is an environmental acceptable action and, consequently, based on all other factors discussed in the Authorization Order, the Jordan Cove LNG Terminal is not inconsistent with the public interest.<sup>202</sup> We affirm that decision.

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<sup>195</sup> Final EIS at 4-317 to 4-391; *see also infra* PP 217-228.

<sup>196</sup> Final EIS at 4-185 to 4-235; *see also infra* PP 169-179.

<sup>197</sup> Final EIS at 4-420 to 4-686; *see also infra* PP 180-194.

<sup>198</sup> Final EIS at 4-697 to 4-706, 4-849 to 4-851; *see also infra* PP 232-254.

<sup>199</sup> *See supra* PP 28-48.

<sup>200</sup> Authorization Order, 170 FERC ¶ 61,202 at P 294.

<sup>201</sup> *Id.*

<sup>202</sup> Authorization Order, 170 FERC ¶ 61,202 at P 294.

## V. Environmental Analysis

### A. Procedural Issues

#### 1. The Draft EIS Satisfied NEPA Requirements

66. NRDC and Sierra Club argue that the Draft EIS was missing so much relevant information that it “precluded meaningful public participation in the NEPA process.”<sup>203</sup> NRDC states that the Draft EIS lacked “critical information” including staff’s Biological Assessment, mitigation plans, as well as studies and authorizations from other agencies, including ongoing agency consultation.<sup>204</sup> Sierra Club asserts that the Commission “chose to rush through the NEPA process” leaving out sufficient information to analyze alternatives to the Pacific Connector Pipeline, as well as the pipeline’s potential impacts on residential wells, and other environmental resources areas.<sup>205</sup> Petitioners contend that the Commission’s consideration of comments after the close of the comment period on the Final EIS is insufficient to account for the missing information in the Draft EIS, as it did not lead to the same amount of public participation,<sup>206</sup> and the Final EIS does not benefit from responses to these comments.<sup>207</sup> As a result, Sierra Club calls for the Commission to issue a revised Draft EIS, with a new opportunity for comment.<sup>208</sup>

67. We disagree that the Draft EIS did not satisfy NEPA. The Draft EIS is a draft of the agency’s proposed Final EIS and, as such, its purpose is to elicit suggestions for change.<sup>209</sup> A draft is adequate when it allows for “meaningful analysis” and “make[s] every effort to disclose and discuss” “major points of view on the environmental impacts.”<sup>210</sup> Although NRDC and Sierra Club identified that some information was

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<sup>203</sup> NRDC Rehearing Request at 56-58; Sierra Club Rehearing Request at 37-41.

<sup>204</sup> NRDC Rehearing Request at 56.

<sup>205</sup> Sierra Club Rehearing Request at 39-40.

<sup>206</sup> *Id.* at 41.

<sup>207</sup> NRDC Rehearing Request at 57.

<sup>208</sup> Sierra Club Rehearing Request at 41.

<sup>209</sup> *City of Grapevine v. U.S. Dep’t of Transp.*, 17 F.3d 1502, 1507 (D.C. Cir. 1994) (*City of Grapevine*).

<sup>210</sup> 40 C.F.R. § 1502.9(a) (2019); *see also Nat’l Comm. for the New River v. FERC*, 373 F.3d 1323, 1328 (D.C. Cir. 2004) (*New River*) (holding that the Commission’s Draft EIS was adequate even though it did not have a site-specific

missing from the Draft EIS, they have not demonstrated that this renders the Draft EIS inadequate by these standards. Nor have NRDC or Sierra Club shown that “omissions in the [Draft EIS] left the public unable to make known its environmental concerns about the project’s impact.”<sup>211</sup>

68. NRDC and Sierra Club err in claiming that the Draft EIS, the Final EIS, or Authorization Order, were required to include complete, finalized mitigation plans.<sup>212</sup> The Supreme Court has held “that NEPA does not require a fully developed plan detailing what steps *will* be taken to mitigate adverse environmental impacts . . . .”<sup>213</sup> Here, as the Commission stated in the Authorization Order, Commission staff published a Final EIS that identifies baseline conditions for all relevant resources.<sup>214</sup> Later-filed mitigation plans will not present new environmentally-significant information nor pose substantial changes to the proposed action that would otherwise require a supplemental EIS. Moreover, as we have explained in other cases, practicalities require the issuance of certificate authorizations before completion of certain reports and studies because large projects, such as this, take considerable time and effort to develop.<sup>215</sup> Perhaps more important, their development is subject to many variables whose outcomes cannot be predetermined. And, as the Commission has found elsewhere, in some instances, the certificate holder may need to access property in order to acquire the necessary information.<sup>216</sup> Accordingly, post-certification studies may properly be used to develop

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crossing plan for a major waterway where the proposed crossing method was identified and thus provided “a springboard for public comment”).

<sup>211</sup> *Sierra Club, Inc. v. U.S. Forest Serv.*, 897 F.3d 582, 598 (4th Cir. 2018) (rejecting petitioners claim that the Commission’s draft environmental impact statement precluded meaningful comment where the applicant had not yet filed an erosion and sediment control plan at the time the draft EIS was published) (citing *New River*, 373 F.3d at 1329).

<sup>212</sup> See, e.g., NRDC Rehearing Request at 56; Sierra Club Rehearing Request at 40-41.

<sup>213</sup> *Robertson v. Methow Valley Citizens Council*, 490 U.S. 332, 359 (1989) (emphasis in original).

<sup>214</sup> Authorization Order, 170 FERC ¶ 61,202 at P 160.

<sup>215</sup> See, e.g., *Algonquin Gas Transmission, LLC*, 154 FERC ¶ 61,048, at P 94 (2016); *E. Tenn. Natural Gas Co.*, 102 FERC ¶ 61,225, at P 23 (2003), *aff’d sub nom.*, *New River*, 373 F.3d 1323.

<sup>216</sup> *Midwestern Gas Transmission Co.*, 116 FERC ¶ 61,182, at P 92 (2006).

site-specific mitigation measures. It is not unreasonable for the Final EIS to deal with sensitive locations in a general way, leaving specificities of certain resources for later exploration during construction.<sup>217</sup> What is important is that the agency make adequate provisions to assure that the certificate holder will undertake and identify appropriate mitigation measures to address impacts that are identified during construction.<sup>218</sup> We have and will continue to demonstrate our commitment to assuring adequate mitigation.<sup>219</sup>

69. Moreover, while the Draft EIS serves as “a springboard for public comment,”<sup>220</sup> any information that is filed after the comment period is available in the Commission’s public record, including through its electronic database, eLibrary.<sup>221</sup> Further, the Authorization Order noted that comments filed on the Draft EIS were addressed in the Final EIS “to the extent practicable,”<sup>222</sup> and comments on the Final EIS were addressed in the Authorization Order.

70. To the extent Sierra Club and Ms. McCaffree claim that the Commission was required to issue a revised Draft EIS, they are mistaken.<sup>223</sup> As the Supreme Court has stated, “an agency need not supplement an EIS every time new information comes to light after the EIS is finalized.”<sup>224</sup>

71. NEPA requires the revision or supplement of a draft (or final) EIS only where the agency makes “substantial changes in the proposed action,” or if there are “significant new circumstances or information relevant to environmental concerns.”<sup>225</sup> Sierra Club has not demonstrated that either of these scenarios occurred. The Final EIS analyzes the relevant environmental information and recommended environmental conditions. In the

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<sup>217</sup> *Mojave Pipeline Co.*, 45 FERC ¶ 63,005, at 65,018 (1988).

<sup>218</sup> *Id.*

<sup>219</sup> *Id.*

<sup>220</sup> *See Robertson*, 490 U.S. at 349.

<sup>221</sup> The eLibrary system offers interested parties the option of receiving automatic notification of new filings.

<sup>222</sup> Authorization Order, 170 FERC ¶ 61,202 at n.266.

<sup>223</sup> Sierra Club Rehearing Request at 41; McCaffree Rehearing Request at 15.

<sup>224</sup> *Marsh v. Oregon Natural Resources Council*, 490 U.S. 360, 373 (1989).

<sup>225</sup> 40 C.F.R. § 1502.9(c)(1) (2019).

Authorization Order, we adopted the recommended environmental conditions and further responded to comments, including those filed after the Final EIS.<sup>226</sup> In short, the Commission's procedures, consistent with NEPA and the NGA, allowed the public a meaningful opportunity to comment and resulted in an informed Commission decision.

72. NRDC contends that the Commission improperly issued the Draft EIS and Final EIS prior to completing consultation with the National Marine Fisheries Service (NMFS), Indian tribes, and the Oregon State Historic Preservation Office (SHPO), among other agencies and entities.<sup>227</sup> NRDC argues that the Commission's failure to complete the consultation process for inclusion in either the Draft or Final EIS "falls short of reasoned decision making under NEPA" and fails to promote "active public involvement and access to information" as required by NEPA.<sup>228</sup> Sierra Club claims that the Commission should have gathered all information before issuing a Draft EIS.<sup>229</sup>

73. Both the Draft and Final EIS contain extensive discussion regarding the potential impacts on federally-listed threatened and endangered species, marine mammals<sup>230</sup> and cultural resources.<sup>231</sup> As we explain above and in other cases,<sup>232</sup> practicalities require the issuance of orders before completion of certain reports and studies because large projects, such as this, take considerable time and effort to develop. Accordingly, the Commission's process "to the fullest extent possible,"<sup>233</sup> reflects the integration of the Commission's Draft EIS with the NMFS and SHPO consultation processes. As courts have recognized, NEPA's requirements are essentially procedural;<sup>234</sup> if the agency's

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<sup>226</sup> Authorization Order, 170 FERC ¶ 61,202 at P 293.

<sup>227</sup> NRDC Rehearing Request at 57.

<sup>228</sup> *Id.* (citing *Price Road Neighborhood Ass'n v. U.S. Dept. of Transp.*, 113 F.3d 1505, 1511 (9th Cir. 1997)).

<sup>229</sup> Sierra Club Rehearing Request at 41.

<sup>230</sup> See Draft EIS at 4-229 to 4-309; Final EIS at 4-235 to 4-317.

<sup>231</sup> See Draft EIS at 4-632 to 4-655; Final EIS at 4-663 to 4-686.

<sup>232</sup> See, e.g., *Weaver's Cove Energy, LLC*, 114 FERC ¶ 61,058, at PP 108-115 (2006); *Islander E. Pipeline Co.*, 102 FERC ¶ 61,054, at PP 41-44 (2003).

<sup>233</sup> 40 C.F.R. § 1502.9(a) (2019).

<sup>234</sup> *Vt. Yankee Nuclear Power Corp. v. Natural Res. Def. Council, Inc.*, 435 U.S. 519, 558 (1978) (*Vermont Yankee*).



decision is fully informed and well-considered, the Commission has satisfied its NEPA responsibilities.<sup>235</sup> The Commission’s approach is fully consistent with NEPA, as affirmed in *National Committee for New River v. FERC*,<sup>236</sup> where the D.C. Circuit recognized that “if every aspect of the project were to be finalized before any part of the project could move forward, it would be difficult, if not impossible, to construct the project.”<sup>237</sup>

## **B. Conditional Certificates**

74. Several petitioners allege that the Commission’s conditional authorization of the projects pending receipt of all applicable federal and state approvals, including the Coastal Zone Management Act (CZMA),<sup>238</sup> the Clean Water Act (CWA),<sup>239</sup> and the Clean Air Act (CAA),<sup>240</sup> is unlawful.<sup>241</sup>

75. Under Environmental Conditions 11 and 27 of the Authorization Order, Jordan Cove and Pacific Connector cannot commence construction of any project facilities without first filing documentation either that they have received “all applicable authorizations required under federal law,” including under the CZMA, CWA, and CAA, or that such authorizations have been waived.<sup>242</sup> This conditional authorization is a reasonable exercise of the Commission’s broad authority to condition certificates for interstate pipelines on “such reasonable terms and conditions as the public convenience

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<sup>235</sup> *Natural Res. Def. Council, Inc. v. Hodel*, 865 F.2d 288, 294 (D.C. Cir. 1988).

<sup>236</sup> 373 F.3d 1323 (D.C. Cir. 2004).

<sup>237</sup> *Id.* at 1329 (quoting *E. Tenn. Natural Gas Co.*, 102 FERC ¶ 61,225 at P 25) (internal quotations omitted).

<sup>238</sup> 16 U.S.C. § 1456(c)(3)(A) (2018).

<sup>239</sup> 33 U.S.C. § 1341(a)(1) (2018).

<sup>240</sup> 42 U.S.C. § 7401 et seq. (2018).

<sup>241</sup> With regard to the CZMA, *see, e.g.*, Confederated Tribes Rehearing Request at 31-33; State of Oregon Rehearing Request at 25-26; Sierra Club Rehearing Request at 25-27. With regard to the CWA, *see, e.g.*, McCaffree Rehearing Request at 12-13, 17-18; State of Oregon Rehearing Request at 14-24; Sierra Club Rehearing Request at 25-27. With regard to the CAA, *see, e.g.*, State of Oregon Rehearing Request at 24.

<sup>242</sup> Authorization Order, 170 FERC ¶ 61,202, app., envtl. conditions 11, 27.

and necessity may require.”<sup>243</sup> As discussed in the Authorization Order and in more detail below, the Commission’s practice of issuing conditional certificates has consistently been affirmed by courts as lawful.<sup>244</sup>

### 1. Coastal Zone Management Act

76. As noted by the petitioners, the CZMA provides in pertinent part that that “[n]o license or permit shall be granted by [a] Federal agency until the state or its designated agency has concurred with the applicant’s certification” that “the proposed activity complies with the enforceable policies of the state’s approved [coastal management] program and that such activity will be conducted in a manner consistent with the program.”<sup>245</sup>

77. The Jordan Cove LNG Terminal and a portion of the Pacific Connector Pipeline will be constructed within a designated coastal zone, and accordingly, the projects are subject to a consistency review under the CZMA.<sup>246</sup> As stated in the Authorization Order, on April 11, 2019, Jordan Cove and Pacific Connector submitted joint CZMA certification to the Oregon Department of Land Conservation and Development (Oregon DLCD).<sup>247</sup> On February 19, 2020, Oregon DLCD objected to the applicants’ consistency certification on the basis that the applicants have not established consistency with specific

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<sup>243</sup> 15 U.S.C. § 717f(e); *see also, e.g., ANR Pipeline Co. v. FERC*, 876 F.2d 124, 129 (D.C. Cir. 1989) (noting the Commission’s “extremely broad” conditioning authority).

<sup>244</sup> Authorization Order, 170 FERC ¶ 61,202 at P 192 (citing *Del. Riverkeeper Network v. FERC*, 857 F.3d 388, 399 (D.C. Cir. 2017) (upholding Commission’s approval of a natural gas project conditioned on securing state certification under section 401 of the Clean Water Act); *see also Myersville*, 783 F.3d at 1320-21 (upholding the Commission’s conditional approval of a natural gas facility construction project where the Commission conditioned its approval on the applicant securing a required federal CAA air quality permit from the state); *Pub. Utils. Comm’n. of State of Cal. v. FERC*, 900 F.2d 269, 282 (D.C. Cir. 1990) (holding the Commission had not violated NEPA by issuing a certificate conditioned upon the completion of the environmental analysis)).

<sup>245</sup> 16 U.S.C. § 1456(c)(3)(A) (2018).

<sup>246</sup> Authorization Order, 170 FERC ¶ 61,202 at P 230.

<sup>247</sup> *Id.* P 231.

enforceable policies of the Oregon Coastal Management Program and that they are not supported by adequate information.<sup>248</sup>

78. The Commission noted in the Authorization Order that Oregon DLCD's objection appeared to be without prejudice and that the objection could be appealed to the U.S. Secretary of Commerce.<sup>249</sup> Accordingly, the Authorization Order required, in Environmental Condition 27, that prior to beginning construction, Jordan Cove and Pacific Connector must file a determination of consistency with the Coastal Zone Management Plan issued by the State of Oregon.<sup>250</sup> The Commission also explained in the Authorization Order that the Commission's practice of issuing conditional certificates has consistently been upheld by courts and that Jordan Cove and Pacific Connector would not be permitted to begin construction until they receive all necessary authorizations.<sup>251</sup>

79. Petitioners allege that our conditional authorization of the projects was unlawful and that the Commission is prohibited from approving the projects until the state has provided a concurrence with the consistency determination pursuant to the CZMA.<sup>252</sup> In addition, Sierra Club contends that requiring compliance with the CZMA prior to issuance of a notice permitting construction to begin, as opposed to issuance of the Authorization Order, limits the state's ability to participate in the process or impose meaningful conditions on projects.<sup>253</sup> Sierra Club further argues that issuance of a conditional authorization for these particular projects was inappropriate given that the

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<sup>248</sup> *Id.*

<sup>249</sup> *Id.* The CZMA provides that, when a state objects to a consistency certification, the applicant may appeal the objection to the Secretary of Commerce by filing a notice of appeal within 30 days of receipt of the objection. Following the appeal, the Secretary of Commerce may override a state objection to a consistency certification. 16 U.S.C. § 1456(c)(3)(A) (2018).

<sup>250</sup> Authorization Order, 170 FERC ¶ 61,202 at P 231 & app., envtl. condition 27.

<sup>251</sup> *Id.* PP 191-192 & app., envtl. condition 11.

<sup>252</sup> Confederated Tribes Rehearing Request at 32-33; Cow Creek Rehearing Request at 26-28 (addressing Cow Creek's arguments as to the Pacific Connector Pipeline); Sierra Club Rehearing Request at 25-27; State of Oregon Rehearing Request at 25-26; McCaffree Rehearing Request at 11-12.

<sup>253</sup> Sierra Club Rehearing Request at 26.

state had already objected to the CZMA consistency certifications.<sup>254</sup> Additionally, Ms. McCaffree states that because Oregon DLCD found that the projects' impacts violated the state's coastal program, the Commission cannot ignore and must consider those effects in making its determination.<sup>255</sup> Last, in their request for rehearing, Jordan Cove and Pacific Connector request clarification that Environmental Condition 27 could be satisfied if they submit a determination by the Secretary of Commerce that the activity is consistent with the objectives of the CZMA or is otherwise necessary in the interest of national security.<sup>256</sup>

80. As we explained above and in the Authorization Order, the Commission's practice of issuing conditional certificates has consistently been affirmed by courts as lawful,<sup>257</sup> including specifically the Commission's issuance of certificates conditioned on future state approval pursuant to the CZMA.<sup>258</sup> The Commission's approach is a practical response to the reality that it may be impossible for an applicant to obtain all approvals necessary to construct and operate a project in advance of the Commission's issuance of its certificate without unduly delaying a project.<sup>259</sup>

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<sup>254</sup> *Id.* at 26-27.

<sup>255</sup> McCaffree Rehearing Request at 12, 15-17.

<sup>256</sup> Jordan Cove and Pacific Connector Rehearing Request at 25-27.

<sup>257</sup> *See supra* P 76 & note 244.

<sup>258</sup> Authorization Order, 170 FERC ¶ 61,202 at P 192 (citing *Del. Dep't. of Nat. Res. & Env'tl. Control v. FERC*, 558 F.3d 575, 578-79 (D.C. Cir. 2009) (holding Delaware suffered no concrete injury from the Commission's conditional approval of a natural gas terminal construction despite statutes requiring states' prior approval because the Commission conditioned its approval of construction on the states' prior approval)). Confederated Tribes contends that the court's decision in *Mountain Rhythm Res. v. FERC*, 302 F.3d 958 (9th Cir. 2002) undermines the Commission's interpretation of its conditional approval authority under the Natural Gas Act. But that case is inapposite: there, the court addressed whether the Commission reasonably relied on maps created by the National Oceanic and Atmospheric Administration in determining that a project was in a coastal zone. *Id.* at 965.

<sup>259</sup> Authorization Order, 170 FERC ¶ 61,202 at P 192 (citing *Broadwater Energy LLC*, 124 FERC ¶ 61,225, at P 59 (2008) (*Broadwater*); *Crown Landing LLC*, 117 FERC ¶ 61,209, at P 26 (2006) (*Crown Landing*); *Millennium*, 100 FERC ¶ 61,277 at PP 225-231).

81. Moreover, as we have previously explained, we see “no inherent conflict between the CZMA . . . and the NGA given the Commission’s multi-faceted duties regarding LNG importation, the flexibility provided by implementing regulations issued by other agencies, and the courts’ practical and reasonable decisions allowing statutes to operate together successfully.”<sup>260</sup> Further,

[f]or the Commission to deny NGA section 3 authorization . . . because a state’s certification or concurrence under the CZMA . . . is pending at the state level or on appeal in a state or federal court . . . would require [a project proponent] to begin again the complex, time-consuming, and expensive application process when and if the CZMA . . . issues are resolved. This would be needlessly inefficient and contrary to the energy needs of our nation. Our practice of approving projects with conditions precluding construction pending the applicant’s compliance with the CZMA . . . is far more consistent with both Congressional expectations and relevant agency regulations.<sup>261</sup>

82. We also disagree with Sierra Club’s contention that this practice limits a state’s ability to participate in the process. As stated previously and throughout the Authorization Order, the applicants must receive all necessary approvals, including authorizations federally delegated to the states, (or evidence of waiver thereof) prior to beginning construction.<sup>262</sup> Accordingly, the Authorization Order does not narrow the state’s authorities delegated to it under the relevant statutes.<sup>263</sup>

83. Nor do we find that issuance of a conditional authorization in this case was inappropriate given that the state had objected to the consistency determination. In *Broadwater Energy LLC*, the Commission rejected similar arguments that it should vacate or withdraw its authorizations for the Broadwater Pipeline and Broadwater Energy import terminal because the State of New York objected to the project proponents’ consistency determination shortly after the Commission issued its authorization order.<sup>264</sup> The Commission explained in its rehearing order that it was not required to vacate the

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<sup>260</sup> *Crown Landing*, 117 FERC ¶ 61,209 at P 27.

<sup>261</sup> *Id.* P 29.

<sup>262</sup> Authorization Order, 170 FERC ¶ 61,202, app., envtl. condition 11.

<sup>263</sup> *See Broadwater*, 124 FERC ¶ 61,225 at P 58.

<sup>264</sup> *Id.* P 66.

approval because the project proponent had appealed the state's finding to the Secretary of Commerce and the Commission would not authorize construction unless the state's objection was overridden.<sup>265</sup> On March 16, 2020, Jordan Cove and Pacific Connector appealed to the Secretary of Commerce.<sup>266</sup>

84. Relatedly, pursuant to Jordan Cove and Pacific Connector's request, we clarify that if the Secretary of Commerce overrides the state's determination, filing the Secretary's decision would satisfy Environmental Condition 27. The CZMA is a federal statute, implementation of which has been delegated to the states to make the concurrence determination in the first instance. Pursuant to the language of the CZMA, the Secretary of Commerce retains authority to override a state's decision.<sup>267</sup>

85. Last, we note, contrary to Ms. McCaffree's claim, that the Commission fully considered the environmental effects associated with the projects in the Authorization Order, including those effects that were the basis for Oregon DLCD's objections. For clarity, in multiple instances, the Authorization Order notes the Oregon DLCD's concerns, so that the state's analysis could be contrasted with that of the Commission.<sup>268</sup>

## 2. Clean Water Act

86. Section 401(a)(1) of the CWA provides that an applicant for a federal license to conduct an activity that "may result in any discharge into the navigable waters" must obtain a water quality certification from the state and, further, that "[n]o license or permit shall be granted until the certification required by the section has been obtained or has

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<sup>265</sup> *Id.*

<sup>266</sup> See Jordan Cove and Pacific Connector's April 3, 2020 Notice of Appeal filed in Docket Nos. CP17-494-000 and CP17-495-000.

<sup>267</sup> 16 U.S.C. § 1456(c)(3)(A) (2018) ("No license or permit shall be granted by the Federal agency until the state or its designated agency has concurred with the applicant's certification or until, by the state's failure to act, the concurrence is conclusively presumed, *unless the Secretary, on his own initiative or upon appeal by the applicant, finds, after providing a reasonable opportunity for detailed comments from the Federal agency involved and from the state, that the activity is consistent with the objectives of this chapter or is otherwise necessary in the interest of national security.*") (emphasis added).

<sup>268</sup> See, e.g., Authorization Order, 170 FERC ¶ 61,202 at P 206, n.414.

been waived ...” and “[n]o license or permit shall be granted if certification has been denied ... .”<sup>269</sup>

87. The State of Oregon, Jordan Cove, and Pacific Connector dispute whether and when Oregon DEQ received Jordan Cove’s and Pacific Connector’s requests for water quality certifications with regard to Commission-jurisdictional activities.<sup>270</sup> On May 6, 2019, Oregon DEQ issued a denial of Jordan Cove’s and Pacific Connector’s requests for certification, which Oregon DEQ linked to a subset of activities under the jurisdiction of the U.S. Army Corps of Engineers (Army Corps).<sup>271</sup> Oregon DEQ issued the denial without prejudice and specifically allowed Jordan Cove and Pacific Connector to reapply.<sup>272</sup>

88. In the Authorization Order, the Commission explained that Jordan Cove and Pacific Connector will be unable to exercise the authorizations to construct and operate the projects until they receive all necessary authorizations, including under the CWA, or provide evidence of waiver.<sup>273</sup> The Commission explained that such conditional authorization is permitted, citing *Delaware Riverkeeper Network v. FERC*, which upheld the Commission’s use of conditional authorizations before other authorizations under federal law are complete.<sup>274</sup>

89. On rehearing, the State of Oregon offers two reasons to distinguish the court’s decision in *Delaware Riverkeeper Network v. FERC*.<sup>275</sup> First, the State of Oregon maintains that before the Commission issued its Authorization Order, Oregon DEQ had already timely denied the requests for certification, the applicants had not appealed, and

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<sup>269</sup> 33 U.S.C. § 1341(a)(1) (2018).

<sup>270</sup> *E.g.*, State of Oregon Rehearing Request at 18 (asserting that Oregon DEQ received applications for a 401 certification for activities to be authorized by the Corps but not for activities to be authorized by the Commission); Oregon DEQ May 7, 2019 Denial of 401 Water Quality Certification at 3 (same).

<sup>271</sup> Oregon DEQ May 7, 2019 Denial of 401 Water Quality Certification at 3.

<sup>272</sup> *Id.* at 3, 85.

<sup>273</sup> Authorization Order, 170 FERC ¶ 61,202 at PP 191-192 & app., envtl. condition 11.

<sup>274</sup> 857 F.3d 388 (D.C. Cir. 2017); *see* Authorization Order, 170 FERC ¶ 61,202 at P 192, n.371.

<sup>275</sup> State of Oregon Rehearing Request at 18-19.

the applicants had not re-applied.<sup>276</sup> Sierra Club takes a similar position, adding that Jordan Cove and Pacific Connector have not made any serious effort to satisfy Environmental Condition 11 because they have not indicated when or if they will re-apply for certification.<sup>277</sup> Ms. McCaffree states that the Commission has failed its obligation to assess and determine whether, given the projects' adverse impacts, obtaining the section 401 certification is feasible.<sup>278</sup>

90. Second, the State of Oregon asserts that Environmental Condition 11 fails to assure the result that the court relied upon in *Delaware Riverkeeper Network v. FERC*, i.e., that there will be no activity that may result in any discharge into the navigable waters before a valid water quality certification or a waiver is in place, because the Authorization Order granted Pacific Connector's request for a blanket construction certificate.<sup>279</sup> Oregon DEQ asserts that the Commission's regulations presume that an activity under a blanket construction certificate complies with the CWA if the certificate-holder adheres to Commission staff's *Upland Erosion Control, Revegetation, and Maintenance Plan* (Plan) and *Wetland and Waterbody Construction and Mitigation Procedures* (Procedures) or an approved project-specific alternative.<sup>280</sup> The State of Oregon contends that although the Plan and Procedures are designed to reduce or mitigate discharges to waters, they do not prohibit discharges and they do not substitute for effluent limitations or water quality standards overseen by the state under the CWA.<sup>281</sup> The State of Oregon similarly states that Environmental Condition 11's prohibition on "commencing construction ... including any tree-felling or ground-disturbing activities" neither prevents discharges from existing conveyances such as the use of existing stormwater systems, road culverts, herbicide application, and other point sources nor does it prevent the discharge from the removal of riparian vegetation in the form of increased heat loading to streams.<sup>282</sup>

91. There is no material distinction between the Authorization Order and the Commission's prior conditional order reviewed and upheld in *Delaware Riverkeeper*

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<sup>276</sup> *Id.* at 19.

<sup>277</sup> Sierra Club Rehearing Request at 26-27.

<sup>278</sup> McCaffree Rehearing Request at 12-13, 17-18.

<sup>279</sup> State of Oregon Rehearing Request at 20.

<sup>280</sup> *Id.* (citing 18 C.F.R. § 157.206(b)(3)(iv) (2019)).

<sup>281</sup> *Id.* at 20.

<sup>282</sup> *Id.* at 21-22.



*Network v. FERC*. At the time of the Commission’s Authorization Order, Oregon DEQ had denied the requests for water quality certification, the applicants had not appealed, and the applicants had not indicated when or if they will re-apply. Jordan Cove and Pacific Connector were free to choose whether to pursue their interests by appealing the denials, by re-applying, or by presenting evidence of waiver directly to the Commission to obtain further authorization to commence construction.<sup>283</sup> On April 21, 2020, Jordan Cove and Pacific Connector filed a petition for a declaratory order from the Commission seeking a finding that Oregon DEQ waived the section 401 certification requirement by failing to act by the deadline in section 401.<sup>284</sup> The Commission will respond to Jordan Cove’s and Pacific Connector’s petition in a separate order in new sub-docket numbers CP17-494-003 and CP17-495-003.<sup>285</sup>

92. We disagree with the State of Oregon’s contention that granting Pacific Connector’s request for a blanket certificate could result in an activity that may cause a discharge into the navigable waters before it obtains a valid water quality certification or a waiver thereof. The Commission’s blanket certificate regulations include environmental conditions that require pipeline companies, prior to commencing construction, to comply with numerous environmental laws enforced by other agencies to ensure that sensitive environmental areas will not be adversely impacted by any

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<sup>283</sup> See *Millennium Pipeline Co., L.L.C. v. Seggos*, 860 F.3d 696, 700 (D.C. Cir. 2017). The courts have explained that “[o]nce the Clean Water Act’s requirements have been waived, the Act falls out of the equation.” *Id.* at 700. If the state has failed to act by the deadline in section 401, the state’s later denial of the request has “no legal significance.” *Id.* at 700-01 (declining the project sponsor’s request that the court set a deadline for agency action, explaining that after waiver “there is nothing left for the [agency] ... to do” and “the [agency’s] decision to grant or deny would have no legal significance”); see also *Weaver’s Cove Energy, LLC v. R.I. Dep’t of Env’tl. Mgmt.*, 524 F.3d 1330, 1333 (D.C. Cir. 2008) (explaining that after waiver, states’ preliminary decisions under section 401 “would be too late in coming and therefore null and void”). Accordingly, a state’s denial of certification does not preclude an applicant from later initiating a proceeding to find waiver. *Constitution Pipeline Co., LLC*, 169 FERC ¶ 61,199, at P 8 (2019).

<sup>284</sup> Jordan Cove and Pacific Connector, Petition for Declaratory Order, Docket Nos. CP19-494-003, CP17-495-003 (filed April 21, 2020); see 33 U.S.C. § 1341(a)(1) (2018) (“If the State, interstate agency, or Administrator, as the case may be, fails or refuses to act on a request for certification, within a reasonable period of time (which shall not exceed one year) after receipt of such request, the certification requirements of this subsection shall be waived with respect to such Federal application.”).

<sup>285</sup> See *Notice of Petition for Declaratory Order*, 85 Fed. Reg. 27,736 (May 11, 2020).

construction activities, including activities under the automatic provisions, that will involve ground disturbance or changes to operational air and noise emissions.<sup>286</sup> Specifically, section 157.206(b)(2)(i) of our regulations would require Pacific Connector to be in compliance with the CWA and its implementing regulations and plans before acting under its blanket certificate.<sup>287</sup> As noted by the State of Oregon,<sup>288</sup> Pacific Connector could show compliance with section 157.206(b)(2)(i) if it adheres to Commission staff's current Plan and Procedures,<sup>289</sup> which require the project sponsor to apply for and obtain an individual or generic CWA section 401 water quality certification or waiver thereof, prior to commencing any activity under the blanket certificate.<sup>290</sup> Accordingly, we dismiss the State of Oregon's argument because Pacific Connector must be compliant with the CWA before it can perform any activity under its blanket certificate.<sup>291</sup>

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<sup>286</sup> 18 C.F.R. § 157.206(b) (2019) (requiring a company planning to undertake construction activities under its Part 157 blanket certificate to obtain any necessary permits or approvals needed pursuant to "following statutes and regulations or compliance plans developed to implement these statutes": the Clean Water Act, Clean Air Act, National Historic Preservation Act, Archeological and Historic Preservation Act, Coastal Zone Management Act, Endangered Species Act, Wild and Scenic Rivers Act, National Wilderness Act, National Parks and Recreation Act, the Magnuson-Stevens Fishery Conservation and Management Act, and executive orders requiring evaluation of the potential effects of actions on floodplains and wetlands).

<sup>287</sup> 18 C.F.R. § 157.206(b)(2)(i) (2019); *see* Office of Energy Projects, *Guidance Manual for Environmental Report Preparation*, Vol. I at 7-1 to 7-12 (Feb. 2017) (discussing the regulatory structure for activities under blanket certificates), <https://www.ferc.gov/industries/gas/enviro/guidelines/guidance-manual-volume-1.pdf>.

<sup>288</sup> State of Oregon Rehearing Request at 21.

<sup>289</sup> 18 C.F.R. § 157.206(b)(3)(iv) (2019).

<sup>290</sup> Commission's *Upland Erosion Control, Revegetation and Maintenance Plan* (May 2013) <https://www.ferc.gov/industries/gas/enviro/plan.pdf>. (Plan); Commission's *Wetland and Waterbody Construction and Mitigation Procedures* at 7 (May 2013), <https://www.ferc.gov/industries/gas/enviro/guidelines/wetland-pocket-guide.pdf> (Procedures).

<sup>291</sup> If Pacific Connector cannot demonstrate compliance with CWA section 401 prior to performing an activity under its blanket certificate, then Pacific Connector must seek a new case-specific NGA section 7 certificate for that activity. *See, e.g., Kern River Gas Transmission Co.*, 98 FERC ¶ 62,040, at 64,071 (2002) (project sponsor requested case-specific NGA section 7 certificate for its project because it could not ensure

93. Turning to the State of Oregon's argument that Environmental Condition 11 is inadequate because it only requires that Jordan Cove and Pacific Connector file documentation about authorizations required under federal law (or evidence of waiver thereof) but does not expressly require that the Commission or the Director of the Office of Energy Projects affirmatively determine that the authorizations are valid or determine that waiver has occurred.<sup>292</sup> The State of Oregon is concerned that Environmental Condition 11 gives no indication about the standard or process to determine waiver and that there would be no final order to challenge if the state wishes to contest the validity of filed documentation.<sup>293</sup>

94. Pursuant to Environmental Condition 11 and other conditions, Jordan Cove and Pacific Connector may not commence construction until they first receive written authorizations from the Director of the Commission's Office of Energy Projects. The Director will only authorize the commencement of construction when the applicants have demonstrated compliance with all applicable conditions.<sup>294</sup> Should Jordan Cove and Pacific Connector file documentation to satisfy Environmental Condition 11, these filings will appear in the Commission's online eLibrary as part of the public record for this proceeding. Any authorization to commence construction is a final agency action, and a party aggrieved by such a decision can pursue rehearing under section 19 of the NGA.<sup>295</sup> At that time, a party may challenge the applicants' compliance with Environmental Condition 11 and may challenge the Director's stated reasoning and conclusions. Here Jordan Cove and Pacific Connector have now petitioned for a declaratory order on the question of waiver.<sup>296</sup> Any person that intervened in the proceedings under NGA section 3 and section 7 is already a party to the proceeding for the petition.<sup>297</sup> The

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consistency with the Endangered Species Act, as required by section 157.206(b)(2)(vi) of the Commission's regulations); *El Paso Natural Gas Co*, 94 FERC ¶ 61,403, at 62,501 (2001) (project sponsor requested case-specific NGA section 7 certificate for its project because it could not ensure consistency with the National Historic Preservation Act, as required by section 157.206(b)(2)(iii) of the Commission's regulations).

<sup>292</sup> State of Oregon Rehearing Request at 21.

<sup>293</sup> *Id.*

<sup>294</sup> See, e.g., Authorization Order, 170 FERC ¶ 61,202 at P 293.

<sup>295</sup> 15 U.S.C. § 717r (2018).

<sup>296</sup> See *Notice of Petition for Declaratory Order* (May 5, 2020) (Docket Nos. CP17-494-003, CP17-495-003).

<sup>297</sup> *Id.* at 1 n.1.

Commission's response to the petition will be subject to rehearing. Finally, petitioners assert that the conditional authorization undermines state authority under the CWA. The State of Oregon contends that the statement in the NGA that "nothing in this Act affects the rights of States" under the CWA,<sup>298</sup> includes the significant right to issue a water quality certification before the relevant federal license or permit.<sup>299</sup> The State of Oregon emphasizes Congress's "clearly stated intent" to avoid the inefficient outcome that a state's later denial will nullify the Commission's authorization or that a state's later certification, which may include terms and conditions that affect the design or siting of a facility, will force the applicant to return to the Commission to amend its authorization.<sup>300</sup> Sierra Club asserts that requiring compliance with the CWA prior to issuance of an order authorizing the start of construction, as opposed to issuance of the Authorization Order, limits the state's ability to participate in the process or to impose meaningful conditions on projects.<sup>301</sup> Ms. McCaffree asserts that the Commission cannot overrule the state's denial and cannot waive federal CWA standards.<sup>302</sup>

95. As is true with respect to the CZMA, the Commission's conditional authorization does not undermine state authority under the CWA and does not limit a state's ability to participate in the process. The practice of issuing conditional authorizations for natural gas projects, when necessary, is a safeguard against inefficient outcomes. The Commission's approach is a practical response to the reality that it may be impossible for an applicant to obtain all approvals necessary to construct and operate a project in advance of the Commission's issuance of its certificate without unduly delaying a project.<sup>303</sup> This approach is far more consistent with both Congressional expectations and relevant agency regulations than if the Commission failed to make timely decisions on matters related to its NGA jurisdiction that will inform project sponsors and other licensing agencies, as well as

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<sup>298</sup> State of Oregon at 23 (quoting section 3(d) of the NGA, 15 U.S.C. § 717b(d) (2018)).

<sup>299</sup> *Id.* at 23.

<sup>300</sup> *Id.* at 23-24.

<sup>301</sup> *Id.* at 23-24; Sierra Club Rehearing Request at 26.

<sup>302</sup> McCaffree Rehearing Request at 12, 17.

<sup>303</sup> Authorization Order, 170 FERC ¶ 61,202 at P 192 (citing *Broadwater*, 124 FERC ¶ 61,225 at P 59; *Crown Landing*, 117 FERC ¶ 61,209 at P 26; *Millennium*, 100 FERC ¶ 61,277 at PP 225-231).

the public.<sup>304</sup> The conditioned Authorization Order fully protects the authority delegated to Oregon under the CWA. It requires that the applicants receive the necessary state approval, or prove waiver, prior to construction and the resulting impacts to the navigable waters in the state. The conditioned Authorization Order does not impact any substantive determinations that need to be made by Oregon DEQ under the CWA. Oregon DEQ retains full authority to grant or deny the specific requests. The Commission has no authority to modify or reject the terms and conditions imposed by a state's water quality certification, and the Commission has no authority to overrule a state's denial absent waiver.<sup>305</sup>

### 3. Clean Air Act

96. The State of Oregon argues that the Commission could not issue the Authorization Order until applicants obtained a pre-construction authorization, known as an Air Contaminant Discharge Permit, pursuant to Title V of the Clean Air Act.<sup>306</sup> The State of Oregon also claims that Environmental Condition 11 is inadequate because it should have required that the applicants receive all necessary federal authorizations, including the Clean Air Act Title V Operating Permit, needed for operation of the projects before either begins operation.<sup>307</sup>

97. The Commission appropriately conditioned its authorization on Jordan Cove and the Pacific Connector obtaining required federal authorizations. Jordan Cove and Pacific Connector indicated that they would obtain the Air Contaminant Discharge Permit before beginning construction.<sup>308</sup> As discussed, the Commission may issue conditional

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<sup>304</sup> See e.g., *Broadwater*, 124 FERC ¶ 61,225 at P 59; *Crown Landing*, 117 FERC ¶ 61,209 at P 29.

<sup>305</sup> E.g., *City of Tacoma, Wash. v. FERC*, 460 F.3d 53, 67-68 (D.C. Cir. 2006) ("FERC's role is limited to awaiting, and then deferring to, the final decision of the state. Otherwise, the state's power to block the project would be meaningless. ... If the question regarding the state's section 401 certification is not the application of state water quality standards but compliance with the terms of section 401, then FERC must address it."); accord *Am. Rivers, Inc. v. FERC*, 129 F.3d 99, 107-111 (2d Cir. 1997).

<sup>306</sup> State of Oregon Rehearing Request at 24.

<sup>307</sup> *Id.* at 24-25.

<sup>308</sup> See Final EIS at 1-25.

authorizations,<sup>309</sup> courts have specifically affirmed the Commission's issuance of certificates conditioned on future state approval pursuant to the Clean Air Act.<sup>310</sup>

98. We decline to adopt the State of Oregon's request that the Commission condition any authorization to commence service on Jordan Cove's future Title V Operating Permit.<sup>311</sup> As discussed in the Final EIS, under the CAA, an application to the State of Oregon for this permit is due one year after the source commences operation.<sup>312</sup>

### **C. The Projects' Purposes and Reasonable Alternatives**

#### **1. The EIS's Purpose and Need Statement**

99. NRDC argues that the Commission violated NEPA because it deferred to Jordan Cove's and Pacific Connector's definitions for the projects' purposes and needs in the Final EIS.<sup>313</sup> NRDC contends that the Commission must take "a hard look at the factors relevant" to the projects' purpose and need and cannot automatically adopt Jordan Cove's and Pacific Connector's definitions such that the projects are a foregone conclusion.<sup>314</sup> NRDC acknowledges that the NGA's public interest determinations and NEPA's purpose and need statement differ, but contends that the purpose and need statement in the Final EIS should be informed by the underlying statutory review being conducted, which is to balance public benefits against adverse consequences.<sup>315</sup> NRDC argues that, by adopting

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<sup>309</sup> See *supra* P 76 & note 244.

<sup>310</sup> *Myersville*, 783 F.3d at 1320-21 (upholding the Commission's conditional approval of a natural gas facility construction project where the Commission conditioned its approval on the applicant securing a required federal Clean Air Act air quality permit from the state).

<sup>311</sup> The State of Oregon requires Title V facilities to obtain a Standard Air Containment Discharge Permit prior to commencing construction; in addition, any facility that triggers Prevention of Significant Deterioration permitting, such as the Jordan Cove LNG Terminal and the Pacific Connector Pipeline, must also obtain a Title V Operating Permit. See Final EIS at 4-689.

<sup>312</sup> *Id.* at 4-689.

<sup>313</sup> NRDC Rehearing Request at 46.

<sup>314</sup> *Id.* at 46-47 (citing *Nat'l Parks Conservation Ass'n v. Bureau of Land Management*, 606 F.3d 1058, 1071 (9th Cir. 2010)).

<sup>315</sup> *Id.* at 47.

private interests, the Commission's purpose and need statement was so narrow to preclude consideration of a reasonable range of alternatives.<sup>316</sup>

100. An agency's statement of purpose and need in an EIS is evaluated under a reasonableness standard.<sup>317</sup> Under this standard, agencies are afforded considerable discretion to define the purpose and need statement for a project,<sup>318</sup> but that statement may not be so narrow to preclude otherwise reasonable alternatives such that "the EIS would become a foreordained formality."<sup>319</sup> The nature of the proposed federal action must also be informed both by "the project sponsor's goals," as well as "the goals that Congress has set for the agency."<sup>320</sup> Accordingly, under the NGA and NEPA, the Commission's purpose in assessing a project proposed under section 3 or 7 of the NGA is "whether to adopt an applicant's proposal and, if so, to what degree," not to engage in energy resource or natural gas transportation planning.<sup>321</sup>

101. As discussed in the Authorization Order, the Commission appropriately relied on the general objectives of the projects' applicants.<sup>322</sup> The Final EIS states that the Jordan Cove LNG Terminal will export natural gas supplies from existing natural gas transmission systems to overseas markets, particularly Asia, and the Pacific Connector Pipeline will connect the existing Gas Transmission Northwest, LLC and Ruby Pipeline LLC systems with the proposed terminal.<sup>323</sup> Such a statement, which explains where the

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<sup>316</sup> *Id.* at 47, 55.

<sup>317</sup> See, e.g., *Friends of Se.'s Future v. Morrison*, 153 F.3d 1059, 1067 (9th Cir. 1998) (stating that while agencies are afforded "considerable discretion to define the purpose and need of a project," agencies' definitions will be evaluated under the rule of reason); see also *City of Alexandria v. Slater*, 198 F.3d 862, 867 (D.C. Cir. 1999).

<sup>318</sup> See *City of Angoon v. Hodel*, 803 F.2d 1016 (9th Cir. 1986).

<sup>319</sup> *Citizens Against Burlington, Inc. v. Busey*, 938 F.2d 190, 196 (D.C. Cir. 1991)).

<sup>320</sup> *Sierra Club v. U.S. Forest Serv.*, 897 F.3d at 598 (quoting *All. for Legal Action v. FAA*, 69 F. App'x 617, 622 (4th Cir. 2003)).

<sup>321</sup> See *Theodore Roosevelt Conservation P'ship v. Salazar*, 661 F.3d 66, 73 (D.C. Cir. 2011); see also 15 U.S.C. §§ 717b, 717f (2018); Authorization Order, 170 FERC ¶ 61,202 at P 186 (citing *Citizens Against Burlington, Inc. v. Busey*, 938 F.2d at 191).

<sup>322</sup> Authorization Order, 170 FERC ¶ 61,202 at P 186.

<sup>323</sup> Final EIS at 1-6.

gas originates and where it is delivered, is permissible as it allows the agency to consider a sufficiently wide range of alternatives to be considered.<sup>324</sup>

102. NRDC argues that the Commission only gave serious consideration to the applicants' proposals because it improperly adopted the applicants' purposes in contravention of its duties to consider the public interest under the NGA.<sup>325</sup> NRDC cites *National Parks and Conservation Association v. Bureau of Land Management*<sup>326</sup> for support but in that case the BLM drafted its purpose and need statement for a private land exchange in such narrow terms that it foreordained approval of the land exchange.<sup>327</sup> In contrast, our approval of the projects, as proposed by Jordan Cove and Pacific Connector, was not preordained. The Commission considered the no-action alternative, system alternatives, LNG terminal site alternatives, and pipeline route alternatives and variations, and balanced numerous environmental factors in the Final EIS. As discussed throughout this order and the Authorization Order, the Commission used this analysis in the Final EIS to conditionally approve environmentally acceptable actions, and even adopt a route variation, consistent with its public interest criteria under sections 3 and 7 of the NGA.

## 2. Alternatives

### a. No-Action Alternative

103. NRDC and Sierra Club argue that the Final EIS fails to offer a genuine "no action" alternative because the Final EIS states that under the no-action alternative, exports of LNG from one or more other LNG export facilities may occur.<sup>328</sup> Under the no-action alternative the Commission would deny the requested applications under sections 3 and 7 of the NGA. The Authorization Order explained that under the no-action alternative, the proposed actions would not occur and the environment would not be affected.<sup>329</sup> Contrary to NRDC's claims, the Final EIS also details baseline environmental resources

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<sup>324</sup> See *Sierra Club v. U.S. Forest Serv.*, 897 F.3d at 598-99 (upholding the Commission's statement of purpose and need for a natural gas pipeline to run through national forest).

<sup>325</sup> NRDC Rehearing Request at 55.

<sup>326</sup> 606 F.3d 1058, 1072.

<sup>327</sup> *Id.* at 1072.

<sup>328</sup> NRDC Rehearing Request at 48-51; Sierra Club Rehearing Request at 39.

<sup>329</sup> Authorization Order, 170 FERC ¶ 61,202 at P 187 (citing Final EIS at ES-5, 3-4).



before describing the environmental impacts of various alternatives.<sup>330</sup> “[M]erely because a ‘no action’ proposal is given a brief discussion does not suggest that it has been insufficiently addressed.”<sup>331</sup> The Final EIS ultimately did not recommend the no action alternative because that alternative would not meet the projects’ purposes and needs.<sup>332</sup> Moreover, no other existing LNG terminal in the region could export LNG, a similar terminal facility may be built to meet the demand for export. This could lead to impacts at other locations and would not result in significant environmental benefits.<sup>333</sup>

**b. System and Site Alternatives**

104. Petitioners next allege that the Commission failed to take a hard look at alternatives. When an agency is tasked to decide whether to adopt a private applicant’s proposal, and if so, to what degree, a reasonable range of alternatives to the proposal includes rejecting the proposal, adopting the proposal, or adopting the proposal with some modification.<sup>334</sup> Reasonable alternatives are defined as those alternatives “that are technically and economically practical or feasible and meet the purpose and need of the proposed action.”<sup>335</sup> The Commission enjoys broad discretion in evaluating alternatives and utilizing its expertise to balance competing interests.<sup>336</sup> Indeed, “[e]ven if an agency has conceded that an alternative is environmentally superior, it nevertheless may be entitled under the circumstances not to choose that alternative.”<sup>337</sup> As discussed herein,

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<sup>330</sup> *Id.* (citing Final EIS at 4-1 to 4-852).

<sup>331</sup> *Headwaters, Inc. v. Bureau of Land Mgmt.*, 914 F.2d 1174, 1181 (9th Cir.1990). *See Or. Natural Res. Council v. Lyng*, 882 F.2d 1417, 1423 n.5 (1989) (“The fact that the description of the no-action alternative is shorter than those of the other proposals does not necessarily indicate that the no-action alternative was not considered seriously. It may only reveal that the forest service believed that the concept of a no-action plan was self-evident while the specific timber sale plans needed explanation.”).

<sup>332</sup> Final EIS at 3-5.

<sup>333</sup> *Id.*

<sup>334</sup> *See Theodore Roosevelt Conservation P’ship*, 661 F.3d at 72-74.

<sup>335</sup> 43 C.F.R. § 46.420(b) (2019).

<sup>336</sup> *Minisink*, 762 F.3d at 111. *See also Myersville*, 783 F.3d at 1324 (deferring to agency’s rejection of a pipeline loop alternative that would eliminate the emissions associated with the proposed compressor station but would disturb more land).

<sup>337</sup> *Myersville*, 783 F.3d at 1324.

the Final EIS takes a hard look at alternatives, including the no action alternative, system alternatives, LNG terminal site alternatives, and pipeline route alternatives and variations.

**i. The Existing LNG Storage Alternatives**

105. NRDC argues that the Commissions improperly dismissed as an alternative the use of any of the four LNG storage facilities in Oregon and Washington that are connected to natural gas systems, because these facilities were not designed to export LNG and therefore would require significant modifications to meet the projects' purpose.<sup>338</sup> NRDC contends that the Commission failed to assess whether modifications at these facilities would be technically or economically feasible.<sup>339</sup>

106. As discussed in the Final EIS, Commission staff considered whether the four peak shaving LNG storage plants could meet the terminal's objectives, but determined that modifying these plants was not technically or economically practical or feasible.<sup>340</sup> Because the plants are not designed to export LNG, they would require significant modifications; the facilities needed to export LNG do not exist and the storage tanks are too small to meet the project's goals. On review, NRDC argues that the Commission should have provided a more detailed discussion, but CEQ regulations only require a brief discussion of why an alternative was eliminated<sup>341</sup> and NRDC fails to establish that this determination was erroneous.

**ii. The Humboldt Bay Site Alternative**

107. NRDC next argues that the Commission improperly dismissed the Humboldt Bay site alternative because its environmental impacts would be similar to the terminal and those of any connecting pipeline would be similar to the proposed route.<sup>342</sup> NRDC claims the Final EIS does not provide any information to determine whether the Humboldt Bay site would provide a significant environmental advantage or disadvantage, as there could be numerous routes and locations that may appear similar on their surface

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<sup>338</sup> NRDC Rehearing Request at 52.

<sup>339</sup> *Id.* at 53.

<sup>340</sup> Final EIS at 3-5.

<sup>341</sup> 40 C.F.R. § 1502.14(a) (2019).

<sup>342</sup> NRDC Rehearing Request at 52.

but may offer significant environmental advantages or disadvantages upon deeper evaluation.<sup>343</sup>

108. The Final EIS examines whether the nearest deepwater port, Humboldt Bay in California, was a feasible alternative site for the proposed action.<sup>344</sup> The Final EIS summarizes Commission staff's consideration of potential site locations, parcel availability, land use, and general environmental impacts. Commission staff identified the Samoa Peninsula within Humboldt Bay as generally available for coastal-dependent industry development.<sup>345</sup> The Samoa Peninsula includes open land, BLM-managed recreation land, public beaches, former and current industrial land, numerous residences, an elementary school, coastal shrub and wooded vegetation, and coastal dunes. Based on the characteristics of the existing navigational channels within Humboldt Bay as described in the Final EIS, dredging impacts are expected to be similar or greater to those at the proposed site.<sup>346</sup> Given the presence of these resources on or adjacent to the peninsula, and the presence of several communities located across the shipping channel, a 200-acre LNG terminal located in Humboldt Bay would likely result in impacts similar to or greater than the proposed project.

109. With regard to an associated pipeline, Commission staff estimated that the pipeline distance between Malin, Oregon and Humboldt Bay would be approximately 200 miles.<sup>347</sup> Similar to the proposed route, this route would use existing roads and utility rights-of-way, would maximize use of open lands and ridgelines, and would reduce the crossing of extremely mountainous terrain. Based on staff's desktop analysis, assuming a nominal 95-foot-wide construction right-of-way, an approximate 200-mile-long pipeline route would affect about 2,300 acres of land, 286 fewer acres than the proposed route.<sup>348</sup>

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<sup>343</sup> *Id.* at 54.

<sup>344</sup> Final EIS at 3-10.

<sup>345</sup> *Id.*

<sup>346</sup> *Id.*

<sup>347</sup> *Id.* This estimate was based on a route originating near Malin, Oregon proceeding due west along the Oregon-California border, turning southwest north of Dorris, California and generally following highway 97, before turning due west near Mt. Hebron, California to Yreka, California, and then proceeding in a southwest direction to just south of Weitchpec, California, continuing southwesterly to a location about 10 miles east of Eureka, California, and finally proceeding west to Humboldt Bay. *Id.*

<sup>348</sup> The proposed pipeline construction right-of-way is approximately 229 miles long, not including temporary extra work areas, contractor and pipe storage yards, access

A pipeline from Malin to Humboldt Bay would cross at least 110 miles of forested and mountainous terrain, resulting in impacts of about 1,265 acres, 394.3 acres fewer than the proposed route.<sup>349</sup> This alternative pipeline route would also cross a similar number of major waterbodies.

110. Based on these estimates, Commission staff expected the terminal site at Humboldt Bay would not offer any environmental advantages and the associated pipeline would offer only minor environmental advantages compared to the proposed terminal location and pipeline route. Therefore, the alternative would not offer a significant environmental advantage over the proposed action. As stated in the Final EIS, staff does not recommend adopting an alternative that is environmentally comparable or results in minor advantages but merely shifts the projects impacts from one set of landowners to another.<sup>350</sup>

111. In addition, we also find based on a review of the record that this alternative is not feasible. According to Jordan Cove, the bay lacks an available parcel or combination of parcels equaling the approximately 200 acres needed for an LNG terminal site.<sup>351</sup> Accordingly, we affirm Commission staff's determination concerning the Humboldt Bay Site alternative in the Final EIS.

### **iii. Alternative Slip and Berth Size**

112. Sierra Club contends that the Commission should have considered alternatives that would have reduced the size of the proposed slip and berth to the minimum necessary to accommodate the largest carriers that the terminal is authorized to use.<sup>352</sup> Sierra Club notes that Jordan Cove will dredge the terminal slip to accommodate LNG carriers as large as 217,000 m<sup>3</sup> in capacity, but the largest carrier visiting the terminal is expected to be 148,000 m<sup>3</sup> in capacity.<sup>353</sup> Sierra Club claims that it appears that 148,000 m<sup>3</sup> carriers are roughly 15 percent shorter in length and have lower drafts than 217,000 m<sup>3</sup>

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roads, and aboveground facilities, and would impact approximately 2,586 acres of land. *Id.* at 4-437.

<sup>349</sup> The approved route, including the incorporation of the Blue Ridge Variation, would impact 1,659.3 acres of mountainous and forested terrain. *Id.* at 3-28, 4-437.

<sup>350</sup> *Id.* at 3-3.

<sup>351</sup> Jordan Cove DEIS Comments at Attachment A, 4 (July 5, 2019).

<sup>352</sup> Sierra Club Rehearing Request at 45-47.

<sup>353</sup> *Id.* at 46.

carriers.<sup>354</sup> Sierra Club acknowledges that the Final EIS indicates that the Coast Guard confirmed that the proposed slip width is needed for safety purposes, but the Commission failed to fully explain this determination and otherwise ignored slip length.<sup>355</sup>

113. The lengths, widths, and drafts of the existing LNG carrier fleet vary depending on design and manufacturer. These variations in ship size occur across all carrier types, even among carriers with similar LNG storage capacities. The Coast Guard indicated that the waterway is suitable to receive LNG carriers with up to 148,000 m<sup>3</sup> nominal capacities.<sup>356</sup> Based on publicly and privately available data on LNG carriers currently operating in the global market, the difference in length between the carriers of this nominal capacity and vessels with capacities of 217,000 m<sup>3</sup> is between approximately 60 and 85 feet (6-8%), and the respective difference in drafts is about 2.5 feet. Setting aside other site-specific factors including channel and tidal characteristics in which affect slip design, reducing the slip length by up to 85 feet and the depth by 2.5 feet would reduce the slip size by less than two acres<sup>357</sup> and the volume of excavated soil by about 6,300 yards,<sup>358</sup> neither of which would result in a significant environmental advantage when compared to the proposed action.<sup>359</sup> Therefore, based on this minor difference in vessel lengths and drafts, and resulting environmental impacts, staff determined, and we agree, that an alternative slip design assessment would not offer a significant environmental advantage over the proposed action.

#### iv. Eliminating the Emergency Lay Berth Alternative

114. Sierra Club next argues that the Commission failed to explore an alternative that omitted the proposed emergency vessel lay berth from the slip, which provides a place to

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<sup>354</sup> *Id.*

<sup>355</sup> *Id.* (citing app. R, pt. 3, SA2-389).

<sup>356</sup> Final EIS at 4-91.

<sup>357</sup> Commission staff calculated this figure using the following formula: reduced slip length (85 feet) x proposed slip width (800 feet) = 68,000 feet<sup>2</sup> / 43,560 feet<sup>2</sup> per acre = 1.6 acres.

<sup>358</sup> Commission staff calculated this figure using the following formula: reduced slip area (68,000 feet<sup>2</sup>) x reduced depth of excavation (2.5 feet) = 170,000 cubic feet / 27 cubic feet per yard = 6,296 yards.

<sup>359</sup> The proposed slip size is 52 acres. *See* Resource Report 1 at 33. The slip will also result in 3.8 million cubic yards of dredged material. EIS at 2-17.

store a disabled carrier.<sup>360</sup> Sierra Club questions whether this feature is needed, and states that no other LNG terminal in the United States includes a lay berth.<sup>361</sup>

115. Jordan Cove indicated that, in response to U.S. Coast Guard concerns, it included the emergency lay berth to mitigate the scenario where a temporarily non-operational LNG carrier needed to be berthed during a port call.<sup>362</sup> The Coast Guard assists the Commission in evaluating whether an applicant's proposed waterway would be suitable for LNG marine vessel traffic;<sup>363</sup> accordingly, the Commission defers to the Coast Guard as the recognized safety experts on the need for the lay berth to ensure safe operations.

116. Moreover, we note that eliminating the lay berth would not reduce the overall slip size or result in a significant environmental advantage. The lay berth and operational berth are both located on either side of a U-shaped slip. Although the lay berth is located within the slip, it does not actually enlarge the slip. Thus, eliminating the lay berth would not reduce the overall slip size, which in turn would not significantly reduce the environmental impact of the project. An alternative that does not reduce an environmental impact would not result in a significant environmental advantage when compared to the proposed project component. Finally, any reduction in the slip width to eliminate a lay berth would negatively impact safely docking LNG vessels.<sup>364</sup>

**v. The Shoreline Berth Alternative**

117. Sierra Club alleges that the Commission improperly eliminated the "shoreline berth" or shoreside berth, because it would require more acres of dredging, and, therefore, not offer a significant environmental advantage.<sup>365</sup> Sierra Club argues that the Commission ignored the volume of dredged material, the needed depth of dredging, and the changes to the river floor.<sup>366</sup> Moreover, Sierra Club asserts that eliminating the alternative based on dredging alone ignores the extensive excavation, spoil disposal, and

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<sup>360</sup> Sierra Club Rehearing Request at 48.

<sup>361</sup> *Id.*

<sup>362</sup> Jordan Cove Resource Report 1 at 11.

<sup>363</sup> Final EIS at 4-739.

<sup>364</sup> *Id.* at Appendix R, pt. 3, SA2-389.

<sup>365</sup> Sierra Club Rehearing Request at 48-49.

<sup>366</sup> *Id.* at 49.

hydrologic and biological impacts associated with the slip.<sup>367</sup> Sierra Club also argues that the Commission should have considered the shoreline berth sized for 148,000 m<sup>3</sup> carriers.<sup>368</sup>

118. The Commission fully considered the shoreline berth and appropriately eliminated the alternative on multiple grounds.<sup>369</sup> The EIS determined that a shoreside berth alternative would not result in a significant environmental advantage because it would require essentially the same amount of in-water dredging than the proposed configuration and may require additional dredging for the second emergency lay berth.<sup>370</sup> Smaller berths, sized for 148,000 m<sup>3</sup> carriers, may reduce the amount of dredging slightly,<sup>371</sup> but this decrease would not result in a significant environmental advantage. Contrary to Sierra Club's claim that the Final EIS only considers dredging when eliminating the alternative, the Final EIS also eliminates the alternative due to safety and reliability concerns.<sup>372</sup> The shoreline berth alternative would place docked LNG carriers in the direct path of other vessel traffic navigating north up the river along an outside bend in the channel and put the carrier in danger of collision from other vessels.<sup>373</sup> As required by NEPA, the Final EIS examines this alternative but eliminated it from further consideration due to these safety and environmental impacts. Accordingly, we find that the Final EIS appropriately eliminates this alternative.

**vi. The Waste Heat Recovery Alternative**

119. Sierra Club argues that the Commission should have considered alternatives that would require Jordan Cove to use waste heat to generate all electricity needed for the terminal.<sup>374</sup> Operating the LNG terminal would require approximately 39.2 megawatts

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<sup>367</sup> *Id.*

<sup>368</sup> *Id.*

<sup>369</sup> Final EIS at 3-16 to 3-17.

<sup>370</sup> *Id.* at 3-16.

<sup>371</sup> *See supra* at P 113.

<sup>372</sup> Final EIS at 3-16 to 3-17.

<sup>373</sup> *Id.*

<sup>374</sup> Sierra Club Rehearing Request at 50.

(MW) (holding mode) and 49.5 MW (loading mode) of electricity.<sup>375</sup> As Sierra Club acknowledges, Jordan Cove will already use waste heat to generate a portion of electricity at the terminal.<sup>376</sup> Jordan Cove will operate three, 30-MW steam turbine generators to provide 24.4 MW of power and an auxiliary boiler when two or more heat steam recovery generators are offline for maintenance.<sup>377</sup> Steam for use by the steam turbine generators will be generated by heat recovery steam generators, using exhaust from the LNG refrigerant compression gas turbine drivers.<sup>378</sup> Jordan Cove will supply the remaining 15 to 26 MW of electricity using a connection with the local power grid.<sup>379</sup> Sierra Club asks that the Commission consider using gas turbine exhaust energy as a fuel source alternative, but, as discussed, Jordan Cove already plans to use this technology to generate electricity.<sup>380</sup> Commission staff determined, and we agree, that supplying all facility power through waste heat is not feasible.

**c. Pipeline Route Alternatives**

120. Ms. McCaffree argues that the Commission failed to consider reasonable route alternatives that she previously raised. In her request, Ms. McCaffree fails to describe these routes and instead cites accession numbers to exhibits to previous comments.<sup>381</sup> As discussed, the Commission has rejected attempts to incorporate by reference arguments from a prior pleading because such incorporation fails to inform the Commission as to which arguments from the referenced pleading are relevant and how they are relevant.<sup>382</sup> Accordingly, we dismiss her request.<sup>383</sup>

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<sup>375</sup> Final EIS at 2-8.

<sup>376</sup> Sierra Club Rehearing Request at 50.

<sup>377</sup> Jordan Cove Resource Report 1 at 32; May 2, 2019 Supplemental Filing at 6; Jordan Cove Application at 7.

<sup>378</sup> Jordan Cove Resource Report 1 at 27-28, 32.

<sup>379</sup> Final EIS at 2-8.

<sup>380</sup> Sierra Club Rehearing Request at 50.

<sup>381</sup> McCaffree Rehearing Request at 34.

<sup>382</sup> *See supra* PP 15, 17.

<sup>383</sup> Moreover, Ms. McCaffree's cited submissions during the NEPA process do not describe or clearly show her preferred alternatives.



**D. Connected Actions**

121. Ms. McCaffree states that the Commission failed to analyze the Port of Coos Bay's proposed Coos Bay Section 408/204(f) Channel Modification as a connected action together with Jordan Cove's proposals in a single EIS.<sup>384</sup> As noted in the Final EIS, the Port of Coos Bay is in the engineering and design phase for several proposed activities that make up the proposed Coos Bay Section 408/204(f) Channel Modification to improve navigation efficiency, reduce shipping transportation costs, and facilitate the shipping industry's transition to larger, more efficient vessels.<sup>385</sup> The Port of Coos Bay would dredge 15.5 million cubic yards of material from several miles of the channel over the course of three years.<sup>386</sup> The Port of Coos Bay's planned Channel Modification must be authorized by the Corps, which is preparing a separate EIS.<sup>387</sup>

122. Pursuant to CEQ regulations, "connected actions" include actions that: (a) automatically trigger other actions, which may require an EIS; (b) cannot or will not proceed without previous or simultaneous actions; or (c) are interdependent parts of a larger action and depend on the larger action for their justification.<sup>388</sup> Connected actions "are closely related and therefore should be discussed in the same impact statement."<sup>389</sup> In evaluating whether multiple actions are, in fact, connected actions, courts have employed a "substantial independent utility" test, which the Commission finds useful for determining whether the three criteria for a connected action are met. The test is articulated variously as "whether one project will serve a significant purpose even if a

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<sup>384</sup> McCaffree Rehearing Request at 29-31.

<sup>385</sup> Final EIS at 4-832, tbl.4.14-2 n.b/.

<sup>386</sup> *Id.* at 4-836.

<sup>387</sup> *Id.*

<sup>388</sup> 40 C.F.R. § 1508.25(a)(1) (2019).

<sup>389</sup> *Id.*

second related project is not built”<sup>390</sup> or whether “each of two projects would have taken place with or without the other.”<sup>391</sup>

123. Ms. McCaffree asserts that the Coos Bay Section 408/204(f) Channel Modification is largely dependent upon funding from Jordan Cove and that Jordan Cove may substantially increase its exports because the Channel Modification will enable more vessel traffic.<sup>392</sup> Based on these assertions, Ms. McCaffree concludes that without the Jordan Cove LNG Terminal, the Coos Bay Section 408/204(f) Channel Modification has no independent utility and would not exist, and that without the Channel Modification, the Jordan Cove LNG Terminal might not support a final investment decision and would not likely be built.<sup>393</sup>

124. Ms. McCaffree’s allegations of mutual benefit do not prove that the Jordan Cove LNG Terminal and the Coos Bay Section 408/204(f) Channel Modification are connected actions under NEPA. On May 10, 2018, the Coast Guard issued a revised Letter of Recommendation indicating that the Coos Bay Federal Navigation Channel as it is currently maintained would “be considered suitable for accommodating the type and frequency of LNG marine traffic associated with [the Jordan Cove LNG Terminal].”<sup>394</sup> On November 7, 2018, the Coast Guard confirmed that vessel transit simulation studies conducted by Jordan Cove demonstrated that Jordan Cove could use any class of LNG carrier with physical dimensions equal to or smaller than those observed during the simulated transits.<sup>395</sup> The Port of Coos Bay has an independent interest in the benefits

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<sup>390</sup> *Coal. on Sensible Transp., Inc. v. Dole*, 826 F.2d 60, 69 (D.C. Cir. 1987). See also *O’Reilly v. U.S. Army Corps of Eng’rs*, 477 F.3d 225, 237 (5th Cir. 2007) (defining independent utility as whether one project “can stand alone without requiring construction of the other [projects] either in terms of the facilities required or of profitability”).

<sup>391</sup> *Earth Island Inst. v. U.S. Forest Serv.*, 351 F.3d 1291, 1305 (9th Cir. 2003) (internal citation omitted).

<sup>392</sup> McCaffree Rehearing Request at 30. Ms. McCaffree contends that the entrance to the Charleston Harbor along the vessel route is 0.3 feet too shallow to allow an LNG tanker with a loaded draft of 40 feet to safely transit unless the Channel Project widens and deepens the channel to accommodate a safety-related 10% under-keel clearance. *Id.* at 25-26.

<sup>393</sup> *Id.* at 30-31.

<sup>394</sup> Final EIS at 1-15; 4-749 to 4-750.

<sup>395</sup> *Id.* at 1-15, 4-749 to 4-750.

from the Coos Bay Section 408/204(f) Channel Modification, such as facilitating the shipping industry's transition to larger, more efficient vessels,<sup>396</sup> because the number of calls at the port by deep-draft vessels has declined from more than 300 per year in the late 1980s to about 200 in the late 2000s to just over 40 in 2015.<sup>397</sup> Based on these circumstances, we conclude that the Jordan Cove LNG Terminal and the Coos Bay Section 408/204(f) Channel Modification will each serve a significant purpose even if the other is not built and that each of two projects would have taken place with or without the other. Because these projects have substantial independent utility, they are not connected actions under NEPA.

125. We note that the Final EIS does consider potential impacts from the Coos Bay Section 408/204(f) Channel Modification in the Final EIS' discussion of cumulative impacts.<sup>398</sup> As discussed in the Final EIS, these impacts are temporary, and none amount to significant environmental impacts.<sup>399</sup> Ms. McCaffree takes no issue with this analysis.

## **E. Environmental Justice**

### **1. Identifying Environmental Justice Populations**

126. Executive Order 12898 requires that specified federal agencies make achieving environmental justice part of their missions by identifying and addressing, as appropriate, disproportionately high and adverse human or environmental health effects of their programs, policies, and activities on minorities and low income populations (environmental justice populations).<sup>400</sup> The Commission is not one of the specified

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<sup>396</sup> *Id.* at 4-832, tbl.4.14-2 n.b/.

<sup>397</sup> *Id.* at 4-653.

<sup>398</sup> *Id.* at 4-828, 4-830 tbl.4.14-2, 4-834 to 4-837, 4-840 to 4-841, 4-843, 4-844, 4-847, 4-851.

<sup>399</sup> *Id.*

<sup>400</sup> Exec. Order No. 12898 §§ 1-101, 6-604, 59 Fed. Reg. 7629, at 7629, 7632 (Feb. 11, 1994). Identification of a disproportionately high and adverse impact on a minority or low-income population “does not preclude a proposed agency action from going forward, nor does it necessarily compel a conclusion that a proposed action is environmentally unsatisfactory.” Council on Environmental Quality, *Environmental Justice: Guidance Under the National Environmental Policy Act*, at 10 (1997) (CEQ 1997 Environmental Justice Guidance), <https://www.epa.gov/environmentaljustice/ceq-environmental-justice-guidance-under-national-environmental-policy-act>; Federal Interagency Working Group for Environmental Justice and NEPA Committee, *Promising Practices for EJ Methodologies in NEPA Reviews*, at 38 (2016) (quoting same),

agencies, and the provisions of Executive Order 12898 are not binding on this Commission. Nonetheless, in accordance with our usual practice, the Final EIS addresses environmental justice issues.<sup>401</sup> An agency's choice among reasonable analytical methodologies for an environmental justice analysis is entitled to deference.<sup>402</sup>

127. Consistent with guidance from the Council on Environmental Quality (CEQ) and the EPA, Commission staff analyzed the presence of minority and/or low-income populations; and whether impacts on human health or the environment would be disproportionately high and adverse for minority and low-income populations and appreciably exceed impacts on the general population or other comparison group.<sup>403</sup> NRDC asserts that the Final EIS undertakes a flawed methodology at both steps.<sup>404</sup>

128. To identify potential environmental justice populations that could be affected by geographic proximity to the project, Commission staff selected an area of analysis for the Jordan Cove LNG Terminal extending out a 3-mile radius from the center of the terminal site<sup>405</sup> and an area of analysis for the pipeline consisting of the 19 census tracts that would be crossed by the pipeline route and another census tract within 1 mile of the route.<sup>406</sup> Commission staff used information from EPA's Environmental Justice Mapping and Screening Tool (EJSCREEN) about low income and minority populations to inform its assessment of the potential presence of environmental justice communities in the chosen areas of analysis.<sup>407</sup> The Final EIS acknowledges that larger and more

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[https://www.epa.gov/sites/production/files/2016-08/documents/nepa\\_promising\\_practices\\_document\\_2016.pdf](https://www.epa.gov/sites/production/files/2016-08/documents/nepa_promising_practices_document_2016.pdf).

<sup>401</sup> See Final EIS at 4-622 to 4-629 & 4-646 to 4-650.

<sup>402</sup> *Sierra Club v. FERC*, 867 F.3d at 1368 (quoting *Cmtys. Against Runway Expansion, Inc. v. FAA*, 355 F.3d 678, 689 (D.C. Cir. 2004)).

<sup>403</sup> Final EIS at 4-623 (citing CEQ 1997 Environmental Justice Guidance and EPA, *Final Guidance For Incorporating Environmental Justice Concerns In EPA's NEPA Compliance Analysis*, at §§ 3.2.1-3.2.2. (1998), [https://www.epa.gov/sites/production/files/2015-02/documents/ej\\_guidance\\_nepa\\_epa0498.pdf](https://www.epa.gov/sites/production/files/2015-02/documents/ej_guidance_nepa_epa0498.pdf) (EPA 1998 Environmental Justice Guidance)).

<sup>404</sup> NRDC Rehearing Request at 88-92.

<sup>405</sup> Final EIS at 4-623.

<sup>406</sup> *Id.* at 4-646.

<sup>407</sup> *Id.* at 4-623, 4-647 to 4-649.

populated geographic areas can have the effect of masking or diluting the presence of concentrations of environmental justice populations.<sup>408</sup> Commission staff addressed this problem by separately reviewing data for the 10 identified census tracts fully or partially located within 3 miles of the areas that would be disturbed during construction of the LNG terminal.<sup>409</sup> The Final EIS finds that low-income and minority environmental populations are present within 3 miles of the Jordan Cove LNG Terminal and along portions of the Pacific Connector Pipeline route, including the census tract where the Klamath Compressor Station will be located.<sup>410</sup>

129. NRDC claims that the Commission failed to recognize the limits of the EJSCREEN tool.<sup>411</sup> NRDC points to the EPA’s disclaimer that the EJSCREEN tool is “a pre-decision screening tool, and was not designed to be the basis for agency decision making or determinations regarding the existence or absence of EJ concerns.”<sup>412</sup>

130. As described above, Commission staff appropriately used the EJSCREEN tool as a pre-decision screening tool to assess the potential presence of environmental justice populations within Commission staff’s chosen areas of analysis. The Final EIS and the Commission did not use the EJSCREEN tool as the sole basis for agency decision making or determinations regarding the existence or absence of environmental justice concerns. NRDC cites to an earlier comment addressing the EJSCREEN tool,<sup>413</sup> but such incorporation by reference is improper and is dismissed.<sup>414</sup>

131. NRDC criticizes the Final EIS for providing other demographic indicators from EJSCREEN besides minority populations and income—i.e., linguistic isolation, education, and age—as “context” without explaining whether this information plays any role in the analysis.<sup>415</sup>

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<sup>408</sup> *Id.* at 4-623.

<sup>409</sup> *Id.*

<sup>410</sup> *Id.* at 4-626 to 4-627, 4-647 to 4-648.

<sup>411</sup> NRDC Rehearing Request at 99.

<sup>412</sup> *Id.* (quoting EPA, *EJSCREEN: Technical Documentation 9* (Aug. 2017)).

<sup>413</sup> *Id.* (citing NRDC July 5, 2019 Comments on the Draft EIS, attachment 1 (report of Dr. Ryan Emanuel)).

<sup>414</sup> *See supra* P 15.

<sup>415</sup> NRDC Rehearing Request at 93.

132. We disagree with NRDC's assertion that this information creates confusion and ambiguity.<sup>416</sup> The additional data in EJSCREEN are considered potential indicators of vulnerable populations.<sup>417</sup> The Final EIS appropriately provides this information to give the Commission and the public a more complete understanding of the populations potentially affected by the project, even if the additional demographic indicators do not directly inform the required environmental justice analysis under Executive Order 12898.

133. NRDC contends that the approach in the Final EIS to combine all minority populations together treats people of color as interchangeable, conflates distinct environmental justice concerns, and produces flawed results.<sup>418</sup> NRDC states that the approach fails to account for discrete minority populations that are too small to constitute a minority environmental justice population but are nonetheless large relative to the overall population of that minority group in the statewide reference community in Oregon.<sup>419</sup> NRDC points to the Native American population as an example, and NRDC asserts that the Final EIS' methodology leaves no way to detect other minority groups that would be similarly overlooked by the Final EIS' methodology.<sup>420</sup>

134. We disagree that the approach used in the Final EIS to identify minority environmental justice populations was flawed. NRDC cites no authority for its criticism of the combined treatment of all minority populations. As noted in the Final EIS, the implementing guidance documents for Executive Order 12898 support the chosen approach. These guidance documents define a minority environmental justice population to be a population where the minority population comprises more than 50% of the total population or comprises "a meaningfully greater share" than an appropriate reference community.<sup>421</sup> A minority population exists if there is "more than one minority group

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<sup>416</sup> *Id.*

<sup>417</sup> Final EIS at 4-623.

<sup>418</sup> NRDC Rehearing Request at 92.

<sup>419</sup> *Id.*

<sup>420</sup> *Id.*

<sup>421</sup> EIS at 4-622, 4-625; CEQ 1997 Environmental Justice Guidance at 25; EPA 1998 Environmental Justice Guidance at 15; Federal Interagency Working Group for Environmental Justice and NEPA Committee, *Promising Practices for EJ Methodologies in NEPA Reviews* at 21-25 (2016)). Consistent with recent guidance that the "meaningfully greater" analysis "requires use of a reasonable, subjective threshold (e.g., ten or twenty percent greater than the reference community)," Commission staff applied a threshold of 20% in the Final EIS analysis. Final EIS at 4-625 n.205 (quoting

present and the minority group percentage, as calculated by aggregating all minority persons, meets one of the above-stated thresholds.”<sup>422</sup> Thus the approach to aggregate minority populations increases the likelihood that an agency will determine a given population to be a minority environmental justice population and will then undertake additional review for disproportionate impacts.<sup>423</sup> Although Native Americans comprise a small share of the local population, the Final EIS treats Tribal populations as an environmental justice population with the potential to be disproportionately affected by the construction and operation of the LNG terminal and pipeline due to scoping comments, Tribal involvement during the review process, and their history and culture.<sup>424</sup> This extension of the environmental justice analysis does not indicate that the general methodology was flawed and instead shows that staff considered factors other than EJSCREEN when determining environmental justice populations. NRDC does not identify any other minority group that may have been improperly overlooked by the Final EIS’ methodology, and we are aware of none.

135. NRDC states that although the Final EIS acknowledges that unique issues affect the Native American population, this does not inform the Final EIS’ analysis of disproportionate impacts, which extends only to a discussion of low-income environmental justice populations.<sup>425</sup> NRDC states that the Final EIS did not and could not disclose information necessary for a reader to understand and to provide informed comment about the Jordan Cove LNG Terminal’s impact on Native Americans and cultural resources because the Commission’s consultations with Native American communities and with the Oregon SHPO remain pending.<sup>426</sup>

136. The discussion of Native American populations in the environmental justice section of the Final EIS appropriately acknowledges the potential for these populations to be disproportionately affected but concluded that this potential would be similar to that

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Federal Interagency Working Group for Environmental Justice and NEPA Committee, *Promising Practices for EJ Methodologies in NEPA Reviews* at 25 (2016)).

<sup>422</sup> Final EIS at 4-622 (quoting CEQ 1997 Environmental Justice Guidance at 26).

<sup>423</sup> Although the minority population reported in the FEIS is an aggregate, the EJSCREEN-census reports allowed Commission staff to review individual minority populations and we determined that “sub-groups” were not distinctive requiring further designation, with the exception of Native Americans.

<sup>424</sup> *Id.* at 4-626, 4-649.

<sup>425</sup> NRDC Rehearing Request at 93.

<sup>426</sup> *Id.*

described for low-income populations.<sup>427</sup> For Native American populations, unlike other environmental justice populations, Commission staff appropriately consulted with Native American tribes under section 106 of the National Historic Preservation Act (NHPA).<sup>428</sup> For this reason, the Final EIS in the environmental justice section directs the reader to the other portions of the Final EIS that discuss consultations with Indian tribes, the potential project-related impacts on cultural and other resources that may be important to tribes, and the Commission staff's recommended conditions to mitigate those impacts.<sup>429</sup> NRDC cites no requirement that the Final EIS discuss all of these matters in one location, and there is no such requirement.

## **2. Identifying Disproportionately High and Adverse Impacts**

137. NRDC takes issue with the conclusions in the Final EIS that even the projects' greatest anticipated impacts (to visual resources, noise, and housing supply) would not result in disproportionately high and adverse impacts to environmental justice populations.<sup>430</sup>

138. The Final EIS anticipates that the Jordan Cove LNG Terminal's moderate to high visual impacts will affect residents in census tracts 4 and 5.03.<sup>431</sup> Data for the narrower census block groups<sup>432</sup> within these census tracts revealed that although census tract 4 as a whole had not been identified as a potential low-income population, one of the portions of census tract 4 subject to visual impacts would meet the definition of a low-income population.<sup>433</sup> The visual impacts at the relevant location would be moderate rather than

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<sup>427</sup> Final EIS at 4-629, 4-649.

<sup>428</sup> See *infra* PP 150-162 (discussing cultural resources).

<sup>429</sup> Final EIS at 4-629, 4-649 to 4-650.

<sup>430</sup> NRDC Rehearing Request 90-91 (citing Final EIS at 4-627 to 4-629; 4-469 to 4-650).

<sup>431</sup> Final EIS at 4-628.

<sup>432</sup> Census block groups are statistical divisions of census tracts, generally defined to contain between 600 and 3,000 people. A census block group consists of clusters of census blocks, the smallest geographic area that the Census Bureau uses to tabulate decennial data. Federal Interagency Working Group for Environmental Justice and NEPA Committee, *Promising Practices for EJ Methodologies in NEPA Reviews* at 22 n.10 (2016); *id.* at 23 n.11.

<sup>433</sup> Final EIS at 4-628 n.209.



high.<sup>434</sup> Data for the census block groups revealed the opposite for census tract 5.03: although census tract 5.03 as a whole had been identified as a potential low-income population, the portion of census tract 5.03 subject to visual impacts would not meet the definition of a low income population.<sup>435</sup> The Final EIS concludes that visual impacts on low-income populations in all affected residential areas would not be disproportionately high and adverse when compared to other affected residents.<sup>436</sup>

139. The Final EIS anticipates that the Jordan Cove LNG Terminal's significant construction noise impacts will potentially affect residents in census tracts 4, 5.02, and 5.03.<sup>437</sup> Data for the narrower census block groups within these census tracts reveals that the portions of the census tracts near the shorelines, i.e., the portions subject to the greatest construction noise impacts, do not meet the definition of a low-income population.<sup>438</sup> The Final EIS concludes that noise impacts on low-income populations in affected residential areas would not be disproportionately high and adverse when compared to other affected residents.<sup>439</sup>

140. The Final EIS anticipates that the pipeline's construction and operation impacts, such as emissions from construction equipment, increased dust and noise, and increased local traffic, would not significantly affect the environment, would be temporary and localized, and with mitigation in place are not expected to result in high and adverse human health or environmental effects on any nearby communities.<sup>440</sup> The Final EIS acknowledges the presence of environmental justice populations in the census tracts crossed by the pipeline route and concludes that "the likelihood that these potential environmental justice and vulnerable populations [including tribal populations] will be disproportionately affected relative to other populations in the census tracts crossed by the pipeline is low."<sup>441</sup>

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<sup>434</sup> *Id.* at 4-628.

<sup>435</sup> *Id.* at 4-628 n.209.

<sup>436</sup> *Id.* at 4-628.

<sup>437</sup> *Id.*

<sup>438</sup> *Id.* at 4-628 n.210.

<sup>439</sup> *Id.* at 4-628.

<sup>440</sup> *Id.* at 4-649.

<sup>441</sup> *Id.* at 4-649 and 4-650.

141. NRDC asserts that the Final EIS provides no explanation why it uses the broader scale of a census tract to identify environmental justice populations near the LNG terminal and pipeline but pivots to use the narrower scale of census block groups to analyze the LNG terminal's potential disproportionate impact on the identified populations.<sup>442</sup> NRDC perceives a risk that the Commission's analysis can obscure the project's true effects on marginalized populations.<sup>443</sup> Because the Final EIS does not pivot to use census block groups to analyze the Pacific Connector Pipeline's potential disproportionate impacts to environmental justice communities, NRDC criticizes the different methodology as arbitrary and capricious.<sup>444</sup> NRDC states that census tracts in sparsely populated areas encompass larger land areas which, when incorporated into the environmental justice analysis, may lead to skewed results that mask the demographic and socioeconomic makeup of the populations living in closest proximity to the project, which matters for the potential disproportionate impact.<sup>445</sup> NRDC states that the Final EIS's failure to tailor its methodology to account for this methodological flaw renders the entire environmental justice analysis erroneous.<sup>446</sup>

142. The Final EIS reasonably tailors its methodology at each step of the environmental justice inquiry for each set of project activities and impacts. An agency's choice among reasonable analytical methodologies for an environmental justice analysis is entitled to deference.<sup>447</sup> At step one for both projects, the Final EIS uses the broader census tract, consistent with relevant guidance,<sup>448</sup> to identify potential environmental justice

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<sup>442</sup> NRDC Rehearing Request at 93-94.

<sup>443</sup> *Id.* at 94.

<sup>444</sup> *Id.* at 96-98.

<sup>445</sup> *Id.* at 96-98.

<sup>446</sup> *Id.* at 98.

<sup>447</sup> *Sierra Club v. FERC*, 867 F.3d at 1368 (quoting *Cmtys. Against Runway Expansion, Inc. v. FAA*, 355 F.3d at 689).

<sup>448</sup> *E.g.*, CEQ 1997 Environmental Justice Guidance at 26 ("the appropriate unit of geographic analysis may be a governing body's jurisdiction, a neighborhood, a census tract, or other similar unit that is chosen so as to not artificially dilute or inflate the affected minority population."); EPA 1998 Environmental Justice Guidance at 15 (same); Federal Interagency Working Group for Environmental Justice and NEPA Committee, *Promising Practices for EJ Methodologies in NEPA Reviews* at 27 (2016) ("Select an appropriate geographic unit of analysis (e.g., block group, census tract) for identifying low-income populations in the affected environment.").

populations.<sup>449</sup> At step two for the LNG terminal, the Final EIS rationally narrows the geographic scale using census block groups to more closely match the area of the visual and noise impacts that the Final EIS anticipates to pose high and adverse effects on human health or the environment.<sup>450</sup> Populations beyond this narrower area cannot possibly experience visual and noise impacts, so the composition of the broader populations is not relevant to the Commission's analysis. NRDC offers no support for its speculation that the Commission's closer analysis at step two for the LNG terminal could have obscured the project's true effects on marginalized populations.

143. The different methodology at step two for the pipeline was not arbitrary and capricious. It was not necessary for the Final EIS to narrow the geographic scale below the census tract because the Final EIS anticipates that the pipeline would pose no high and adverse effects on human health or the environment.<sup>451</sup> The Final EIS explains generally that a pipeline's impacts differ from a discrete facility, for which impacts are generally concentrated in one location, because a pipeline sequentially establishes or expands a narrow corridor often over long distances passing near populations with a variety of social and economic characteristics.<sup>452</sup> The Final EIS explains specifically that impacts from the Pacific Connector Pipeline will be localized, temporary, and mitigated.<sup>453</sup> The Final EIS explains that the pipeline route mostly crosses rural regions with low population densities, avoids towns and cities, and mostly follows the ridges through the mountains. NRDC offers no support for its speculation that the approach in the Final EIS masked the demographic and socioeconomic makeup of any population living in closest proximity to the pipeline and thus masked the potential disproportionate impact. And we find no support for this claim.

144. NRDC contends that the conclusions in the Final EIS that the LNG terminal's visual impacts on low-income populations would be "moderate"<sup>454</sup> and that both visual impacts and construction noise impacts "would not be disproportionately high and adverse when compared to other affected residents"<sup>455</sup> are conclusory statements that,

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<sup>449</sup> Final EIS at 4-625 to 4-627; 4-646 to 4-649.

<sup>450</sup> *Id.* at 4-627 to 4-628.

<sup>451</sup> *Id.* at 6-469.

<sup>452</sup> *Id.*

<sup>453</sup> *Id.*

<sup>454</sup> *Id.* at 4-628.

<sup>455</sup> *Id.*

without further analysis, do not satisfy NEPA and the Administrative Procedure Act (APA).<sup>456</sup> In a similar vein, NRDC asserts that the conclusion in the Final EIS that for the pipeline the likelihood of a disproportionate impact is low does not appear to be based on a qualitative or quantitative analysis of the data.<sup>457</sup> NRDC states that the Final EIS fails to recognize that equal exposure across differing populations can lead to disproportionate impacts to the environmental justice populations given pre-existing inequities.<sup>458</sup>

145. We disagree that the conclusions in the Final EIS are unsupported or improperly limited. The Final EIS explicitly acknowledges that step two of the review methodology addresses the questions whether a project's impact on human health or the environment would be disproportionately high and adverse for environmental justice communities and would appreciably exceed impacts on the general population or other comparison group.<sup>459</sup> To the latter question, there is no evidence in the record that the LNG terminal and pipeline would be sited, constructed, or operated in ways that unequally distribute exposure pathways, environmental consequences, and the resulting impacts<sup>460</sup> upon environmental justice populations and appreciably exceed impacts on the general population or a comparison group. We acknowledge that the apparently equal distribution of exposure pathways and environmental consequences, even if the resulting impacts would not be high to the broader affected population, can result in disproportionately high and adverse impacts to environmental justice populations.<sup>461</sup> But there is no basis to conclude, and NRDC offers none, that the identified low-income

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<sup>456</sup> NRDC Rehearing Request at 94.

<sup>457</sup> *Id.* at 98.

<sup>458</sup> *Id.* at 98-99.

<sup>459</sup> Final EIS at 4-623, 4-646.

<sup>460</sup> See Federal Interagency Working Group for Environmental Justice and NEPA Committee, *Promising Practices for EJ Methodologies in NEPA Reviews* at 29 (2016) (parsing terminology, an impact is the adverse or beneficial result of exposure pathways or other environmental consequence of the proposed action).

<sup>461</sup> See, e.g., Federal Interagency Working Group for Environmental Justice and NEPA Committee, *Promising Practices for EJ Methodologies in NEPA Reviews* at 39 (2016) (suggesting that agencies recognize that even where a project's impact "appears to be identical to both the affected general population and the affected minority populations and low-income populations," the impact might be amplified by population-specific factors, "e.g., unique exposure pathways, social determinants of health, community cohesion," making the impact disproportionately high and adverse).

environmental justice populations have a special sensitivity to the LNG terminal's significant visual resource impacts and construction noise or have a special sensitivity to the pipeline's localized, temporary, and mitigated impacts, such that a disproportionately high and adverse impact might result. The special sensitivity of the Native American population, as the only identified minority environmental justice population potentially affected by the projects, is addressed in other portions of the Final EIS, as noted in the environmental justice section of the Final EIS.<sup>462</sup> Accordingly, we deny rehearing and find that the Commission engaged in a hard look at environmental justice to satisfy NEPA and explained the reasoning for its conclusions to satisfy the APA.

#### **F. Noise**

146. Jordan Cove and Pacific Connector seek clarification about the deadlines to take steps, if necessary, to control operating noise at the pipeline's Klamath Compressor Station.<sup>463</sup> Under Environmental Condition 34 of the Authorization Order, Pacific Connector must file a noise survey shortly after placing the Klamath Compressor Station into service. Pacific Connector may also be required to file a second noise survey for the Klamath Compressor Station shortly after placing all liquefaction trains at the Jordan Cove LNG Terminal into service. The results of either noise survey could trigger further steps to control the operating noise at the compressor station. Environmental Condition 34 states:

Pacific Connector shall file a noise survey with the Secretary no later than 60 days after placing the Klamath Compressor Station in service. If a full load condition noise survey is not possible, Pacific Connector shall provide an interim survey at the maximum possible horsepower load and provide the full load survey no later than 60 days after all liquefaction trains at the LNG Terminal are fully in service. If the noise attributable to the operation of all of the equipment at the Klamath Compressor Station under interim or full horsepower load conditions exceeds an Ldn of 55 dBA at any nearby NSAs, *Pacific Connector shall file a report on what changes are needed and shall install the additional noise controls to meet the level within 1 year of the in-service date.* Pacific Connector shall confirm compliance with the above requirement by filing a second noise survey with the

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<sup>462</sup> Final EIS at 4-629, 4-649 to 4-650 (providing cross-references to sections 4.9 and 4.11 of the EIS).

<sup>463</sup> Jordan Cove and Pacific Connector Rehearing Request at 28-31; Authorization Order, 170 FERC ¶ 61,202 at P 257; *id.* app., envtl. condition 34.

Secretary no later than 60 days after it installs the additional noise controls.<sup>464</sup>

147. Jordan Cove and Pacific Connector request that the Commission clarify that the deadline to file a report on what changes are needed and to install additional noise controls “within 1 year of the in-service date” refers to the two separate in-service dates that inform the deadlines for the two noise surveys: (1) the placement of the Klamath Compressor Station in service and (2) the later placement of all liquefaction trains at the Jordan Cove LNG Terminal fully in service.<sup>465</sup>

148. We grant clarification. We agree that the reference to the in-service date is ambiguous, as described above. The Commission intended to require that Pacific Connector complete further steps to control the operating noise at the Klamath Compressor Station, if necessary, within one year of the in-service date that immediately preceded the noise survey showing an exceedance of the Commission’s noise threshold. The Commission modifies Environmental Condition 34 to read:

Pacific Connector shall file a noise survey with the Secretary no later than 60 days after placing the Klamath Compressor Station in service. If a full load condition noise survey is not possible, Pacific Connector shall provide an interim survey at the maximum possible horsepower load and provide the full load survey no later than 60 days after all liquefaction trains at the LNG Terminal are fully in service. If the noise attributable to the operation of all of the equipment at the Klamath Compressor Station under interim or full horsepower load conditions exceeds an Ldn of 55 dBA at any nearby NSAs, Pacific Connector shall file a report on what changes are needed and shall install the additional noise controls to meet the level within 1 year of the in-service date *that immediately preceded the noise survey showing an exceedance*. Pacific Connector shall confirm compliance with the above requirement by filing a second noise survey

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<sup>464</sup> Authorization Order, 170 FERC ¶ 61,202, app., envtl. condition 34 (emphasis added).

<sup>465</sup> Jordan Cove and Pacific Connector Rehearing Request at 28. Jordan Cove and Pacific Connector note that the pipeline would go into service 18 months before the LNG terminal and would gradually increase flow as the LNG terminal is commissioned. *Id.* at 29.

with the Secretary no later than 60 days after it installs the additional noise controls.

### **G. Cultural Resources**

149. Petitioners contend that the Commission erred in issuing the Authorization Order while a number of issues pertaining to cultural resources remain unresolved.<sup>466</sup> Specifically, petitioners state that the Commission could not take a “hard look” at the projects’ impacts to cultural resources because “cultural resource surveys are not yet complete for the Jordan Cove LNG Terminal or the Pacific Connector Pipeline.”<sup>467</sup>

150. We disagree that the Final EIS for the projects is based on inadequate information. Although the Commission must consider and study environmental issues before approving a project, it does not require a definitive resolution of all environmental concerns before approving a project. NEPA does not require completion of every study or aspect of an analysis before an agency can issue a Final EIS and the courts have held that an agency does not need perfect information before it takes any action.<sup>468</sup>

151. The Authorization Order acknowledges that the Commission has not yet completed NHPA consultation;<sup>469</sup> consultation with Indian tribes, the Oregon SHPO, and other applicable agencies is still ongoing.<sup>470</sup> The Final EIS recommends, and Environmental Condition 30 of the Authorization Order states that the applicants may not begin construction of facilities or use of any staging, storage, temporary work areas, and new or to-be-improved access roads until: (1) the applicants file the remaining cultural resource survey reports, site evaluations and monitoring reports (as necessary), a revised ethnographic study, final Historic Properties Management Plans for both projects, a final

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<sup>466</sup> Confederated Tribes Rehearing Request at 18-22; Cow Creek Band Rehearing Request at 11-15; NRDC Rehearing Request at 93; Sierra Club Rehearing Request at 27-29; McCaffree Rehearing Request at 28.

<sup>467</sup> Confederated Tribes Rehearing Request at 18; Cow Creek Band Rehearing Request at 8-11.

<sup>468</sup> *U.S. Dep’t of the Interior v. FERC*, 952 F.2d 538, 546 (D.C. Cir. 1992); *State of Ala. v. Andrus*, 580 F.2d 465, 473 (D.C. Cir. 1978), *vacated in part sub. nom.*, *W. Oil & Gas Ass’n v. Ala.*, 439 U.S. 922 (1978) (“NEPA cannot be ‘read as a requirement that complete information concerning the environmental impact of a project must be obtained before action may be taken.’”) (citation omitted).

<sup>469</sup> Authorization Order, 170 FERC ¶ 61,202 at P 252; Final EIS at 4-684 to 4-686.

<sup>470</sup> Authorization Order, 170 FERC ¶ 61,202 at P 252; Final EIS at 5-9.

*Unanticipated Discovery Plan*, and comments from the SHPO, interested Indian tribes, and applicable federal land-managing agencies; (2) the Advisory Council on Historic Preservation (Advisory Council) is afforded an opportunity to comment on the undertaking; and (3) Commission staff reviews and approves all cultural resources reports, studies, and plans, and notifies the applicants in writing that treatment plans may be implemented and/or construction may proceed.<sup>471</sup>

152. The Authorization Order further acknowledges that cultural resource surveys are not yet complete for the Jordan Cove LNG Terminal or the Pacific Connector Pipeline.<sup>472</sup> However, surveys that the applicants have completed identified cultural sites that the applicants must monitor during construction or otherwise mitigate prior to construction.<sup>473</sup> In addition, if the applicants cannot avoid identified cultural sites, the applicants must conduct further studies and testing.<sup>474</sup>

153. The Authorization Order explains that the Final EIS concludes that construction and operation of the projects would have adverse effects on historic properties, but that an agreement document, discussed further below, would be developed with the goal of resolving those impacts.<sup>475</sup>

**1. Issuance of Certificate Order Prior to Completing Section 106 Consultation**

154. Petitioners contend that issuing the Authorization Order prior to completing a finalized Memorandum of Agreement (MOA) pursuant to the NHPA, an Unanticipated Discovery Plan, and all cultural surveys is inconsistent with the requirements of the NHPA and NEPA.<sup>476</sup> Confederated Tribes and Cow Creek Band also express concern about issuing the Authorization Order prior to completing consultation, stating that that approach does not meet the requirement to take a hard look at cultural resources;

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<sup>471</sup> Authorization Order, 170 FERC ¶ 61,202 at app., envtl. condition 30.

<sup>472</sup> Authorization Order, 170 FERC ¶ 61,202 at P 251; Final EIS at 4-678 to 4-683 and 5-9.

<sup>473</sup> Authorization Order, 170 FERC ¶ 61,202 at P 251, app., envtl. condition 30; Final EIS at 5-9.

<sup>474</sup> Authorization Order, 170 FERC ¶ 61,202 at P 251; Final EIS at 5-9.

<sup>475</sup> Authorization Order, 170 FERC ¶ 61,202 at P 253; Final EIS at 5-9.

<sup>476</sup> Sierra Club Rehearing Request at 27-28; Confederated Tribes Rehearing Request at 18-22; Cow Creek Band Rehearing Request at 15-19.



challenge the adequacy of the consultation completed; and contend that instead of entering an MOA, the Commission should have pursued a Programmatic Agreement.<sup>477</sup> Ms. McCaffree argues that the Authorization Order should not have been issued prior to completing the Historic Properties Management Plan, and in particular, that the order should have considered impacts to the McCullough Bridge.<sup>478</sup> Confederated Tribes contend that the updates to the ethnographic survey should have been completed prior to the issuance of the Authorization Order and that the cultural resources surveys should have been completed earlier in the review process.<sup>479</sup> Similarly, NRDC contends that because the Commission has not completed consultation under NHPA, the Authorization Order's consideration of environmental justice concerns is insufficient.<sup>480</sup>

155. The Commission has previously affirmed that a conditional certificate could be issued prior to completion of cultural resource surveys and consultation procedures required under NHPA because construction activities would not commence until surveys and consultation are complete,<sup>481</sup> consistent with the D.C. Circuit's decision in *City of Grapevine, Tex. v. Dep't of Transp.*, holding that the FAA properly conditioned approval of a runway project upon the applicant's subsequent compliance with the NHPA.<sup>482</sup> The prohibition on construction in the Authorization Order's Environmental Condition 30 ensures that there can be no effect on historic properties until there has been full compliance with the NHPA.<sup>483</sup>

156. With respect to the potential impacts to McCullough Bridge, we note that table L-14 of the Final EIS states that the bridge was listed on the National Register of Historic Places in 2005 and is located within or adjacent to the Pacific Connector Area of

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<sup>477</sup> Confederated Tribes Rehearing Request at 15, 22, 25, 27, 29; Cow Creek Rehearing Request at 4-7, 15-24.

<sup>478</sup> McCaffree Rehearing Request at 28.

<sup>479</sup> Confederated Tribes Rehearing Request at 15, 18.

<sup>480</sup> NRDC Rehearing Request at 93.

<sup>481</sup> See generally *Iroquois Gas Transmission System, L.P.*, 53 FERC ¶ 61,194, at 61,758-64 (1990).

<sup>482</sup> 17 F.3d at 1509 (upholding the agency's conditional approval because it was expressly conditioned on the completion of section 106 process).

<sup>483</sup> See *City of Grapevine*, 17 F.3d at 1509 (upholding Federal Aviation Administration's approval of a runway conditioned upon the applicant's completion of compliance with the NHPA).

Potential Effect (APE) but concludes that Pacific Connector will avoid the site by horizontal directional drilling. Accordingly, we find that further consultation with respect to the McCullough Bridge will not be required.

157. The Commission's approach appropriately respects the integration of the various requirements for natural gas infrastructure, including the NGA, the NHPA, and NEPA. We believe this approach is consistent with the court's conclusion in *Mid States Coalition for Progress v. Surface Transportation Board* that while "an agency may not require consultation in lieu of taking its own 'hard look' at the environmental impact of a project, we do not believe that NEPA is violated when an agency, after preparing an otherwise valid Final EIS, imposes consultation requirements in conjunction with other mitigating conditions."<sup>484</sup>

158. Finally, the Commission will complete consultation and enter into an agreement with Oregon SHPO, the Advisory Council, the applicants, federal land-managing agencies, and consulting Indian tribes to resolve any adverse impacts to historic properties prior to authorizing construction.<sup>485</sup> We disagree that we must complete consultation under the NHPA prior to analyzing the environmental justice impacts of a proposed project; and, petitioners cite no requirement under the NHPA that mandates this result.

## **2. Traditional Cultural Property Historic District**

159. Jordan Cove and Pacific Connector assert that the Authorization Order erred in failing to undertake an independent review of the Oregon SHPO's finding of eligibility with respect to the proposed Traditional Cultural Property (TCP) historic district nominated by Confederated Tribes for listing in the National Register of Historic Places.<sup>486</sup> According to the petitioners, the Commission's acceptance of the Oregon SHPO's findings without an independent assessment amounts to a failure of reasoned decision-making. Petitioners also raise concerns about the Oregon SHPO's process for determining eligibility and identified some specific substantive issues with the TCP

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<sup>484</sup> 345 F.3d 520, 554 (8th Cir. 2003).

<sup>485</sup> See Authorization Order, 170 FERC ¶ 61,202 at P 259 (citing Final EIS at 5-9). Commission staff's draft agreement document was characterized as a draft MOA. In accordance with the Advisory Council's January 15, 2020 Comments on the draft MOA, the final agreement document will be characterized as a Programmatic Agreement. See Advisory Council's January 15, 2020 Comment on the MOA at 25-26.

<sup>486</sup> Jordan Cove and Pacific Connector Rehearing Request at 5-17.

nomination. Relatedly, Confederated Tribes asks for clarification on the grounds for the TCP eligibility determination.<sup>487</sup>

160. For the purposes of conducting environmental review for the certificate proceeding, staff determined that the TCP nomination met the eligibility criteria spelled out in 36 C.F.R. § 60.4 (2019). The Authorization Order explained that when the Commission determines if a property is eligible for listing on the National Register for Historic Properties, it does so in consultation with the SHPO, and that generally, the Commission agrees with the opinions of the SHPO on findings of eligibility.<sup>488</sup> In this case, that consultation has yet to conclude. The Authorization Order noted that the National Park Service rejected the SHPO's nomination of the TCP as property eligible for listing.<sup>489</sup> However, the National Park Service stated that its rejection was based on procedural grounds and substantive deficiencies that the SHPO could cure if it resubmits the eligibility determination for the TCP.<sup>490</sup>

161. The Authorization Order specified that in making an eligibility determination, the Oregon SHPO considered arguments against the nomination raised by Jordan Cove and others.<sup>491</sup> Further, Commission staff acknowledged the objections to the nomination in the draft agreement document sent to the consulting parties for review on December 13, 2019.<sup>492</sup> Notwithstanding the fact that, as noted above, consultation with all parties on this issue is ongoing, we affirm our decision to agree with the eligibility determination made by the SHPO.

## **H. Vessel Traffic**

162. Ms. McCaffree asserts that the Commission failed to sufficiently consider the suitability of the Coos Bay Channel for vessel traffic to and from the Jordan Cove LNG Terminal, and failed to appropriately condition the order so as to require Jordan Cove's compliance with Coast Guard's requirements, as laid out in Coast Guard's May 10, 2018

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<sup>487</sup> Confederate Tribes Rehearing Request at 38-45.

<sup>488</sup> Authorization Order, 170 FERC ¶ 61,202 at P 283.

<sup>489</sup> *Id.* P 282.

<sup>490</sup> Oregon Parks and Recreation Department, State Historic Preservation Office July 26, 2019 Letter at 3-9 (containing National Park Service July 2, 2019 eligibility determination letter).

<sup>491</sup> *Id.* P 282.

<sup>492</sup> *Id.*

Letter of Recommendation.<sup>493</sup> Ms. McCaffree argues that, without ensuring Jordan Cove complies with Coast Guard’s Letter of Recommendation, the Coos Bay Channel is not a suitable waterway for the vessel traffic that would result from construction and operation of the Jordan Cove LNG Terminal.<sup>494</sup> Ms. McCaffree further states that because the Coos Bay Channel is narrow, operation of the Jordan Cove LNG Terminal, including vessel traffic, poses significant safety risks.<sup>495</sup>

163. As Commission staff stated in the Final EIS, “[t]he Coast Guard exercises regulatory authority over LNG marine vessels[.]”<sup>496</sup> Accordingly, the Commission has no authority to approve, disapprove, or otherwise condition the Coast Guard’s finding of whether or not a waterway is suitable to handle the vessel traffic attributable to an LNG terminal. As the Commission noted in the Authorization Order, on May 10, 2018, the Coast Guard “issued a Letter of Recommendation, indicating the Coos Bay Channel would be suitable for accommodating the type and frequency of LNG marine traffic associated with the Jordan Cove LNG Terminal.”<sup>497</sup> Similarly, the Department of Transportation’s Pipeline and Hazardous Materials Safety Administration (PHMSA) has authority to determine whether or not the siting of LNG facilities complies with federal safety standards.<sup>498</sup> While the Commission incorporates these determinations into assessing the safety risks associated with a proposed LNG terminal, it does not have the authority to make these determinations itself. If Ms. McCaffree has concerns regarding the Coast Guard’s Letter of Recommendation or Waterway Suitability Assessment for the Coos Bay Channel, she may file those concerns with the Coast Guard. Further, Environmental Condition 35 and 125 of the Authorization Order requires Jordan Cove and Pacific Connector to provide documentation that they have complied with DOT regulations and that the U.S. Coast Guard determines appropriate measures have been put into place by Jordan Cove or other appropriate parties prior to initial site preparation and commencement of construction, respectively.<sup>499</sup>

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<sup>493</sup> McCaffree Rehearing Request at 25-28.

<sup>494</sup> *Id.*

<sup>495</sup> *Id.* at 27-28.

<sup>496</sup> Final EIS at 7-744.

<sup>497</sup> Authorization Order, 170 FERC ¶ 61,202 at P 264.

<sup>498</sup> *Id.* P 265.

<sup>499</sup> *Id.* at app., envtl. conditions 35 and 125.

## **I. State and Local Economic Impacts**

164. Ms. McCaffree and the State of Oregon contend that the Commission failed to adequately consider negative state and local economic impacts to housing availability and cost, the tourism and recreation industry, the Dunes National Recreation area and Scenic Adventure Coast, commercial fishing, the commercial crab fishery, and recreational fishing.<sup>500</sup>

165. We believe we did consider these impacts in the Authorization Order. In considering socioeconomic impacts of the project, the Authorization Order acknowledged that construction of the Jordan Cove LNG Terminal and Pacific Connector Pipeline would impact socioeconomic resources including tourism, recreation, and fishing, and would cause significant impacts (additional usage) on short-term housing in Coos County.<sup>501</sup> The limited short-term housing availability that would occur as a result of construction of the projects could also affect tourism, as visitors would have to compete with construction workers for housing.<sup>502</sup> The projects could also affect supplemental subsistence activities, commercial fishing, and commercial oyster farms, but these impacts would not be significant.<sup>503</sup> The likelihood of the pipeline resulting in a long-term decline in property values is low.<sup>504</sup> The Authorization Order also found that the projects will provide direct employment opportunities for local workers, support other local and state services and industries, and generate local, state, and federal tax revenues.<sup>505</sup>

166. With respect to concerns raised about commercial and recreational fishing and crab fisheries, the Final EIS finds that increased sedimentation from dredging is not expected to result in long-term or population-wide effects on crabs.<sup>506</sup> The Authorization

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<sup>500</sup> McCaffree Rehearing Request at 14; State of Oregon Rehearing Request at 32-33.

<sup>501</sup> Authorization Order, 170 FERC ¶ 61,202 at P 239; Final EIS at 4-652.

<sup>502</sup> Final EIS at 4-619, 4-644, and 4-652.

<sup>503</sup> *Id.* at 4-619 to 4-621, 4-644 to 4-645, 5-8.

<sup>504</sup> *See* Final EIS at 4-635. The Final EIS acknowledges that it is not possible to ascertain from the limited information available whether property values near the Jordan Cove LNG Terminal would be affected. *Id.* at 4-614.

<sup>505</sup> *Id.* at 4-614 to 4-616 and 4-635 to 4-639.

<sup>506</sup> Final EIS at 4-621.

Order also explains that the Final EIS finds that the spatial restrictions will not significantly affect recreational and commercial fisheries as the restrictions would be in place for approximately 20 to 30 minutes, similar to the timeframe for other deep-draft vessels using the channel.<sup>507</sup> Finally, the Authorization Order also notes that the Final EIS considers project impacts on recreation and tourism and found the impacts would be short-term and temporary.<sup>508</sup> We find that state and local economic impacts have been adequately addressed in the Authorization Order and Final EIS and deny rehearing on this issue.

## **J. Vegetation**

167. The State of Oregon contends that the Final EIS does not sufficiently analyze the Pacific Connector Pipeline's impacts to oak woodland, juniper woodland, and shrub steppe, or provide sufficient mitigation measures for these impacts.<sup>509</sup>

168. We disagree. The Final EIS provides a detailed accounting of the impacts to forested, woodland, and shrubland vegetation, including both juniper and oak woodlands, as well as shrubland, from construction and operation of the Pacific Connector Pipeline.<sup>510</sup> As detailed in the Final EIS, construction of the Pacific Connector Pipeline would result in impacts to approximately: 108 acres of western juniper (and Ponderosa pine) woodland, 126 acres of white oak forest and woodland, and 305 acres of shrubland.<sup>511</sup> These impacts account for only approximately 2.6%, 3.0%, and 7.3% of the Pacific Connector Pipeline's total vegetation impacts, respectively.<sup>512</sup> Operation of the Pacific Connector Pipeline would impact approximately 30 acres of western juniper and Ponderosa pine forest and woodland, 27 acres of white oak and Ponderosa pine woodland, and 87 acres of shrubland.<sup>513</sup> Impacts on vegetation include temporary and permanent loss, potential revegetation challenges, a potential increase in noxious weeds and invasive species, forest

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<sup>507</sup> Authorization Order, 170 FERC ¶ 61,202 at n.503; Final EIS at 4-620.

<sup>508</sup> Authorization Order, 170 FERC ¶ 61,202 at PP 234-236.

<sup>509</sup> State of Oregon Rehearing Request at 51, 75.

<sup>510</sup> Final EIS at 4-167 to 4-170, tbl.4.4.2.4-1, 4.4.2.4-2.

<sup>511</sup> *Id.* at 4-167 to 4-168, tbl.4.4.2.4-1 (pp.). For context, the Jordan Cove and Pacific Connector projects are anticipated to impact over 4,600 acres of vegetation. *Id.* at 5-4.

<sup>512</sup> *Id.*

<sup>513</sup> *Id.* at 4-168 to 4-170, tbl.4.4.2.4-1.

fragmentation, and edge effects.<sup>514</sup> The Final EIS does not identify oak or juniper woodland, and identified only minimal (less than one acre) amounts of shrubland in the Jordan Cove LNG Terminal area.<sup>515</sup> The Final EIS further discusses Pacific Connector's mitigation measures to reduce impacts to vegetation and restore disturbed areas, including (but not limited to) measures to decrease forest fragmentation, and Pacific Connector's *Erosion Control and Revegetation Plan*, *Leave Tree Protection Plan*, *Integrated Pest Management Plan*, *Fire Prevention and Suppression Plan*, and the *Soil Prevention Containment and Countermeasures Plan*.<sup>516</sup> In addition, the Final EIS notes that while these measures would be applied along the entire route of the Pacific Connector Pipeline, the Forest Service and the BLM would require additional measures to further reduce impacts to vegetation on federal lands.<sup>517</sup> Accordingly, the Final EIS<sup>518</sup> and the Authorization Order<sup>519</sup> appropriately concluded that the impacts to vegetation would not be significant. We affirm this finding.

#### **K. Wildlife**

169. NRDC asserts that the Final EIS' analysis of the projects' impacts on wildlife failed to satisfy NEPA.<sup>520</sup> Specifically, NRDC contends that the Final EIS does not appropriately consider impacts to bald eagles, migratory birds, and whales.<sup>521</sup>

170. NRDC states that the Final EIS' analysis of impacts to bald eagles was insufficient, and that the Authorization Order should have included a condition specifically requiring Jordan Cove and Pacific Connector file evidence of having obtained a permit pursuant to the Bald and Golden Eagle Protection Act (Eagle Act).<sup>522</sup> NRDC requests that the Commission clarify that Jordan Cove and Pacific Connector may

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<sup>514</sup> *Id.* at 4-165 to 4-166.

<sup>515</sup> *Id.* at 4-153, 4-156.

<sup>516</sup> *Id.* at 4-171 to 4-173.

<sup>517</sup> *Id.* at 4-173.

<sup>518</sup> *Id.* at 5-4.

<sup>519</sup> Authorization Order, 170 FERC ¶ 61,202 at P 211.

<sup>520</sup> NRDC Rehearing Request at 75-87.

<sup>521</sup> *Id.* at 75.

<sup>522</sup> *Id.* at 76 (citing 16 U.S.C. § 668c (2018)).

not commence construction until they obtain an Eagle Act permit from FWS, or presents evidence that FWS found such a permit was not needed.<sup>523</sup>

171. Contrary to NRDC's claims, the Final EIS provides a sufficient accounting of bald eagles in the vicinity of the projects, as well as an analysis of potential impacts to bald eagles from construction and operation of the projects.<sup>524</sup> The Final EIS states that the draft *Migratory Bird Conservation Plan* incorporates FWS' recommended spatial buffers for bald eagle nests in the vicinity of the Pacific Connector Pipeline to reduce these potential impacts.<sup>525</sup> In addition, as stated in the Final EIS, the Commission has entered into an MOU with FWS to promote best practices to avoid and reduce impacts on birds, including the bald eagle, and Jordan Cove and Pacific Connector continue to work with FWS under the Eagle Act.<sup>526</sup> As discussed above, the fact that Jordan Cove and Pacific Connector are still working with FWS in compliance with the Eagle Act does not render staff's issuance of the Final EIS, or of the Commission's Authorization Order unlawful or inappropriate.<sup>527</sup> Further, we find clarifying the Authorization Order in the manner requested by NRDC to be unnecessary. As NRDC notes, Environmental Condition 11 of the Authorization Order requires Jordan Cove and Pacific Connector to present documentation that they have obtained all necessary federal approvals, or evidence of waiver thereof, prior to commencing construction.<sup>528</sup> This includes the Eagle Act.

172. NRDC asserts that the Commission's determination that the project would not significantly affect migratory birds is "premature and irrational" because Jordan Cove's and Pacific Connector's draft *Migratory Bird Conservation Plan* is not finalized, and consultation with FWS to finalize the plan is ongoing.<sup>529</sup> NRDC further claims that the assessment of impacts to migratory birds must be revised in light of the Department of

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<sup>523</sup> *Id.* at 76-77.

<sup>524</sup> Final EIS at 4-188, 4-203 to 4-208.

<sup>525</sup> *Id.* at tbl.4.5.1.2-8 (4-226).

<sup>526</sup> *Id.* at 4-198, 4-227; 1-23.

<sup>527</sup> *See supra* P 75.

<sup>528</sup> NRDC Rehearing Request at 77 (citing Authorization Order, 170 FERC ¶ 61,202 at app., envtl. cond. 11).

<sup>529</sup> *Id.* at 78.



the Interior's changing perspective of the reach of the Migratory Bird Treaty Act (MBTA).<sup>530</sup>

173. As stated above, reliance on a draft mitigation plan is appropriate.<sup>531</sup> As noted in the Final EIS, FWS has authority under the MBTA to protect migratory birds;<sup>532</sup> and, similar to a Biological Opinion, the Commission may rely on FWS' determination of compliance with the MBTA, as well as its interpretation of the MBTA.<sup>533</sup> The Final EIS lists the various types of migratory birds in the vicinity of the projects<sup>534</sup> and assesses the potential impacts of the projects on these species.<sup>535</sup> Commission staff determined that although migratory birds would be affected by construction and operation of the projects (primarily from habitat modification), Jordan Cove's and Pacific Connector's proposed mitigation measures such as clearing vegetation outside the fledging period, surveying and removal of raptor nests, and additional avoidance, minimization, and mitigation measures in the final *Migratory Bird Conservation Plan*, would adequately reduce impacts and that construction and operation of the projects would not significantly impact migratory birds.<sup>536</sup> We affirm this finding.

174. NRDC disputes the findings in the Final EIS regarding the impacts of construction and operation of the Jordan Cove LNG Terminal on Southern Resident orcas and gray whales.<sup>537</sup> NRDC asserts that the Final EIS incorrectly assessed the impacts to Southern Resident orcas from ship strikes and impacts to the orcas' prey population and foraging habitat, and states that the Final EIS underestimated the gray whale population in the vicinity of Coos Bay.<sup>538</sup>

175. The Final EIS finds that, based on available resources, Southern Resident orcas make rare use of the Coos Bay area, and that gray whales are found in the area "only on

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<sup>530</sup> *Id.* at 78-80.

<sup>531</sup> *See supra* P 167.

<sup>532</sup> *See* NRDC's Rehearing Request at 78-80; Final EIS at 1-13.

<sup>533</sup> *See infra* PP 223.

<sup>534</sup> *Id.* at 4-187 to 4-190.

<sup>535</sup> *Id.* at 4-196 to 4-198, 4-224 to 4-227.

<sup>536</sup> *Id.*

<sup>537</sup> NRDC Rehearing Request at 80-85.

<sup>538</sup> *Id.*

an occasional basis.”<sup>539</sup> Accordingly, Commission staff determined that the risk of ship strikes on either of these species is “very low.”<sup>540</sup> Commission staff determined that construction and operation of the Jordan Cove LNG Terminal was not likely to adversely affect either the Southern Resident orca or the gray whale, due to the low numbers of whales in the area, the lack of impacts to prey species from construction and operation of the project, the measures included in the *Marine Mammal Monitoring Plan*, (including a commitment to stop pile driving activities when whales are found in Coos Bay), and a determination that the project would not adversely modify proposed critical habitat for the Southern Resident orca, or have any impact on designated critical habitat units.<sup>541</sup> Despite NRDC’s assertions, we find that the Final EIS appropriately considers the project’s impacts on marine mammals, including the Southern Resident orca and the gray whale. These determinations were affirmed in the National Marine Fisheries Service’s Biological Opinion.<sup>542</sup>

176. The State of Oregon contends that impacts to forest habitat were not adequately considered.<sup>543</sup> In support, the State of Oregon notes that the Biological Assessment does not include the Blue Ridge Variation, and that otherwise the Final EIS does not adequately consider impacts to critical habitat for the marbled murrelet and northern spotted owl, asserting that commitments to restrict tree clearing during these species’ breeding periods does not mitigate for the impacts to their habitat.<sup>544</sup> The State of Oregon also asserts that the Final EIS does not adequately consider or analyze offsite mitigation for these species.<sup>545</sup>

177. The State of Oregon is incorrect in stating that the Biological Assessment does not consider the Blue Ridge Variation.<sup>546</sup> Appendix R (Alternatives) of the Biological Assessment examined the difference in impacts to listed species from a number of alternatives, including the Blue Ridge Alternative, and ultimately determined that

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<sup>539</sup> Final EIS at 4-330.

<sup>540</sup> *Id.*

<sup>541</sup> Final EIS at 4-332 to 4-334.

<sup>542</sup> See NMFS January 10, 2020 Biological Opinion at 3.

<sup>543</sup> State of Oregon Rehearing Request at 73-74.

<sup>544</sup> *Id.*

<sup>545</sup> *Id.* at 74.

<sup>546</sup> State of Oregon Rehearing Request at 50.

incorporating the Blue Ridge Alternative would not result in a change to any of Commission staff's findings.<sup>547</sup> Further, despite the State of Oregon's assertion, Commission staff appropriately considered impacts to the habitat of both the marbled murrelet and the northern spotted owl, as well as all mitigation measures. The Final EIS considered the impacts to habitat for the marbled murrelet and northern spotted owl and discloses the impacts to their habitat, as well as known occupied or presumed occupied sites, for both species.<sup>548</sup> The Final EIS further discusses Pacific Connector's proposed mitigation measures in addition to avoiding tree clearing during each species' breeding season, including replanting trees, funding off-site mitigation, funding a program to reduce corvid predation of marbled murrelet nests, and sponsoring programs on BLM land (such as fire suppression and road decommissioning) intended to benefit the northern spotted owl.<sup>549</sup>

178. Even with these mitigation measures, however, Commission staff ultimately determined that the Pacific Connector Pipeline is likely to adversely affect critical habitat for the marbled murrelet and the northern spotted owl,<sup>550</sup> a determination echoed in FWS' January 31, 2020 Biological Opinion.<sup>551</sup> However, FWS also determined that the Pacific Connector Pipeline is not likely to result in the destruction or adverse modification of critical habitat for the marbled murrelet and the northern spotted owl. In addition, Environmental Condition 24 of the Authorization Order requires Pacific Connector to file, prior to construction, its commitment to adhere with FWS' recommended timing restrictions within threshold distances of marbled murrelet and northern spotted owl stands during construction, operation, and maintenance of the Pacific Connector Pipeline, and Environmental Condition 25 requires Pacific Connector to conduct surveys of all suitable marbled murrelet and northern spotted owl habitat, and file the results of these surveys with the Commission, prior to construction.<sup>552</sup> Therefore, we find that impacts on critical habitat for the marbled murrelet and northern spotted owl have been sufficiently assessed.

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<sup>547</sup> See Commission Staff's July 29, 2019 Biological Assessment, Appendix R – Alternatives.

<sup>548</sup> Final EIS at 4-338 to 4-346.

<sup>549</sup> *Id.*

<sup>550</sup> Final EIS at 4-341, 4-345.

<sup>551</sup> See FWS' January 31, 2020 Biological Opinion at 104, 166.

<sup>552</sup> Authorization Order, 170 FERC ¶ 61,202 at app., envtl. conds. 24, 25.

179. The State of Oregon also takes issue with Pacific Connector's *Drilling Fluid Contingency Plan for Horizontal Directional Drilling Operations*, asserting that it does not provide sufficient site-specific measures to mitigate for releases of drilling fluids on waterbodies, which the State of Oregon asserts could have adverse impacts on salmonid and other aquatic species.<sup>553</sup> The State of Oregon further contends that the Authorization Order's reliance on the *Drilling Fluid Contingency Plan for Horizontal Directional Drilling Operations* in determining that impacts to surface water resources would not be significant is arbitrary and capricious.<sup>554</sup> The *Drilling Fluid Contingency Plan for Horizontal Directional Drilling Operations* requires mitigation measures proposed by Pacific Connector, but as we discuss in greater detail below, the Final EIS and Authorization Order sufficiently address the potential adverse impacts of HDD,<sup>555</sup> as well as potential impacts to aquatic resources,<sup>556</sup> and determined there would be no significant impacts.

**L. Landowner Impacts**

180. Sierra Club claims that the Commission failed to properly assess the numerous impacts that construction and operation of the projects would have on "landowners' land use and way of life."<sup>557</sup>

181. First, Sierra Club contends that the Final EIS' analysis of impacts to landowners cannot have been adequate, as it used incorrect data to estimate the number of landowners Pacific Connector Pipeline contacted to negotiate easements.<sup>558</sup> Sierra Club states that the easement numbers relied on in the Authorization Order are based on Pacific Connector's proposed route, and do not reflect the additional landowners Pacific Connector will need to obtain easements from as a result of the Authorization Order approving the modified project route, which incorporates the Blue Ridge Variation.<sup>559</sup>

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<sup>553</sup> State of Oregon Rehearing Request at 50-55.

<sup>554</sup> *Id.* at 53.

<sup>555</sup> *See infra* P 183.

<sup>556</sup> Final EIS at 4-235 to 4-317.

<sup>557</sup> Sierra Club Rehearing Request at 70.

<sup>558</sup> *Id.* at 70-71.

<sup>559</sup> *Id.*

182. As an initial matter, we note that Commission staff's assessment of impacts to landowners is entirely independent of the status of easement negotiations. Sierra Club is correct that incorporating the Blue Ridge Variation into the approved route for the Pacific Connector Pipeline impacts the overall project length, and the number of impacted landowners.<sup>560</sup> Sierra Club fails, however, to demonstrate that the increased project length and number of impacted landowners renders the Final EIS' assessment to landowners inadequate in any way. Pacific Connector is required to obtain access to property necessary for construction and operation of the pipeline, including all impacted landowners along the Blue Ridge Variation, prior to construction. Further, newly affected parcels are subject to Pacific Connector's and the Commission's Plan and Procedures designed to avoid, reduce, and mitigate landowner impacts. We note that Sierra Club does not point to any different types of land uses located along the Blue Ridge Variation, as compared to the proposed route.<sup>561</sup> Thus, Sierra Club fails to demonstrate how the incorporation of the Blue Ridge Alternative into the project route makes the assessment of landowner impacts inadequate.

183. Sierra Club states that the Final EIS and Authorization Order did not sufficiently account for private wells along the route of the Pacific Connector Pipeline.<sup>562</sup> Sierra Club refers to the Final EIS' accounting of seven privately-owned wells within 200 feet of construction of the pipeline "absurd", because it relied on a State of Oregon provided database to research well locations in the state.<sup>563</sup> The Final EIS notes that "[the Oregon Water Resources Department] ... maintains a database of water well locations" and that Pacific Connector Pipeline used the "database for their applications to the FERC."<sup>564</sup> The Final EIS further states that there are private wells along the pipeline route "that are exempt from water rights permitting" and that their locations are not currently known.<sup>565</sup> Accordingly the seven private wells identified using the State of Oregon Water Resources Department's database were the wells Pacific Connector was able to identify that were within 200 feet of the pipeline construction right-of-way, and were available using the

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<sup>560</sup> See Authorization Order, 170 FERC ¶ 61,202 at P 270; Final EIS at 3-24.

<sup>561</sup> The Final EIS identifies the differences in land ownership and number of land parcels in a comparison between the proposed route and the Blue Ridge Variation and identified one residence within 50 feet of the construction right-of-way along the Blue Ridge Variation. See Final EIS at 3-28, tbl. 3.4.2.2-1.

<sup>562</sup> Sierra Club Rehearing Request at 71-74.

<sup>563</sup> *Id.* at 72.

<sup>564</sup> Final EIS at 1-36.

<sup>565</sup> *Id.* at 4-81.

database.<sup>566</sup> Sierra Club did not present evidence of any other wells within 200 feet of construction of the pipeline that the Final EIS should, but does not, include in its analysis. The Final EIS acknowledges that Pacific Connector will likely encounter additional wells; therefore, Pacific Connector will request impacted landowners to identify private wells and their uses.<sup>567</sup> The Final EIS further states that Pacific Connector would develop site-specific mitigation measures to prevent impacts to private wells located within 200 feet of construction of the project, which would take into account the use(s) of the well (i.e. irrigation, home use, etc.).<sup>568</sup> Thus, we find that the Final EIS appropriately considers impacts to landowners' wells.

184. Sierra Club further states that Pacific Connector's *Groundwater Supply Monitoring and Mitigation Plan* (Groundwater Supply Plan) is flawed, and that the Final EIS and Authorization Order fail to address these (purported) deficiencies.<sup>569</sup> Specifically, Sierra Club asserts that 1) the Groundwater Supply Plan and the Commission fail to identify wells located on property needed for construction and operation of the Pacific Connector Pipeline; 2) the Groundwater Supply Plan's pre-construction well monitoring requirements are unclear; 3) landowners should not be required to establish that their well has been damaged, rather, Jordan Cove should show they were not responsible; 4) in addition to wells, seeps and springs should be monitored; 5) the well monitoring schedule is inadequate; 6) the Groundwater Supply Plan does not state where the Spill Prevention, Containment, and Countermeasures Plan can be located; and 7) Pacific Connector's commitment to work with landowners in the event groundwater supply is impacted is not explained sufficiently.<sup>570</sup>

185. The Final EIS analyzes the potential impacts to groundwater, including wells, that would occur from construction and operation of the project.<sup>571</sup> As discussed above, all wells that could be identified using the State of Oregon's database were included in the Final EIS, however additional wells may still be encountered, and therefore Pacific Connector will request impacted landowners to identify all wells, and their uses.<sup>572</sup>

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<sup>566</sup> *Id.*

<sup>567</sup> *Id.*

<sup>568</sup> *Id.*

<sup>569</sup> Sierra Club Rehearing Request at 74-77.

<sup>570</sup> *Id.*

<sup>571</sup> Final EIS at 4-35 to 4-36; 4-79 to 4-85.

<sup>572</sup> *See supra* P 183.

Pacific Connector will conduct pre-construction monitoring to identify, and further monitor all groundwater sources, including springs, seeps, and wells.<sup>573</sup> Impacted landowners will also be able to negotiate with Pacific Connector during the easement process to adjust the alignment of the pipeline to increase the distance between the pipeline and groundwater sources, and, if requested, Pacific Connector will conduct post-construction groundwater sampling to determine if groundwater sources were impacted.<sup>574</sup> In the event a groundwater supply is impacted, Pacific Connector would work with the landowner to develop mitigation measures that would satisfy the needs of the individual landowner.<sup>575</sup> As noted in the Final EIS, Pacific Connector's *Spill Prevention, Containment, and Countermeasures Plan* was included in appendices F.2 and G.2 of Resource Report 2 of Pacific Connector's application.<sup>576</sup> The Final EIS determines that impacts to groundwater, including wells, would be temporary, and not significant,<sup>577</sup> and we concur with Commission staff's determination.

186. Sierra Club contends that the Final EIS and Authorization Order fail to address the adverse effects of horizontal directional drilling (HDD), including the risk of sediment and other drilling material being released into aquatic resources (known as a "frac-out") and the impacts such events could have on landowners.<sup>578</sup> Sierra Club is mistaken; the Final EIS notes that Pacific Connector developed a *Drilling Fluid Contingency Plan for Horizontal Directional Drilling Operations* which would be utilized in the event of a frac-out.<sup>579</sup> This contingency plan utilizes measures including the halting of HDD drilling operations, developing site-specific mitigation plans, and if possible, removing the drilling mud from the environment, among other measures.<sup>580</sup> Further, as discussed in the Authorization Order, because Pacific Connector has not yet identified all fluids and additives that would be used during HDD activities, Environmental Condition 18 requires Pacific Connector to file a list of all proposed drilling additives for Commission approval

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<sup>573</sup> Final EIS at 4-83.

<sup>574</sup> *Id.*

<sup>575</sup> *Id.* 4-83.

<sup>576</sup> *Id.* at 2-51.

<sup>577</sup> *Id.* at 4-85.

<sup>578</sup> Sierra Club Rehearing Request at 77.

<sup>579</sup> Final EIS at 4-277.

<sup>580</sup> *Id.*

prior to construction.<sup>581</sup> Therefore, we find the Final EIS and Authorization Order appropriately consider the potential adverse effects of HDD.

187. Sierra Club alleges that the Authorization Order and Final EIS fail to evaluate the negative impact construction and operation will have on property values, as well as other impacts to factors incident to property ownership, including homeowners insurance.<sup>582</sup> Sierra Club asserts that the six studies that Commission staff relied on in determining that there was a low likelihood of a decrease in property values attributable to the Pacific Connector Pipeline are somehow faulty.<sup>583</sup> The Final EIS acknowledges that “the effect a pipeline may have on a property’s value depends on many factors, including the size of the tract, the values of adjacent properties, the presence of other utilities, the current value of the land, and the current land use” and further stated that decisions of whether or not to purchase property are generally based on the proposed use of the property rather than subjective valuation due to the presence of a pipeline.<sup>584</sup> Thus, the Final EIS appropriately concludes, based on the studies consulted, that the pipeline is not likely to negatively impact property values.<sup>585</sup> While Sierra Club disagrees with this finding, this disagreement does not show that the Commission’s decision-making process was uninformed, or lacking under NEPA. “If supported by substantial evidence, the Commission’s findings of fact are conclusive.”<sup>586</sup> Further, the Final EIS states that there is no verifiable information, or documented cases indicating the presence of a pipeline complicates a property owner’s efforts to obtain homeowners insurance and a mortgage, and Sierra Club fails to present any additional information that would suggest this has, or does, occur.<sup>587</sup>

188. Sierra Club asserts that the Final EIS and Authorization Order fail to assess impacts to visual resources, and how these impacts affect property values.<sup>588</sup> Sierra Club

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<sup>581</sup> Authorization Order, 170 FERC ¶ 61,202 at P 207, app. envtl. cond. 18.

<sup>582</sup> Sierra Club Rehearing Request at 77-79.

<sup>583</sup> *Id.*

<sup>584</sup> Final EIS at 4-635.

<sup>585</sup> *Id.*

<sup>586</sup> *Myersville*, 783 F.3d at 1308 (quoting *B & J Oil & Gas v. FERC*, 353 F.3d 71, 76 (D.C. Cir. 2004) (citing 15 U.S.C. § 717r(b))).

<sup>587</sup> *Id.*

<sup>588</sup> Sierra Club Rehearing Request at 79-80.



further states that the Final EIS does not justify its use of a 5-mile viewshed for assessing visual resource impacts.<sup>589</sup> We disagree. The Final EIS assesses the visual impacts of both the Pacific Connector Pipeline and Jordan Cove LNG Terminal in significant detail, analyzing the short- and long-term visual resource impacts from several different viewsheds, and determines that these impacts would not be significant.<sup>590</sup> The Final EIS identifies the 5-mile viewshed as “the foreground/middleground distance zone as described in the BLM Visual Resource Management (VRM) system, and corresponds to the potential viewing range within which visible aspects of the Project (primarily the cleared right-of-way) are most likely to be noticeable to the casual observer.”<sup>591</sup> In the Final EIS, Commission staff recognizes that some “identifiable affected interests”, including those who live near a pipeline right-of-way or travel near it frequently, may place a higher value on these resources.<sup>592</sup> We find that the Final EIS sufficiently assessed the potential impacts to visual resources. Sierra Club’s concerns regarding property values are fully addressed above.<sup>593</sup>

189. Sierra Club claims that the Final EIS fails to assess the adverse impacts from Pacific Connector using herbicide to maintain its pipeline right-of-way.<sup>594</sup> Sierra Club further contends that there is not a sufficient monitoring program in place to prevent the spread of invasive species and noxious weeds after construction.<sup>595</sup> The Final EIS states that Pacific Connector will use only approved herbicides and will implement measures to prevent the spread of herbicides, including pausing herbicide treatments when rain is anticipated in the next 24 hours, and the use of buffers to prevent the spread of herbicides to sensitive sites.<sup>596</sup> Sierra Club does not present any evidence of the types of herbicide-related harms it anticipates, outside of landowners’ preference to use organic herbicide on their property. In addition, the Final EIS discusses Pacific Connector’s *Integrated Pest Management Plan*, which contains measures to prevent the spread of noxious weeds and

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<sup>589</sup> *Id.*

<sup>590</sup> Final EIS at 5-587 to 4-601.

<sup>591</sup> *Id.* at 4-588.

<sup>592</sup> *Id.* at 4-608.

<sup>593</sup> *See supra* P 187.

<sup>594</sup> Sierra Club Rehearing Request at 80-82.

<sup>595</sup> *Id.* at 81-82.

<sup>596</sup> Final EIS at 4-176.

invasive species, including the use of herbicides.<sup>597</sup> The Final EIS explains how Pacific Connector would monitor the pipeline right-of-way for infestations of noxious weeds and invasive plant species, and address these infestations if they occur.<sup>598</sup>

190. Sierra Club asserts that the Final EIS and Authorization Order do not sufficiently address how the construction and operation of the Pacific Connector Pipeline will impact landowners' ability to utilize timber on their property.<sup>599</sup> Sierra Club claims that the Final EIS does not address how landowners will be able to continue to cut timber after the pipeline has been constructed.<sup>600</sup> Contrary to Sierra Club's assertions, the Final EIS addresses the project's impacts on timber cutting,<sup>601</sup> explaining that during operation timber operations may continue, and timber operators can cross the right-of-way with "heavy hauling and logging equipment", as long as there is proper coordination with Pacific Connector, and precautions are taken to preserve the integrity of the pipeline.<sup>602</sup> The Final EIS determines that logging operations would not be significantly impacted, nor would the cost of logging significantly increase, although the requirement to coordinate with Pacific Connector may be an inconvenience for some.<sup>603</sup> Accordingly, we find that the Final EIS sufficiently addressed impacts to timber operations.

191. Sierra Club asserts that the effects of the Pacific Connector Pipeline on landowners' planned property improvements are not adequately addressed.<sup>604</sup> Sierra Club states that the construction and operation of the pipeline will negatively impact or otherwise prevent landowners from undertaking plans for improvements on their property.<sup>605</sup> As Sierra Club acknowledges, the Final EIS states that in several instances, landowners and Pacific Connector were able to reach an agreement to modify the

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<sup>597</sup> *Id.* at 4-173 to 4-176.

<sup>598</sup> Final EIS at 4-176.

<sup>599</sup> Sierra Club Rehearing Request at 82-83.

<sup>600</sup> *Id.*

<sup>601</sup> Final EIS at 4-439; 4-443 to 4-446.

<sup>602</sup> *Id.* at 4-439.

<sup>603</sup> *Id.* at 4-446.

<sup>604</sup> Sierra Club Rehearing Request at 83-84.

<sup>605</sup> *Id.*

pipeline route so as to avoid impacts on planned improvements.<sup>606</sup> For instances in which impacts to planned property improvements were unavoidable, determining appropriate compensation for the impacts to the landowners' planned improvement is a matter between the landowner and Pacific Connector.

192. Sierra Club asserts that the "psychological effects on landowners" caused by a project that has been pending for over 15 years, have not been assessed.<sup>607</sup> As the Commission has previously explained, a project's "potential psychological effect on landowners are beyond the scope of NEPA review."<sup>608</sup>

193. Finally, Sierra Club argues that the Final EIS and the Authorization Order fail to address how landowners may resume "normal activities such as timber harvesting" after construction of the pipeline, and that there is "little or no basis" for the conclusion that impacts to land use would not be significant.<sup>609</sup> Sierra Club states that impacts on landowners' water sources, ability to irrigate, impacts from invasive species, insecticide and pesticide spraying, fire mitigation, and "unwanted intrusions" by third parties via the pipeline corridor were not addressed.<sup>610</sup>

194. We address Sierra Club's concerns regarding timber harvesting above.<sup>611</sup> In addition, concerns regarding impacts on water sources,<sup>612</sup> irrigation and agriculture,<sup>613</sup> invasive species,<sup>614</sup> fire mitigation,<sup>615</sup> have been addressed in the Final EIS,

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<sup>606</sup> Final EIS at 4-443.

<sup>607</sup> Sierra Club Rehearing Request at 84.

<sup>608</sup> *S. Natural Gas Co.*, 86 FERC ¶ 61,129, at 61,444 (1999).

<sup>609</sup> Sierra Club Rehearing Request at 84-85.

<sup>610</sup> *Id.* at 85.

<sup>611</sup> *See supra* P 190.

<sup>612</sup> *See supra* PP 183 - 185.

<sup>613</sup> *See, e.g., supra* P 190; Authorization Order, 170 FERC ¶ 61,202 at PP 201, 229; Final EIS at 4-438.

<sup>614</sup> *See, e.g., supra* PP 168, 189; Authorization Order, 170 FERC ¶ 61,202 at P 211, envtl. cond. 19; Final EIS at 4-157 to 4-159.

<sup>615</sup> *See, e.g., infra* PP 210 - 211; Authorization Order, 170 FERC ¶ 61,202 at P 211; Final EIS at 4-178 to 4-179, 4-460.

Authorization Order, and herein. As discussed in the Final EIS, Pacific Connector would implement a “Landowner Complaint Resolution Procedure” to enable landowners to register complaints with Pacific Connector, and landowners may further contact the Commission’s Dispute Resolution Division if they are not satisfied with Pacific Connector’s response to their complaint.<sup>616</sup> As discussed in Environmental Condition 10 in the Authorization Order, the complaint resolution procedure will provide landowners with instructions on how to register complaints regarding environmental mitigation problems or concerns, and will be available to landowners during construction and restoration of the Pacific Connector Pipeline, and two years after the completion of restoration activities.<sup>617</sup> Accordingly, we find this analysis provided sufficient basis for Commission staff’s conclusion that land use would not be significantly impacted.<sup>618</sup> That Sierra Club may disagree with our conclusion does not render our analysis insufficient under NEPA.

## **M. Safety**

### **1. Aviation**

195. Sierra Club and Ms. McCaffree assert that neither the Commission nor the Federal Aviation Administration (FAA) assessed the impacts of the Jordan Cove LNG Terminal’s thermal plume on aircraft operations at the nearby Southwest Oregon Regional Airport, particularly during takeoff and landing.<sup>619</sup> Petitioners contend that the only assessment of impacts by the agencies was the FAA’s determination, in its 2015 memorandum addressing the effects of thermal exhaust plumes, that “thermal exhaust plumes may pose a unique hazard to aircraft” and therefore “are incompatible with airport operations.”<sup>620</sup>

196. As petitioners note, the Final EIS acknowledges and incorporates the FAA’s 2015 memorandum regarding the risks of thermal exhaust plumes for aviation, particularly that

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<sup>616</sup> Final EIS at 4-441.

<sup>617</sup> Authorization Order, 170 FERC ¶ 61,202 at envtl. cond. 10.

<sup>618</sup> See Final EIS 4-420 to 4-552; 5-6.

<sup>619</sup> Sierra Club Rehearing Request at 51-53; McCaffree Rehearing Request at 22-23.

<sup>620</sup> See FAA Memorandum (Sept. 24, 2015), [https://www.faa.gov/airports/environmental/land\\_use/media/technical-guidance-assessment-tool-thermal-exhaust-plume-impact.pdf](https://www.faa.gov/airports/environmental/land_use/media/technical-guidance-assessment-tool-thermal-exhaust-plume-impact.pdf).

they are “incompatible” with airport operations.<sup>621</sup> Petitioners fail, however, to examine the FAA’s 2015 memorandum in its entirety. The FAA prepared the memorandum in response to requests for information from state and local governments, as well as airport operators, on the appropriate distance between power plant exhaust stacks and airports.<sup>622</sup> As an initial matter, the memorandum clarifies that the FAA has no regulations protecting airports from plumes and other emissions from exhaust stacks, and only has regulations to limit exhaust stack height near airports.<sup>623</sup> Contrary to the assertions of Sierra Club and Ms. McCaffree, the memorandum was not limited to the FAA’s determination that thermal exhaust plumes were incompatible with aviation. A full reading of the FAA’s 2015 memorandum demonstrates that, while the FAA did in fact determine that thermal exhaust plumes “*may* pose a unique hazard to aircraft in critical phases of flight” and that accordingly such plumes are “incompatible with airport operations,” the FAA also determined that “the overall risk associated with thermal exhaust plumes in causing a disruption of flight is low.”<sup>624</sup> The 2015 memorandum further states that any such impact would be highly dependent on a variety of factors, including the proximity of the exhaust stacks to the airport flight path, the size and speed of the aircraft, and local weather patterns (wind, ambient temperatures, atmospheric stratification at the plume site).<sup>625</sup> Thus, in recognition of its lack of regulations regarding thermal exhaust plumes, the low (but present) risk to flight operations that such plumes present, and the variety of factors that must be taken in to account to determine the presence, or severity, of any such risk, the FAA recommended that airports take such plumes in to account.<sup>626</sup>

197. Sierra Club asserts that the 2015 memorandum is “directed at airport sponsors to consider the impact of existing thermal plumes on potential future airports” and that it is inappropriate to expect the Southwest Oregon Regional Airport account for plumes from the new Jordan Cove LNG Terminal.<sup>627</sup> To the contrary, the FAA states that the memorandum was prepared in response to several inquiries and requests “*from airport operators*”, and that the FAA-developed “Exhaust-Plume-Analyzer can be an effective tool to assess the impact exhaust plumes may impose on flight operations at an existing

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<sup>621</sup> Final EIS at 4-657.

<sup>622</sup> FAA September 24, 2015 Memorandum at 1.

<sup>623</sup> *Id.*

<sup>624</sup> *Id.* at 2.

<sup>625</sup> *Id.*

<sup>626</sup> *Id.*

<sup>627</sup> Sierra Club Rehearing Request at 52.

*or proposed* site in the vicinity of an airport.”<sup>628</sup> Accordingly, it is entirely reasonable, based on the FAA’s 2015 memorandum, to expect the Southwest Oregon Regional Airport to take such plumes in to account. The Final EIS, informed by the FAA’s 2015 memorandum, determines that thermal exhaust plumes may have an adverse impact on takeoffs and landings, and reiterates the FAA’s directive for airports to take these plumes in to account.<sup>629</sup> We find this analysis is sufficient, and encourage Jordan Cove to work with the Southwest Oregon Regional Airport as well as state and local authorities to address concerns regarding the potential impacts of thermal exhaust plumes on aircraft operations.

198. Sierra Club asserts that the Final EIS and Authorization Order fail to sufficiently assess the structural hazards to aviation caused by construction and operation of the Jordan Cove LNG Terminal,<sup>630</sup> stating that the Final EIS and Authorization Order ignore the FAA determination “that [runway 04] will be unusable during instrument flight rule conditions when an LNG tanker is berthed or in transit.”<sup>631</sup> Sierra Club further disputes the Authorization Order’s determination that impacts to airport operations (including flight delays) would not be significant.<sup>632</sup> In support, Sierra Club cites the Final EIS’s conclusion that operation of the Jordan Cove LNG Terminal “could significantly impact” airport operations.<sup>633</sup> As the Commission stated in the Authorization Order, the Final EIS’ determination that operating the Jordan Cove LNG Terminal could impact airport operations was based on the FAA’s determination that several components of the LNG terminal would be presumed hazards to air navigation.<sup>634</sup> The Authorization Order further explains that, after the issuance of the Final EIS, the FAA completed aeronautical studies, which found that operation of the terminal or docked/transiting LNG tankers

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<sup>628</sup> FAA September 24, 2015 Memorandum at 2 (emphasis added).

<sup>629</sup> Final EIS at 4-657.

<sup>630</sup> Sierra Club Rehearing Request at 52-53.

<sup>631</sup> *Id.* (citing FAA’s December 23, 2019 “Determination of No Hazard to Air Navigation,” Aeronautical Study No. 2017-ANM-5386-OE).

<sup>632</sup> *Id.* at 52.

<sup>633</sup> *Id.*

<sup>634</sup> Authorization Order, 170 FERC ¶ 61,202 at P 244 (citing Final EIS at 4-657; Jordan Cove’s May 10, 2018 Response to Commission Staff’s April 20, 2018 Data Request).

would not cause a hazard to air navigation.<sup>635</sup> The FAA's determination provided a sufficient basis for the Commission to determine that airport operations would not be significantly impacted.

199. Sierra Club asserts that neither the Commission nor the FAA addressed the aviation hazards posed by "temporary" structures (i.e., cranes) that would be present during construction.<sup>636</sup> The FAA's "Determination of No Hazard to Air Navigation" for onshore equipment at the Jordan Cove LNG Terminal states that the determinations include temporary construction equipment, including cranes.<sup>637</sup> Thus, the FAA took such construction equipment into account when issuing its determinations regarding hazards to air navigation.

200. Ms. McCaffree states that the Final EIS and the Authorization Order do not assess the hazards that would result from Jordan Cove's proposal to dispose of dredged material "in very close proximity to the end" of a runway at the Southwest Oregon Regional Airport, as the location of the dredged material there may attract wildlife, which could create a hazard in the approach or departure airspace.<sup>638</sup> Ms. McCaffree's argument is dismissed as she raises this issue for the first time on rehearing. Ms. McCaffree had ample opportunity to present this argument during the Commission's environmental review process. The Commission looks with disfavor on raising issues for the first time on rehearing that could have been raised earlier, particularly during the NEPA scoping process, in part, because other parties are not permitted to respond to requests for rehearing.<sup>639</sup> Regardless, we note that the Final EIS assesses the potential for mitigation

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<sup>635</sup> *Id.* P 245.

<sup>636</sup> Sierra Club Rehearing Request at 52-53.

<sup>637</sup> Separate FAA determinations can be found at <http://oeaaa.faa.gov> for Aeronautical Study Nos: 2017-ANM-5386-OE through 2017-ANM-5388-OE; 2017-ANM-5390-OE through 2017-ANM-5418; 2018-ANM-4-OE through 2018-ANM-8-OE; 2018-ANM-718-OE through 2018-ANM-720-OE; 2019-ANM-5196-OE; and 2019-ANM-5197-OE.

<sup>638</sup> McCaffree Rehearing Request at 22-23.

<sup>639</sup> *See Baltimore Gas & Elec. Co.*, 91 FERC ¶ 61,270, at 61,922 (2000) ("We look with disfavor on parties raising on rehearing issues that should have been raised earlier. Such behavior is disruptive to the administrative process because it has the effect of moving the target for parties seeking a final administrative decision."); *Dep't of Transp. v. Pub. Citizen*, 541 U.S. 752, 764 (2004) ("Persons challenging an agency's compliance with NEPA must 'structure their participation so that it ... alerts the agency to the [parties'] position and contentions,' in order to allow the agency to give the issue meaningful consideration.") (quoting *Vermont*, 435 U.S. at 553); *see also Tenn. Gas*

sites near the Southwest Oregon Regional Airport to attract birds to the area. The Final EIS determines that although dredge disposal may attract some birds, the disposal would not substantially alter the composition of wildlife or affect airport operations.<sup>640</sup>

201. Ms. McCaffree asserts that the “FAA did not sign off fully” on its determinations of presumed hazards for certain components of the Jordan Cove LNG Terminal and takes issue with the FAA’s eventual determinations of no hazard for these facilities. Ms. McCaffree further argues that it is arbitrary for the Commission to issue the Authorization Order while the applicant(s) complete surveys, studies, and/or consultations.<sup>641</sup> As an initial matter, if Ms. McCaffree contests the FAA’s no hazard determinations, she may register her complaints with the FAA; the Commission is not the appropriate venue for resolving the FAA’s determinations. Further, Ms. McCaffree does not allege that our reliance on the FAA’s determinations is improper, or otherwise undermines our determination regarding the Jordan Cove LNG Terminal’s safety impacts. Finally, while Ms. McCaffree does not identify the safety related studies, plans, or consultations that the Commission is allowing Jordan Cove to complete after issuance of the Authorization Order, as we explain above and in the Authorization Order, our practice of issuing conditional certificates has consistently been affirmed by courts as lawful.<sup>642</sup>

## **2. Safety Determination for Jordan Cove LNG Terminal**

202. Ms. McCaffree asserts that the Commission inappropriately “delegated” its duty to consider the safety hazards of operating the Jordan Cove LNG Terminal, pursuant to the federal safety standards contained in Part 193, Subpart B, of Title 49 of the Code of Federal Regulations, and states that PHMSA’s September 11, 2019 Letter of Determination that the Jordan Cove LNG Terminal complies with these safety standards was erroneous.<sup>643</sup> Ms. McCaffree further argues that the Commission is “precluded” from relying on PHMSA’s Letter of Determination, that the Final EIS fails to adequately respond to safety-related comments, and that the Commission’s issuance of a conditional

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*Pipeline Co., L.L.C.*, 162 FERC ¶ 61,167 at P 10; *Nw. Pipeline, LLC*, 157 FERC ¶ 61,093, at P 27 (2016) (“We dismiss the Cemetery’s argument that EA’s indirect impacts analysis was deficient because the Cemetery raises this argument for the first time on rehearing.”).

<sup>640</sup> Final EIS at 4-196.

<sup>641</sup> McCaffree Rehearing Request at 23.

<sup>642</sup> *See supra* P 75.

<sup>643</sup> McCaffree Rehearing Request at 18-21 (citing 49 C.F.R. pt. 93, subpt. B (2019)).



Authorization Order while Jordan Cove continues to demonstrate compliance with PHMSA's Letter of Determination and other safety-related matters is "arbitrary and not otherwise in accord with applicable law."<sup>644</sup>

203. Initially, Ms. McCaffree contends that the Commission is impermissibly "delegating" its duty under the NGA and NEPA to assess whether or not an LNG terminal complies with the federal safety standards.<sup>645</sup> Ms. McCaffree asserts that doing so "usurps the NEPA process" by preventing public participation in the PHMSA proceeding, and seeks to "dissolve" Commission accountability for the safety determination.<sup>646</sup> PHMSA is the federal agency named by Congress for "exercis[ing] authority under the Pipeline Safety Act (49 U.S.C. § 60101, et seq.) to prescribe safety standards for LNG facilities." Accordingly, we do not "delegate" our authority or duty to determine whether an LNG facility complies with these safety standards; rather, the responsibility and authority to make such a determination rests with PHMSA. As noted in the Authorization Order, pursuant to an August 31, 2018 Memorandum of Understanding entered into by PHMSA and the Commission (PHMSA MOU), on September 11, 2018, PHMSA issued a Letter of Determination indicating that the proposed Jordan Cove LNG Terminal complied with federal safety standards in Part 193, Subpart B of PHMSA's regulations.<sup>647</sup>

204. Ms. McCaffree contends that PHMSA's Letter of Determination is insufficient, in that it ignores the risks posed by "unconfined vapor cloud explosions", as well as comments regarding these risks.<sup>648</sup> Ms. McCaffree asserts that Jordan Cove did not use appropriate modeling to demonstrate the risks of vapor cloud explosions and whether or not the hazard from such an explosion would remain within the boundaries of the LNG facility.<sup>649</sup> Ms. McCaffree further argues that PHMSA failed to consider testimony and comments presented to PHMSA on this matter.<sup>650</sup> As a result, Ms. McCaffree contends that the Commission is "precluded" from relying on PHMSA's Letter of Determination.

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<sup>644</sup> *Id.* at 18-21.

<sup>645</sup> *Id.* at 18.

<sup>646</sup> *Id.*

<sup>647</sup> Authorization Order, 170 FERC ¶ 61,202 at P 41.

<sup>648</sup> McCaffree Rehearing Request at 19-20.

<sup>649</sup> *Id.*

<sup>650</sup> *Id.*

205. As an initial matter, if Ms. McCaffree contests PHMSA's Letter of Determination she should raise her concerns with that agency, which is charged with prescribing such minimum safety standards and determining whether or not LNG facilities comply with those standards.<sup>651</sup> Both PHMSA's Letter of Determination and the Final EIS state that Jordan Cove must address the minimum safety standards requirements.<sup>652</sup> Regardless, the Commission finds that the Letter of Determination adequately assesses the potential hazards from vapor cloud explosions, as well as the potential for such explosions to extend beyond the boundary of the Jordan Cove LNG Terminal. The Letter of Determination acknowledges that, based on Jordan Cove's evaluation of hazardous releases (including vapor cloud explosions), these releases would extend "beyond the Jordan Cove LNG Terminal eastern boundary."<sup>653</sup> To prevent such hazardous releases from extending beyond the boundary of the facility, the Letter of Determination states that Jordan Cove proposes to construct a 100-foot-high wall along the eastern boundary to serve as a "thermal radiation shield."<sup>654</sup> PHMSA determined that such a measure would be appropriate, provided Jordan Cove can confirm the effectiveness of the wall, particularly to "withstand the overpressure impact due to a potential vapor cloud explosion scenario from the liquefaction area."<sup>655</sup> Accordingly, it appears that PHMSA appropriately considered the risks of vapor cloud explosions in issuing its Letter of Determination, and the Commission relies on it "as the authoritative determination" of the Jordan Cove LNG Terminal's "ability to comply" with the minimum federal safety standards.<sup>656</sup> Moreover, Ms. McCaffree's assertion that the Commission is somehow "precluded" from relying on PHMSA's Letter of Determination is without merit.

206. Ms. McCaffree asserts that the Final EIS violates NEPA by failing to "adequately" respond to comments on "the potential safety hazards of the Jordan Cove LNG terminal and its associated tanker traffic" and "thwarts" public review by allowing applicants to label information as "Critical Energy Infrastructure Information" (CEII).<sup>657</sup> As discussed in detail above, PHMSA holds the responsibility to determine whether or not an LNG

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<sup>651</sup> See, 49 U.S.C. § 60101, *et seq.* (2018); *see also* PHMSA MOU at 2.

<sup>652</sup> Final EIS at 4-741 to 4-742.

<sup>653</sup> See Commission Staff's September 24, 2019 Memo filed in Docket No. CP17-495-000 (Containing PHMSA's Letter of Determination) at 3.

<sup>654</sup> *Id.* at 21.

<sup>655</sup> *Id.* at 3, 40.

<sup>656</sup> PHMSA MOU at 2.

<sup>657</sup> McCaffree Rehearing Request 25-28.

facility complies with federal safety standards;<sup>658</sup> however, the Final EIS contains a detailed analysis of the Jordan Cove LNG Terminal's Reliability and Safety based on its process, mechanical, hazard mitigation, security, and geotechnical and structural designs, including how the facility would protect against vapor cloud explosions,<sup>659</sup> and as discussed above, the Final EIS adequately considers tanker traffic impacts from construction and operation of the Jordan Cove LNG Terminal.<sup>660</sup>

207. Further, the Commission does not “thwart” public review and robust analysis of applications by allowing applicants to label information as CEII. The Commission began labeling certain information as CEII after the attacks of September 11, 2001; the Commission's CEII regulations seek to “restrict unfettered public access to [CEII], but still permit those with a need for the information to obtain it in an efficient manner.”<sup>661</sup> To prevent overutilization of the CEII designation, the Commission's regulations limit the labeling of CEII to “specific engineering, vulnerability, or detailed design information about proposed or existing critical infrastructure.”<sup>662</sup> Moreover, the Commission's regulations permit any party to a proceeding to request and receive a complete CEII version of a document.<sup>663</sup>

208. Ms. McCaffree contends that the Authorization Order “failed to acknowledge” that PHMSA's Letter of Determination was (inappropriately) conditioned upon Jordan Cove demonstrating to PHMSA that its proposed hazardous release safety measures were effective, and that issuing the Authorization Order prior to Jordan Cove receiving all safety-related determinations was arbitrary.<sup>664</sup> The Authorization Order recognizes that PHMSA conditioned its Letter of Determination on Jordan Cove finalizing its hazardous release mitigation; Environmental Condition 35 of the Authorization Order requires Jordan Cove to file documentation of PHMSA's determination that the final design safety

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<sup>658</sup> See *supra* P 205.

<sup>659</sup> Final EIS at 4-759 to 4-769.

<sup>660</sup> See *supra* PP 162-163.

<sup>661</sup> See Critical Energy Infrastructure Information, Order No. 683, 116 FERC ¶ 61,263, at PP 2, 6 (2006).

<sup>662</sup> 18 C.F.R. § 388.113(c)(1) (2019).

<sup>663</sup> *Id.* § 388.113(g)(4) (2019).

<sup>664</sup> McCaffree Rehearing Request at 21.

features comply with federal safety standards prior to initial site preparation.<sup>665</sup> Further, as discussed above and in the Authorization Order, our practice of issuing conditional certifications and authorizations has consistently been affirmed as lawful.<sup>666</sup>

### 3. Forest Fires

209. Sierra Club argues that the Commission violated NEPA by failing to take a hard look at how pipeline construction and operation, including the temporary and permanent clearing of the right-of-way, will increase the likelihood and severity of forest fires.<sup>667</sup> Sierra Club contends that the pipeline right-of-way will be permanently cleared of large diameter trees and replaced with early seral vegetation that in a wildfire may act like a wick and carry fire along the entire right-of-way, thus spreading fire beyond its “natural” reach.<sup>668</sup>

210. Contrary to Sierra Club’s assertion, the Final EIS acknowledges that both pipeline construction and operations could increase the risk of wildfires. Construction and operational activities—such as burning of cleared vegetation, mowing, welding, refueling with flammable liquids, vehicle and equipment use (parking vehicles with hot mufflers or tailpipes on tall dry grass)—could create a wildfire risk, especially during wildfire season.<sup>669</sup> Although the cleared right-of-way may work as a fire break, the presence of the cleared right-of-way could also increase the risk of fires reaching forest crowns.<sup>670</sup> As discussed in the Final EIS, large forest fires including crown fires could occur if small, low-intensity surface fires are ignited within the herbaceous or low shrub cover maintained along the permanent right-of-way. These fires could then spread to ladder fuels near forest edges and ignite the forest’s canopy.<sup>671</sup>

211. In response to these risks, Pacific Connector will implement a *Fire Prevention and Suppression Plan*.<sup>672</sup> This plan is consistent with Forest Service and BLM policies and

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<sup>665</sup> Authorization Order, 170 FERC ¶ 61,202 at app., envtl. cond. 35.

<sup>666</sup> See *supra* P 75.

<sup>667</sup> Sierra Club Rehearing Request at 53.

<sup>668</sup> *Id.* at 54.

<sup>669</sup> Authorization Order, 170 FERC ¶ 61,202 at P 211; Final EIS at 4-177 to 4-178.

<sup>670</sup> Final EIS at 4-178.

<sup>671</sup> *Id.* at 4-177 to 4-178.

<sup>672</sup> *Id.* at 4-178, 4-816.

current practices and is designed to identify measures to minimize the chances of a fire starting and spreading from project facilities and to reduce the risk of wildland and structural fire. Although designed for federal lands, the plan would be applicable to the entire pipeline route; regardless of landownership. In addition, the *Erosion Control and Revegetation Plan* requires that residual slash from timber clearing be placed at the edge of the right-of-way and scattered/redistributed across the right-of-way during final cleanup and reclamation according to BLM and Forest Service fuel loading specifications to minimize fire hazard risks.<sup>673</sup>

212. Sierra Club argues that the Commission failed to assess whether fuel breaks (strips or blocks of vegetation that have been altered to slow or control a fire) along the pipeline right-of-way would be effective. Sierra Club acknowledges that fuel breaks can be effective so long as vegetation is maintained and eliminated, but the Commission appears to be letting this vegetation regrow. Sierra Club also points out that such fuel breaks are generally ineffective in the high to extreme fire behavior weather in Southern Oregon along the right-of-way.<sup>674</sup> As discussed, a maintained right-of-way may function as a fire break in certain circumstances; however, contrary to Sierra Club's claim, the Commission is not requiring fuel breaks along the pipeline right-of-way.<sup>675</sup> Therefore, the additional analysis requested by Sierra Club is not necessary.

213. Sierra Club claims that the pipeline may be susceptible to wildfire risks along the right-of-way due to the pipeline's shallow depth, noting that it is unclear whether the pipeline will be buried 18 or 24 inches below the surface.<sup>676</sup> According to Sierra Club, should a rupture occur, a catastrophic wildfire would begin or if already ongoing, be exacerbated beyond control.<sup>677</sup>

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<sup>673</sup> *Id.* at Appendix F.10-Part 2, Erosion Control and Revegetation Plan, 10.

<sup>674</sup> Sierra Club Rehearing Request at 55.

<sup>675</sup> Although the Commission is not requiring fuel breaks along the pipeline right-of-way, integrated stand density fuel breaks, which are designed to reduce the threat of stand replacement fires by reducing stand density, ladder fuels, and incorporating existing openings, have been recommended by BLM and Forest Service as compensatory mitigation on BLM and Forest Service lands off of the pipeline right-of-way. We anticipate that BLM and Forest Service may tier to the EIS when preparing their subsequent site-specific NEPA analyses. Final EIS at 2-35 to 2-39.

<sup>676</sup> *Id.*

<sup>677</sup> *Id.*

214. As Sierra Club suggests, the depth of the pipeline trench varies. DOT regulations require a trench depth of 30 inches in normal soil, 18 inches in consolidated rock, and 48 to 60 inches in agricultural lands.<sup>678</sup> Pacific Connector plans to exceed these minimums where feasible with the goal to trench to a depth of 36 inches in normal soils and up to 24 inches of cover in consolidated rock areas.<sup>679</sup> Sierra Club offers no evidence to suggest that a wildfire is sufficient to overcome the insulating properties of soil or ignite the gas in the subterranean pipeline.

215. Sierra Club next argues that construction and operation of the pipeline will occur during the wildfire season when mechanized and industrial activities are precluded during most daylight hours from late spring to late fall, but the Authorization Order places no fire-related restrictions on the Pacific Connector Pipeline's operations when other activities are precluded.<sup>680</sup> We do not see the need to restrict construction as Sierra Club requests due to Pacific Connector's use of its *Fire Prevention and Suppression Plan*.<sup>681</sup> As discussed, the plan will reduce the risk of fires associated with construction and operation of the pipeline and also includes fire response procedures to be implemented in the event of a fire.<sup>682</sup>

216. Sierra Club also expresses concern that the pipeline's presence will inhibit controlled burns, which help restore forest resilience in wildfire-prone areas, and instead the areas in the vicinity of the pipeline will be managed as "full suppression."<sup>683</sup> However, Sierra Club does not present any evidence to suggest this may be the case. There is no evidence supporting the assertion that the presence of a right-of-way precludes controlled burns. We note that controlled burns may occur over existing rights-of-way with appropriate planning and consultation with pipeline operators. Furthermore, it is speculative to claim that a right-of-way would be managed as "full-suppression." The presence of a right-of-way may affect suppression efforts, but Sierra Club has offered no policy or regulation that a right-of-way prevents suppression or necessitates "full suppression."

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<sup>678</sup> 49 CFR pt. 192 (2019).

<sup>679</sup> Pacific Connector Pipeline Resource Report 1 at 50.

<sup>680</sup> *Id.* at 54-55.

<sup>681</sup> Final EIS at 4-178, 4-816.

<sup>682</sup> *Id.* at 4-178 to 4-179. Although we are not requiring seasonal restrictions, we note that Pacific Connector will only burn slash during the wet season. Final EIS at 4-446.

<sup>683</sup> Sierra Club Rehearing Request at 55.

**N. Threatened and Endangered Species**

217. Sierra Club contends that the Commission violated the Endangered Species Act (ESA) by: (1) issuing a certificate requiring the Blue Ridge Alternative without consulting with the U.S. Fish and Wildlife Service (FWS) and NMFS (collectively, the Services) regarding that alternative, and (2) relying on Biological Opinions that the Commission had reason to know are flawed.<sup>684</sup>

218. Sierra Club claims that Commission staff's Biological Assessment and the Services' Biological Opinions analyzed and authorized the proposed route and not the Blue Ridge Alternative, which is what the Commission authorized in the Authorization Order.<sup>685</sup> Sierra Club argues that the Blue Ridge Alternative has effects that are "different in scope, scale, and location" than what the Services considered.<sup>686</sup> Accordingly, Sierra Club argues that the ESA requires the Commission to reinitiate consultation with the Services.<sup>687</sup>

219. Commission staff's Biological Assessment states:

[t]his [Biological Assessment] assesses the [projects] as designed and proposed by the applicant; however, the FERC and the Forest Service have recommended that four route variation be included in the proposed action . . . including . . . the Blue Ridge Variation . . . . Appendix R provides the quantitative differences to listed species that these variations would have compared to the proposed action. As presented in Appendix R, we have concluded that inclusion of these variations into the proposed action would not change the effects determinations presented in this [Biological Assessment].<sup>688</sup>

220. Thus, Commission staff's Biological Assessment did analyze the Blue Ridge Variation, and staff found the Blue Ridge Variation and the proposed route result in the

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<sup>684</sup> *Id.* at 29-30, 56-64.

<sup>685</sup> *Id.* at 29.

<sup>686</sup> *Id.* (citing Authorization Order, 170 FERC ¶ 61,202 at P 270).

<sup>687</sup> *Id.* at 30.

<sup>688</sup> Commission staff's July 2019 Biological Assessment at 3-4 (filed on July 30, 2019).

same effects determinations. Moreover, staff's Biological Assessment expressly stated that the Commission and the Forest Service recommend inclusion of the Blue Ridge Alternative in the proposed action.

221. We acknowledge, however, that although the Biological Opinions state they are based on information included in the Biological Assessment, the Biological Opinions do not explicitly reference the Blue Ridge Alternative. Therefore, we will informally consult with the Services to determine whether the ESA requires any further consultation. If further consultation is required, the Commission will not authorize the applicants to commence construction activities until such consultation is complete, pursuant to Environmental Condition 11.<sup>689</sup>

222. Sierra Club also argues that the Commission violated the ESA by relying on Biological Opinions that the Commission had reason to know are flawed.<sup>690</sup> Generally, Sierra Club contends that the Biological Opinions fail to adequately assess harm to species and that the reinitiation triggers are coextensive with project effects.<sup>691</sup> Specific to FWS's Biological Opinion, Sierra Club argues that FWS' Biological Opinion: (1) failed to adequately explain inconsistencies between the opinion and FWS' recovery plans for the marbled murrelet and northern spotted owl and (2) relied on uncertain mitigation measures.<sup>692</sup> Specific to NMFS's Biological Opinion, Sierra Club claims that NMFS' Biological Opinion: (1) failed to explain its use of surrogates as reinitiation triggers for several species, (2) did not use the best available science, (3) failed to adequately address cumulative effects associated with the projects, and (4) failed to provide incidental take coverage for vessel strikes to whales.<sup>693</sup>

223. Sierra Club discounts the substantive and procedural responsibilities that section 7(a)(2) of the ESA<sup>694</sup> imposes and the interdependence of federal agencies acting under that section. Although a federal agency is required to ensure that its action will not jeopardize the continued existence of listed species or adversely modify their critical habitat, it must do so in consultation with the Services. Because the Services are charged

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<sup>689</sup> Authorization Order, 170 FERC ¶ 61,202 at app., envtl. cond. 11.

<sup>690</sup> Sierra Club Rehearing Request at 56-64.

<sup>691</sup> *Id.*

<sup>692</sup> *Id.* at 56-58.

<sup>693</sup> *Id.* at 58-64.

<sup>694</sup> 6 U.S.C. § 1536(a)(2) (2018).



with implementing the ESA, they are the recognized experts regarding matters of listed species and their habitats, and the Commission may rely on their conclusions.<sup>695</sup>

224. In reviewing whether the Commission may appropriately rely on the Services' Biological Opinions, the relevant inquiry is not whether the documents are flawed, but rather whether the Commission's reliance was arbitrary and capricious.<sup>696</sup> An agency may rely on a Biological Opinion if a challenging party fails to cite new information that the consulting agency did not take into account that challenges the Biological Opinion's conclusions.<sup>697</sup> Here, Sierra Club does not present any new information that the Services did not consider, and, accordingly, the alleged defects do not rise to the level of new information that would cause the Commission to call into question the factual conclusions of the Biological Opinions. We find the Commission appropriately relied on the judgment of the Services—the agencies responsible for providing expert opinion regarding whether authorizing the projects is likely to jeopardize the continued existence of listed species under the ESA. Thus, we reject Sierra Club's argument that our reliance on the Services' Biological Opinions violated the ESA.

225. We note that the cumulative effects that Sierra Club claims NMFS failed to address in its Biological Opinion (specifically, that the projects will likely result in the development of another LNG terminal and additional pipelines in the area and will likely spur additional industrial development in Coos Bay)<sup>698</sup> are not cumulative effects that must be considered in consultation because they are purely speculative and not reasonably certain to occur.<sup>699</sup>

226. Additionally, regarding take associated with vessel strikes to whales, NMFS explained in its Biological Opinion that “the ESA does not allow NMFS to exempt incidental take of marine mammals where an authorization of the take is required and may be obtained under the [Marine Mammal Protection Act (MMPA).]”<sup>700</sup> As noted in

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<sup>695</sup> *City of Tacoma v. FERC*, 460 F.3d 53, 75 (D.C. Cir. 2006) (finding that expert agencies such as FWS have greater knowledge about the conditions that may threaten listed species and are best able to make factual determinations about appropriate measures to protect the species).

<sup>696</sup> *Id.*

<sup>697</sup> *Id.* at 76.

<sup>698</sup> *Id.* at 62-63.

<sup>699</sup> 50 C.F.R. § 402.02 (2019).

<sup>700</sup> NMFS January 10, 2020 Biological Opinion at 53.

the Authorization Order, Jordan Cove's consultation with NMFS regarding impacts on marine mammals is ongoing, and NMFS may issue an incidental take authorization under the MMPA.<sup>701</sup>

227. Ms. McCaffree argues that the Commission violated the ESA because it did not fully assess the projects' impacts, specifically dredging and noise, to snowy plovers and their habitats.<sup>702</sup> Ms. McCaffree claims that the Commission failed to consider "[p]ictures and proof of plovers utilizing the tidal muds that are slated to be destroyed by the development of the LNG marine terminal...."<sup>703</sup>

228. FWS's Biological Opinion analyzed impacts to western snowy plovers, including impacts from dredging and noise.<sup>704</sup> FWS determined that the projects would not jeopardize the continued existence of the species or result in the destruction or adverse modification of its critical habitat;<sup>705</sup> and, in its Incidental Take Statement for western snowy plover, FWS provided four reasonable and prudent measures and nine terms and conditions.<sup>706</sup> The Authorization Order requires Jordan Cove and Pacific Connector to implement the reasonable and prudent measures and adopt the terms and conditions in FWS' Biological Opinion.<sup>707</sup> Accordingly, we find that the Commission satisfied its obligations under the ESA by ensuring that the Commission's action will not jeopardize the continued existence of the western snowy plover or result in the destruction or adverse modification of its habitat.

### **O. Air Quality**

229. The State of Oregon asserts that the Final EIS erroneously claims that the Jordan Cove LNG Terminal and the Pacific Connector Pipeline are not subject to Prevention of Significant Deterioration preconstruction permit requirements under the Clean Air Act because the Jordan Cove LNG Terminal does not exceed relevant PSD requirements.<sup>708</sup>

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<sup>701</sup> Authorization Order, 170 FERC ¶ 61,202 at P 226.

<sup>702</sup> McCaffree Rehearing Request at 28-29.

<sup>703</sup> *Id.* at 29.

<sup>704</sup> FWS January 31, 2020 Revised Biological Opinion at 172-207.

<sup>705</sup> *Id.* at 197.

<sup>706</sup> *Id.* at 203-207.

<sup>707</sup> Authorization Order, 170 FERC ¶ 61,202 at app., envtl. cond. 26.

<sup>708</sup> State of Oregon Rehearing Request at 33.

The State of Oregon indicates that the Jordan Cove LNG Terminal is projected to emit more than two times the Prevention of Significant Deterioration thresholds carbon monoxide and oxides of nitrogen (NOx) for new federal sources, and, if Oregon Department of Environmental Quality (DEQ) determines that the facilities qualify as a major new stationary source, they will be subject to additional control requirements, including Best Available Control Technology to control GHG emissions, which could change the terminal's design and operations.<sup>709</sup> The State of Oregon also argues that Jordan Cove and Pacific Connector have indicated uncertainty about the exact nature of the liquefaction facilities at the terminal and the Klamath Compressor Station,<sup>710</sup> which has prevented DEQ from making a Prevention of Significant Deterioration determination.<sup>711</sup>

230. Under the Prevention of Significant Deterioration program, a listed new "federal major source" that exceeds 100 tons per year or more of any individual regulated pollutant is subject to preconstruction permit requirements, while a non-listed source is subject to these requirements if it has the potential to emit less than the 250 tons per year (tpy) or more of any criteria pollutant.<sup>712</sup> To provide context for project emissions, the Authorization Order and Final EIS state that the terminal must obtain preconstruction review and a permit under Title V of the CAA, but was not subject to Prevention of Significant Deterioration because the terminal is not a listed federal major source and its potential to emit is less than 250 tpy during operations,<sup>713</sup> and made the same determination for the Klamath Compressor Station.<sup>714</sup> However, the State of Oregon retains full authority to grant or deny air quality permits; if the State of Oregon requires that the Jordan Cove LNG Terminal must obtain a Prevention of Significant Deterioration permit, it will be up to Jordan Cove to determine how it wishes to proceed. In addition, the Commission has conditioned our authorization on Jordan Cove's ability to secure all

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<sup>709</sup> *Id.* at 33, 70-71.

<sup>710</sup> The State of Oregon refers to the Klamath Compressor Station near Malin, Oregon, as the Malin Compressor Station. State of Oregon Rehearing Request at 70-71.

<sup>711</sup> *Id.* at 70-71.

<sup>712</sup> *Id.* at 33 (citing OAR 340-200-0020(66)(c)).

<sup>713</sup> Authorization Order, 170 FERC ¶ 61,202 at P 255; EIS at 4-701 to 4-702.

<sup>714</sup> Authorization Order, 170 FERC ¶ 61,202 at P 255; EIS at 4-706.

necessary federal authorizations, including any relevant federal CAA permits obtainable from Oregon DEQ.<sup>715</sup>

231. Finally, Ms. McCaffree argues that the Commission failed to adequately consider tanker emissions as part of the cumulative impacts analysis for air quality.<sup>716</sup> We disagree. The Final EIS fully considers and modeled LNG carrier emissions when assessing the Jordan Cove LNG Terminal's operational air emissions,<sup>717</sup> concluding that the project would not have a significant impact on regional air quality.<sup>718</sup>

**P. Climate Change and GHG Emissions**

**1. Global Warming Potentials**

232. NRDC contends that the Commission failed to adequately consider the projects' GHG impacts, alleging that the Commission relied on outdated global warming potentials (GWP) for GHGs when it used the EPA's international GHG reporting rules rather than the Intergovernmental Panel on Climate Change's (IPCC) more recent estimates to analyze the projects' GHG emissions.<sup>719</sup> For methane, NRDC contends that even if the Commission uses EPA's GWP of 25 over a 100-year period, the Commission must also calculate climate impacts using the IPCC's more recent 100-year GWP of 36 and 20-year GWP of 84-87 due to methane's potency over a shorter timeframe and to better correspond to 20- to 30-year natural gas transportation contracts.<sup>720</sup>

233. The Commission appropriately relied on EPA's published global warming potentials, which are the current scientific methodology used for consistency and comparability with other Commission jurisdictional projects as well as emissions estimates in the United States and internationally, including GHG control programs under

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<sup>715</sup> Authorization Order, 170 FERC ¶ 61,202 at app., envtl. cond. 11.

<sup>716</sup> McCaffree Rehearing Request at 32.

<sup>717</sup> Final EIS at 4-701.

<sup>718</sup> *Id.* at 4-707.

<sup>719</sup> NRDC Rehearing Request at 67.

<sup>720</sup> *Id.* at 67-68.

the CAA.<sup>721</sup> As we have explained,<sup>722</sup> we have consistently used EPA’s global warming potentials, including time horizons, in order to compare proposals with other projects and with GHG inventories.

## 2. Indirect, Cumulative, and Connected Greenhouse Gas Emissions

234. NRDC, Sierra Club, and Confederated Tribes contend that the Commission failed to consider the indirect and cumulative impacts associated with the Pacific Connector Pipeline and Jordan Cove LNG Terminal, arguing that the Commission must include the induced upstream production of gas, impacts associated with transport and liquefaction, and downstream consumption of the gas that flows through the pipeline.<sup>723</sup> On upstream emissions, both Sierra Club and NRDC argue that the Commission must consider GHG emissions at the wellhead when the Commission relies, in part, on the pipeline’s ability to supply natural gas from supply basins in the U.S. Rocky Mountains and Western Canada as a project benefit.<sup>724</sup> NRDC contends, at the very least, the Commission should be able to calculate upstream emissions using the full capacity of the pipeline.<sup>725</sup> Confederated Tribes argues that the Commission must consider the eventual end use of the natural gas being transported through the Jordan Cove LNG Terminal.<sup>726</sup> Confederated Tribes points out that the downstream combustion of the gas transported by the terminal is not just a “reasonably foreseeable” indirect impact, it is the terminal’s entire purpose.<sup>727</sup>

235. NEPA requires agencies to consider indirect impacts that are “caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable.”<sup>728</sup>

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<sup>721</sup> Authorization Order, 170 FERC ¶ 61,202 at PP 258-59; Final EIS at 4-687 to 4-694, tbls. 4.12.1.3-1, 4.12.1.3-2, 4.12.1.4-1, & 4.12.1.4-2.

<sup>722</sup> *Dominion Transmission, Inc.*, 158 FERC ¶ 61,029, at P 4 (2017).

<sup>723</sup> NRDC Rehearing Request at 58-59, 60-61; Sierra Club Rehearing Request at 67; Confederated Tribes Rehearing Request at 34.

<sup>724</sup> NRDC Rehearing Request at 69; Sierra Club Rehearing Request at 67-68.

<sup>725</sup> NRDC Rehearing Request at 70.

<sup>726</sup> Confederated Tribes Rehearing Request at 36.

<sup>727</sup> *Id.*

<sup>728</sup> 40 C.F.R. § 1508.8 (2019).

236. As discussed in the Authorization Order, upstream greenhouse gases associated with the gas transported on the Pacific Connector Pipeline are not an indirect impact for purposes of NEPA.<sup>729</sup> We are unable to identify, based on the record, an incremental increase in natural gas production that is causally related to our action in approving the projects.<sup>730</sup> Although the Commission noted generally the natural gas production areas that will provide natural gas to be transported via the Pacific Connector Pipeline,<sup>731</sup> given the large geographic scope of Western Canada and the U.S. Rocky Mountain production areas, the magnitude of analysis requested would require the Commission to go well beyond “reasonable forecasting.” Furthermore, the Commission does not have more detailed information regarding the number, location, and timing of wells, roads, gathering lines, and other appurtenant facilities, nor does it have details about production methods. Thus, there are no available forecasts that would enable the Commission to meaningfully predict production-related impacts, many of which are highly localized. Any estimates of the potential impacts associated with induced unconventional natural gas production arguably related to the Pacific Connector Pipeline would be based on information that is generic in nature, providing upper-bound estimates of upstream effects using general shale gas well information and worst-case scenarios of peak use. The Commission does not find this type of generic estimate to meaningfully inform its decision. Consequently, we continue to find that impacts from upstream production activities do not meet the definition of indirect effects, and therefore they are not mandated to be included in the Commission’s NEPA review.<sup>732</sup>

237. NRDC and the Confederated Tribes argue that the Commission must nonetheless examine the full lifecycle climate impacts associated with both projects, including the downstream impacts related to consumption of the gas to be exported from the terminal, because the Pacific Connector Pipeline and Jordan Cove LNG Terminal are a single integrated project.<sup>733</sup> As we explained in the Authorization Order, the courts have explained that, because the authority to authorize the LNG exports rests with DOE; NEPA does not require the Commission to consider the upstream or downstream GHG emissions that may be indirect effects of the export itself when determining whether the

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<sup>729</sup> Authorization Order, 170 FERC ¶ 61,202 at P 174.

<sup>730</sup> *Id.*

<sup>731</sup> *Id.* P 47.

<sup>732</sup> *See generally id.* (McNamee, Comm’r, concurrence at PP 22-58) (elaborating on the purpose of the NGA to facilitate the development and access to natural gas, as well as an analysis of consideration of indirect effects under NEPA).

<sup>733</sup> NRDC Rehearing Request at 59; Confederated Tribes Rehearing Request at 36.

related LNG export facility satisfies section 3 of the NGA.<sup>734</sup> These courts agree that the Commission is not the legally relevant cause of these emissions.<sup>735</sup>

238. Sierra Club and NRDC next claim that the Commission must analyze downstream impacts from the terminal because DOE's non-free trade export review is a connected action.<sup>736</sup> Pursuant to CEQ regulations, "connected actions" include actions that: (a) automatically trigger other actions, which may require an EIS; (b) cannot or will not proceed without previous or simultaneous actions; or (c) are interdependent parts of a larger action and depend on the larger action for their justification.<sup>737</sup> As noted above,<sup>738</sup> in evaluating whether multiple actions are, in fact, connected actions, courts have employed a "substantial independent utility" test, asks "whether one project will serve a significant purpose even if a second related project is not built."<sup>739</sup>

239. As required by NGA section 3(c),<sup>740</sup> DOE issued an instant grant of authority to Jordan Cove to export 395 Bcf per year of natural gas to countries with which the United States has an FTA, and this volume is equivalent to Jordan Cove LNG Terminal's nameplate capacity of 7.8 MTPA of LNG.<sup>741</sup> No additional trade authorization is needed for the terminal to operate at its full capacity. Because the terminal already has a significant purpose and could proceed absent the pending authorization for non-FTA nations, the two actions are not connected actions.

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<sup>734</sup> Authorization Order, 170 FERC ¶ 61,202 at P 171 (citing *Sierra Club v. FERC*, 827 F.3d 36 (D.C. Cir. 2016) (Freeport)); *see also* *Sierra Club v. FERC*, 867 F.3d at 1373 (discussing Freeport).

<sup>735</sup> *See* Freeport, 827 F.3d at 46-47; *Sierra Club v. FERC*, 867 F.3d at 1373.

<sup>736</sup> Sierra Club Rehearing Request at 68-70; NRDC Rehearing Request at 59.

<sup>737</sup> 40 C.F.R. § 1508.25(a)(1) (2019).

<sup>738</sup> *See supra* P 122.

<sup>739</sup> *Coal. on Sensible Transp., Inc. v. Dole*, 826 F.2d at 69. *See also* *O'Reilly v. U.S. Army Corps of Eng'rs*, 477 F.3d at 237 (defining independent utility as whether one project "can stand alone without requiring construction of the other [projects] either in terms of the facilities required or of profitability").

<sup>740</sup> 15 U.S.C. § 717b(c) (2018).

<sup>741</sup> Authorization Order, 170 FERC ¶ 61,202 at P 181.

240. Nonetheless, Sierra Club contends that even if the Jordan Cove LNG Terminal does not depend on non-FTA nation authorization, the two actions are connected because the non-FTA nation exports authorization does not have independent utility absent the terminal.<sup>742</sup> But under CEQ's definition of a connected action, the terminal must have an interdependent relationship with the non-FTA nation authorization.<sup>743</sup> Nothing about the Jordan Cove LNG Terminal "triggers" or mandates non-FTA nation authorization and, as discussed, the terminal can proceed without such authorization. Moreover, Sierra Club does not make any showing that the delivery of natural gas to non-FTA nations, as opposed to FTA nations, has differing environmental effects, nor is there any information available as to the end use of the gas to be shipped from the Jordan Cove LNG Terminal.

### 3. Project Level Climate Impacts

241. Ms. McCaffree claims that the Commission failed to consider and address the projects' GHG impacts on commerce and Gross Domestic Product, as well as impacts of ocean acidification, domoic acid and sea level rise on the biological function of the Coos Estuary.<sup>744</sup> As discussed in the Final EIS and below, the Commission examined various tools to link project GHGs to climate change impacts, but was unable to identify a method for relating GHG emissions to specific resource impacts.<sup>745</sup> However, the EIS identified general climate change impacts in the project area.<sup>746</sup> Currently, there is no accepted methodology to attribute discrete, quantifiable, physical effects on the environment, particularly Coos Bay, or the area's economy to the projects' incremental contribution to GHGs.<sup>747</sup>

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<sup>742</sup> Sierra Club Rehearing Request at 68.

<sup>743</sup> 40 C.F.R. § 1508.25(a)(1) (2019). *See also Del. Riverkeeper Network v. FERC*, 753 F.3d 1304, 1313 (D.C. Cir. 2014) (finding that four pipeline proposals were connected actions because the four projects would result in "a single pipeline" that was "linear and physically interdependent" and because the projects were financially interdependent).

<sup>744</sup> McCaffree Rehearing Request at 32-33.

<sup>745</sup> Final EIS at 4-849.

<sup>746</sup> *Id.*

<sup>747</sup> *See generally* Authorization Order, 170 FERC ¶ 61,202 at P 262.



#### 4. Significance

242. The State of Oregon, NRDC, and Sierra Club argue that the Commission is required by both NEPA and the NGA to assess the significance of the projects' GHG emissions, even if the Commission must develop its own methodology for assessing GHG emissions.<sup>748</sup> NRDC and Sierra Club suggest that the Commission use existing climate models to develop such a methodology.<sup>749</sup> NRDC claims the Commission failed to explain why existing climate models were too large and complex to assess significance, or why more simplistic climate models were not appropriate.<sup>750</sup> Sierra Club also claims that other methodologies could be used to ascribe significance, including tools used by the U.S. Global Change Research Program (USGCRP) to assess impacts.<sup>751</sup>

243. As an initial matter, the Commission discussed the significance of the projects' direct GHG emissions by quantifying those emissions,<sup>752</sup> and those emissions were placed in the context of cumulative emissions from other sources.<sup>753</sup> NEPA requires nothing more.

244. We disagree that the Commission can establish its own methodology for determining the significance of GHG emissions as we do for other resources, such as wetlands or vegetation. The Commission applies standard methodologies and established metrics for assessing the significance of the environmental impacts on these resources. In contrast, here the Commission has no benchmark to determine whether a project has a significant effect on climate change. To assess a project's effect on climate change, the Commission can only quantify the amount of project emissions, but it has no way to then assess how that amount contributes to climate change. For example, that calculated

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<sup>748</sup> State of Oregon Rehearing Request at 35-36, 61-62, 67; NRDC Rehearing Request at 61-64; Sierra Club Rehearing Request at 65-67.

<sup>749</sup> NRDC Rehearing Request at 63-64; Sierra Club Rehearing Request at 66.

<sup>750</sup> NRDC Rehearing Request at 63-64.

<sup>751</sup> *Id.* at 66.

<sup>752</sup> Final EIS at tbl.4.12.1.3-1 (LNG Terminal construction emissions), Table 4.12.1.3-2 (LNG Terminal operation emissions), tbl.4.12.1.4-1 (pipeline facilities construction emissions), & tbl.4.12.1.4-2 (pipeline facilities operation emissions); Authorization Order, 170 FERC ¶ 61,202 at PP 258-59.

<sup>753</sup> Authorization Order, 170 FERC ¶ 61,202 at P 259. Commission staff also put the projects' GHG emissions into context by calculating their contribution to Oregon's 2020 and 2050 climate goals. Final EIS at 4-851.

number cannot inform the Commission on climate change effects caused by the project, e.g., increase of sea level rise, effect on weather patterns, or effect on ocean acidification. Without adequate support or a reasoned target, the Commission cannot ascribe significance to GHG emissions amounts.<sup>754</sup>

245. As for the climate models and mathematical techniques raised by NRDC and Sierra Club, these climate models are used by the USGCRP and, as explained in the Final EIS, include climate models used by the EPA, National Aeronautics and Space Administration, and the IPCC.<sup>755</sup> Commission staff determined that those complex national and global models could not be used to directly link the projects' incremental contribution to climate change to effects on the environment.<sup>756</sup> As we explained in the Final EIS, Commission staff looked at a number of simpler models and attempted to extrapolate impacts using mathematical techniques, but none allowed the Commission to link physical effects caused by the projects' GHG emissions and NRDC does not suggest any such model exists.<sup>757</sup>

246. In the alternative, NRDC claims the Commission has other tools at its disposal to assess the significance of GHG, including the Social Cost of Greenhouse Gases.<sup>758</sup> NRDC argues that the Social Cost of Greenhouse Gases contextualizes costs associated with climate change and can also be used as a proxy for understanding climate impacts and to compare alternatives.<sup>759</sup>

247. The Social Cost of Carbon is not a suitable method for determining whether GHG emissions that are caused by a proposed project will have a significant effect on climate change. The Commission has provided extensive discussion on why the Social Cost of Carbon is not appropriate in project-level NEPA review and cannot meaningfully inform

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<sup>754</sup> See generally Authorization Order, 170 FERC ¶ 61,202 (McNamee, Comm'r, concurring at PP 73-80) (elaborating on how it would be unreasonable for the Commission to establish its own criteria for determining significance out of whole cloth).

<sup>755</sup> Final EIS at 4-850.

<sup>756</sup> *Id.*

<sup>757</sup> *Id.*

<sup>758</sup> NRDC Rehearing Request at 64-65 (NRDC describes the Social Cost of Greenhouse Gases as comprising the Social Cost of Carbon, the Social Cost of Methane, and the Social Cost of Nitrous Oxide).

<sup>759</sup> *Id.*

the Commission's decisions on natural gas infrastructure projects under the NGA.<sup>760</sup> It is not appropriate for use in any project-level NEPA review for the following reasons:

- (1) EPA states that “no consensus exists on the appropriate [discount] rate to use for analyses spanning multiple generations”<sup>761</sup> and consequently, significant variation in output can result;<sup>762</sup>
- (2) the tool does not measure the actual incremental impacts of a project on the environment; and
- (3) there are no established criteria identifying the monetized values that are to be considered significant for NEPA reviews.<sup>763</sup>

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<sup>760</sup> *Mountain Valley*, 161 FERC ¶ 61,043 at P 296, *order on reh'g*, 163 FERC ¶ 61,197 at PP 275-297, *aff'd*, *Appalachian Voices v. FERC*, No. 17-1271, 2019 WL 847199 at \*2 (“[The Commission] gave several reasons why it believed petitioners’ preferred metric, the Social Cost of Carbon tool, is not an appropriate measure of project-level climate change impacts and their significance under NEPA or the Natural Gas Act. That is all that is required for NEPA purposes.”); *see also EarthReports, Inc. v. FERC*, 828 F.3d 949, 956 (D.C. Cir. 2016); *Sierra Club v. FERC*, 672 F. App’x 38, (D.C. Cir. 2016); *350 Montana v. Bernhardt*, No. CV 19-12-M-DWM, 2020 WL 1139674, \*6 (D. Mont. March 9, 2020) (upholding the agency’s decision to not use the Social Cost of Carbon because it is too uncertain and indeterminate to be useful); *Citizens for a Healthy Cmty. v. U.S. Bureau of Land Mgmt.*, 377 F. Supp. 3d 1223, 1239-41 (D. Colo. 2019) (upholding the agency’s decision to not use the Social Cost of Carbon); *WildEarth Guardians v. Zinke*, 368 F. Supp. 3d 41, 77-79 (D.D.C. 2019) (upholding the agency’s decision to not use the Social Cost of Carbon).

<sup>761</sup> *See* Fact Sheet: *Social Cost of Carbon* issued by EPA in November 2013, [https://19january2017snapshot.epa.gov/climatechange/social-cost-carbon\\_.html](https://19january2017snapshot.epa.gov/climatechange/social-cost-carbon_.html).

<sup>762</sup> Depending on the selected discount rate, the tool can project widely different present-day cost to avoid future climate change impacts. *See generally* Authorization Order, 170 FERC ¶ 61,202 (McNamee, Comm’r, concurring at n.147) (“The Social Cost of Carbon produces wide-ranging dollar values based upon a chose discount rate, and the assumptions made. The Interagency Working Group on Social Cost of Greenhouse Gases estimated in 2016 that the Social Cost of one ton of carbon dioxide for the year 2020 ranged from \$12 to \$123.”).

<sup>763</sup> *See generally* Authorization Order, 170 FERC ¶ 61,202 (McNamee, Comm’r, concurring at P 72) (“When the Social Cost of Carbon estimates that one metric ton of

We have also repeatedly explained that while the methodology may be useful for other agencies' rulemakings or comparing regulatory alternatives using cost-benefit analyses where the same discount rate is consistently applied, it is not appropriate for estimating a specific project's impacts or informing our analysis under NEPA.<sup>764</sup>

248. NRDC also contends that the Commission could apply the projects' emissions to the remaining global carbon budget as outlined in the IPCC's Special Report.<sup>765</sup> We disagree. This approach would obscure the projects' impacts by comparing project emissions to global emissions, and, consequently would compare project emissions at too broad a scale to be useful.

249. Sierra Club argues that there are GHG emission reduction goals that the Commission could use to assess significance.<sup>766</sup> Sierra Club points to, the United States' adoption of a GHG emission reduction goal as part of the Paris climate accords, and states that although the Paris accords are "pending withdrawal," they are still effective.<sup>767</sup>

250. We do not see the utility in using the targets in the Paris climate accords, because the United States had announced its intent to withdraw from the accord.<sup>768</sup> But, even if the Commission were to consider those targets, without additional guidance, the Commission cannot determine the significance of the projects' emissions in relations to

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CO<sub>2</sub> costs \$12 (the 2020 cost for a discount rate of five percent), agency decision-makers and the public have no objective basis or benchmark to determine whether the cost is significant. Bare numbers standing alone simply *cannot* ascribe significance.") (emphasis in original) (footnote omitted).

<sup>764</sup> *Mountain Valley*, 161 FERC ¶ 61,043 at P 296. Moreover, Executive Order 13783, Promoting Energy Independence and Economic Growth, has disbanded the Interagency Working Group on Social Cost of Greenhouse Gases and directed the withdrawal of all technical support documents and instructions regarding the methodology, stating that the documents are "no longer representative of governmental policy." Exec. Order No. 13,783, 82 Fed. Reg. 16093 (2017).

<sup>765</sup> NRDC Rehearing Request at 65.

<sup>766</sup> Sierra Club Rehearing Request at 65.

<sup>767</sup> *Id.*

<sup>768</sup> See Authorization Order, 170 FERC ¶ 61,202 at n.556. On November 4, 2019, President Trump began the formal process of withdrawing from the Paris Climate Accord by notifying the United Nations Secretary General of his intent to withdraw the United States from the Paris Climate Accord, which takes 12 months to take effect.

the goals. For example, there are no industry sector or regional emission targets or budgets with which to compare project emissions, or established GHG offsets to assess the projects' relationship with emissions targets.

251. Finally, NRDC, Sierra Club, and the State of Oregon, also contend that the Commission should have considered Oregon's climate reduction targets to assess significance.<sup>769</sup> NRDC points out that the terminal's emissions would account for 4.2% and 15.3% of Oregon's 2020 and 2050 targets, respectively—meaning that the terminal would account for almost an eighth of the total state-wide emissions permissible under Oregon law in 2050.<sup>770</sup> The State of Oregon points out that even if there is a lack of authority to meet the GHG emissions goals, the Commission could still use these benchmarks to assess significance.<sup>771</sup> Moreover, Governor Brown of Oregon recently issued an executive order to use existing authority to achieve Oregon's climate reduction goals.<sup>772</sup>

252. We explained in the Authorization Order that while the State of Oregon established a state policy to meet GHG emissions reduction goals, it did not create any additional regulatory authority to meet its goals.<sup>773</sup> Governor Brown's executive order does not change our determination that Oregon's climate goals on their own cannot be used to ascribe significance. The order directed state agencies and commissions to exercise any and all authority and discretion to help facilitate Oregon's GHG emissions reduction goals.<sup>774</sup> As we determined when considering the Paris climate accords,

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<sup>769</sup> NRDC Rehearing Request at 65-66; Sierra Club Rehearing Request at 65; State of Oregon Rehearing Request at 36.

<sup>770</sup> NRDC Rehearing Request at 66.

<sup>771</sup> State of Oregon Rehearing Request at 36.

<sup>772</sup> Sierra Club Rehearing Request at 65-66 (citing Office of the Governor, State of Oregon, Executive Order No. 20-04, DIRECTING STATE AGENCIES TO TAKE ACTIONS TO REDUCE AND REGULATE GREENHOUSE GAS EMISSIONS (March 10, 2020), [https://www.oregon.gov/gov/Documents/executive\\_orders/eo\\_20-04.pdf](https://www.oregon.gov/gov/Documents/executive_orders/eo_20-04.pdf)).

<sup>773</sup> Authorization Order 170 FERC ¶ 61,202 at P 260 (citing Or. Rev. Stat. § 468A.205 (2007)).

<sup>774</sup> Office of the Governor, State of Oregon, Executive Order No. 20-04, DIRECTING STATE AGENCIES TO TAKE ACTIONS TO REDUCE AND REGULATE GREENHOUSE GAS EMISSIONS (March 10, 2020), [https://www.oregon.gov/gov/Documents/executive\\_orders/eo\\_20-04.pdf](https://www.oregon.gov/gov/Documents/executive_orders/eo_20-04.pdf).

without industry sector or regional emission targets or budgets with which to compare project emissions, or established GHG offsets to assess the projects' relationship with emissions targets, we cannot assess significance based on Oregon's climate reduction goals alone.

## 5. Mitigation

253. The State of Oregon and NRDC argue that the Commission could have used its authority to condition the Authorization Order with mitigation measures to address the GHGs that will be emitted by the projects.<sup>775</sup> NRDC suggests that the Commission require Pacific Connector and Jordan Cove to mitigate the projects' GHGs by planting trees to sequester the projects' GHG emissions, or purchase renewable energy credits equal to the projects' electricity consumption.<sup>776</sup>

254. We do not believe there are any additional mitigation measures the Commission could impose with respect to the GHG emissions analyzed in the Final EIS. As discussed, the Commission is unable to reach a significance determination for these emissions because of the global nature of climate change; therefore, we see no way to establish appropriate levels of potential mitigation or no way to ensure project-level mitigation measures would be effective.<sup>777</sup>

## 6. The Commission's Public Interest Determinations under Sections 3 and 7 of the Natural Gas Act

255. Finally, Sierra Club, Ms. McCaffree, and the State of Oregon contend that the Commission's conclusion that it cannot evaluate the significance or severity of GHG emissions undermines FERC's conclusion that overall environmental impacts are, with few specific exceptions, insignificant, and prevents the Commission from properly making the NGA public interest determination.<sup>778</sup> Sierra Club claims that the D.C. Circuit ruled in *Sabal Trail* that the Commission must consider, and therefore decide,

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<sup>775</sup> State of Oregon Rehearing Request at 63; NRDC Rehearing Request at 71-72.

<sup>776</sup> *Id.* at 75.

<sup>777</sup> See generally Authorization Order, 170 FERC ¶ 61,202 (McNamee, Comm'r, Concurrence at 59-68) (stating it would be inappropriate for the Commission to require mitigation of GHG emissions when "[o]ver the last 15 years, Congress has introduced and failed to pass 70 legislative bills to reduce GHG emissions . . .").

<sup>778</sup> Sierra Club Rehearing Request at 64-65; McCaffree Rehearing Request at 33; State of Oregon Rehearing Request at 35.

whether a project's contribution to climate change renders the project contrary to the public interest.<sup>779</sup>

256. As discussed, the Commission determined that the NGA section 3 project was not inconsistent with the public interest and the NGA section 7 project was required by the public convenience and necessity based on all information in the record, including the projects' GHG emissions.<sup>780</sup> These annual emissions could impact the State of Oregon's ability to meet its greenhouse gas reduction goals; however, the Commission found that the projects, if constructed and operated as described in the Final EIS with required conditions, are environmentally acceptable actions and, consequently, based on all the other factors discussed in the Authorization Order, the Jordan Cove LNG Terminal is not inconsistent with the public interest and the Pacific Connector Pipeline is required by the public convenience and necessity.<sup>781</sup> We affirm that decision.

**Q. Water Resources and Wetlands**

**1. The Projects Will Not Have Significant Environmental Impacts on Water Resources or Wetlands**

257. The State of Oregon and Sierra Club assert that the Commission violated NEPA because the Final EIS underestimates or ignores the LNG terminal's and the pipeline's impacts to water resources and wetlands and because the Final EIS fails to adequately include and analyze mitigation measures for these impacts.<sup>782</sup> Based on these flaws, they also argue that the conclusions that the projects would not significantly affect surface water resources are not supported.

258. The Final EIS explains that terminal and pipeline construction and operations would impact wetlands, groundwater, and surface water, but these impacts would not result in significant environmental impacts.<sup>783</sup>

259. With regard to wetlands, as discussed in the Final EIS, the terminal would impact 86.1 acres of wetlands, including 22.3 acres of wetland loss, while the pipeline would

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<sup>779</sup> Sierra Club Rehearing Request at 64 (citing *Sierra Club v. FERC*, 867 F.3d at 1373).

<sup>780</sup> See *supra* PP 64, 65.

<sup>781</sup> Authorization Order, 170 FERC ¶ 61,202 at P 294.

<sup>782</sup> State of Oregon Rehearing Request at 30-31, 50-57, 59-61, 63-70, 72-77; Sierra Club Rehearing Request at 94-106.

<sup>783</sup> Final EIS at 5-4.

impact 114.1 acres of wetlands and have long-term impacts on 4.9 acres of wetlands.<sup>784</sup> As discussed in more detail below, based on Jordan Cove and Pacific Connector's implementation of mitigation measures to reduce impacts on wetlands, the Final EIS determines that constructing and operating the project would not significantly affect wetlands.<sup>785</sup> Jordan Cove and Pacific Connector also developed a Compensatory Wetland Mitigation Plan to comply with Army Corps requirements, with impacts on freshwater wetland resources mitigated in-kind through the Kentuck Slough Wetland Mitigation Project (Kentuck project)<sup>786</sup> and impacts on estuarine wetland resources mitigated in-kind through the Eelgrass Mitigation site.<sup>787</sup>

260. The projects would not significantly affect groundwater resources. At the terminal, Jordan Cove would implement best management practices and other measures to address any inadvertent releases of equipment-related fluids.<sup>788</sup> At the pipeline, construction and operations could impact springs, seeps, and wells, but any impacts to flow and volume or from inadvertent releases of equipment-related fluids would be mitigated through measures described in its Groundwater Supply Monitoring and Mitigation, Spill Prevention, Containment, and Countermeasures Plan, and Contaminated Substances Discovery Plan.<sup>789</sup>

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<sup>784</sup> *Id.*

<sup>785</sup> Final EIS at 4-139.

<sup>786</sup> The Kentuck project includes 140 acres on the eastern shore of Coos Bay at the mouth of the Kentuck Slough. Final EIS at 2-18. Approximately 9.1 acres of the Kentuck project site would be enhanced and restored to mitigate for permanent impacts on freshwater wetlands. *Id.* at 4-134. Approximately 100.6 of the Kentuck project site would be enhanced and restored to mitigate for permanent impacts on estuarine wetlands and aquatic resources. *Id.* at 4-134 to 4-135.

<sup>787</sup> The Eelgrass Mitigation site is in Coos Bay near the Southwest Oregon Regional Airport. Final EIS at 2-18. Approximately 9.3 acres at the Eelgrass Mitigation site would be enhanced to mitigate for permanent impacts on aquatic resources. *Id.* at 4-134 to 4-135. Jordan Cove also proposes, in addition to the Eelgrass Mitigation site, to remove eelgrass from the access channel prior to dredging and to transplant it into the Jordan Cove embayment, a shallow, low-gradient embayment with continuous to patchy eelgrass beds located approximately 0.5 mile east of the access channel. *Id.* at 4-135.

<sup>788</sup> *Id.* at 5-2.

<sup>789</sup> *Id.* at 5-4.



261. Finally, the Final EIS determines that while the projects would impact surface waters, these impacts would not be significant. The construction of the terminal will temporarily increase turbidity and sedimentation due to initial dredging and such impacts would occur again with maintenance dredging.<sup>790</sup> The LNG carriers will also impact water quality due to discharges of ballast water and engine operations, but these impacts would be highly localized and minor and would not significantly affect water quality.<sup>791</sup> The pipeline would be constructed across or in close proximity to 337 waterbodies, 257 of which are intermittent streams and ditches, 68 are perennial waterbodies, 5 are major waterbodies, and several of which are ponds and other surface water features.<sup>792</sup> Pacific Connector would cross waterbodies during low-flow periods and during in-water construction windows when possible and would also implement mitigation to reduce impacts associated with vegetation loss and sedimentation risks during construction.<sup>793</sup> Pacific Connector would cross major waterbodies using HDD.<sup>794</sup>

262. The Final EIS therefore determines, and we agree, that impacts on water resources and wetlands would not be significant. Petitioners' more detailed concerns are discussed in depth below.

**a. Adequacy of Information**

263. The State of Oregon generally contends that the Commission failed to rely on "high quality information and accurate scientific analysis" regarding impacts on water resources, as required under NEPA.<sup>795</sup> The State of Oregon claims that without developing empirical data and advanced models, the Commission cannot accurately identify the suite of direct and indirect biological changes and impacts that are likely to occur in association with the construction and operation of the LNG terminal and cannot

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<sup>790</sup> *Id.* at 5-3.

<sup>791</sup> *Id.*

<sup>792</sup> *Id.*

<sup>793</sup> Final EIS at 5-3.

<sup>794</sup> *Id.*

<sup>795</sup> State of Oregon Rehearing Request at 66 (quoting 40 C.F.R. §§ 1500.1(b), 1502.2 (2019)).

identify the spatial scale over which the impacts are likely to be significant or substantial.<sup>796</sup>

264. The Final EIS fully considers the impact that construction and operation of the Jordan Cove LNG Terminal would have on several biological and ecological resource areas, including: water resources and wetlands;<sup>797</sup> upland vegetation;<sup>798</sup> terrestrial<sup>799</sup> and aquatic wildlife;<sup>800</sup> threatened, endangered, and special-status species;<sup>801</sup> as well as the amount and type of land needed for construction and operation.<sup>802</sup> In assessing these and other impacts, Commission staff relied on a variety of studies and other reference material, a complete list of which was provided to the public.<sup>803</sup> Under NEPA, agencies are “entitled to wide discretion in assessing ... scientific evidence”<sup>804</sup> and the State of Oregon does not demonstrate that Commission staff’s reliance on this evidence prevented staff from considering the “full suite” of impacts, or their “spatial scale.”<sup>805</sup>

**b. Mitigation Measures**

265. The State of Oregon and Sierra Club contend that the Commission’s determination that the Jordan Cove LNG Terminal’s impacts on water quality would not be significant is unsupported, as it appears to be based on “purported reliance” on mitigation and minimization measures, details of which Sierra Club states has not been provided to

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<sup>796</sup> *Id.* at 65-66.

<sup>797</sup> Final EIS at 4-84 to 4-94, 4-123 to 4-135.

<sup>798</sup> *Id.* at 4-150 to 4-159.

<sup>799</sup> *Id.* at 4-185 to 4-199.

<sup>800</sup> *Id.* at 4-235 to 4-270.

<sup>801</sup> *Id.* at 4-317 to 4-420.

<sup>802</sup> *Id.* at 4-420 to 4-434.

<sup>803</sup> *Id.* at app. P.

<sup>804</sup> *Earth Island Inst. v. U.S. Forest Serv.*, 351 F.3d at 1301.

<sup>805</sup> State of Oregon Rehearing Request at 66; *see also Mountain Valley*, 161 FERC ¶ 61,043 at P 237 (stating that NEPA does not require the Commission to independently collect data, and that reliance on existing literature is appropriate).

266. enable the Commission to reach such a conclusion.<sup>806</sup> The State of Oregon further asserts that the Commission dismisses adverse environmental impacts on water quality as being “within the purview of the U.S. Army Corps of Engineers”<sup>807</sup> and otherwise takes issue with Commission staff’s finding that the applicants’ Compensatory Wetland Mitigation Plan would satisfy state and federal regulatory requirements, as it is not yet finalized.<sup>808</sup>

267. Both the State of Oregon and Sierra Club cite to the conclusions of the Commission, or Commission staff, that water quality impacts would not be significant; in doing so, petitioners ignore Commission staff’s detailed analysis of such impacts, as well as the relevant mitigation measures. The Final EIS discusses the potential water quality impacts from construction and operation of the projects, as well as the numerous mitigation measures that would be utilized to address them.<sup>809</sup> Commission staff examined how the construction and operation of the projects would potentially impact water quality, as well as the numerous mitigation measures intended to minimize such impacts, including, but not limited to: Jordan Cove’s *Wetland and Waterbody Construction and Mitigation Procedures, Dredged Material Management Plan, Erosion and Sedimentation Control Plan, Spill Prevention, Containment, and Countermeasures Control and Sedimentation Plan*, as well as the implementation of construction procedures and operational controls. Commission staff’s analysis addressed how, specifically, Jordan Cove would use these various mitigation measures to avoid, or lessen, water quality impacts.<sup>810</sup>

268. Despite the State of Oregon’s assertion, neither the Final EIS nor the Authorization Order dismiss water quality impacts as being a matter solely for the Corps to consider.<sup>811</sup> In addition to Commission staff’s own, independent analysis of water quality and wetland impacts and relevant mitigation measures, discussed immediately above, the Final EIS explains that, where unavoidable impacts to wetlands are proposed, the Corps (as well as the EPA and the Oregon Department of State Lands) require that

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<sup>806</sup> Sierra Club Rehearing Request at 96; State of Oregon Rehearing Request at 38-39.

<sup>807</sup> State of Oregon Rehearing Request at 38.

<sup>808</sup> *Id.* at 64-65.

<sup>809</sup> Final EIS at 4-83 to 4-122.

<sup>810</sup> *Id.*

<sup>811</sup> State of Oregon Rehearing Request at 38.

Jordan Cove avoid, reduce, and compensate for these impacts.<sup>812</sup> Jordan Cove prepared the Compensatory Wetland Mitigation Plan to address these unavoidable impacts, and is still working with the Corps, the EPA, the Oregon Department of State Lands, and other state and federal agencies to finalize the plan.<sup>813</sup> Although the Compensatory Wetland Mitigation Plan is noted in the Final EIS' discussion of water quality and wetland impacts, it is not a substitute for Commission staff's independent analysis of water quality and wetland impacts.<sup>814</sup> The State of Oregon may raise any concerns it has about the sufficiency of the Compensatory Wetland Mitigation Program—including subcomponents like the Eelgrass Mitigation plan<sup>815</sup> and the Kentuck Slough Wetland Mitigation project<sup>816</sup>—with the Corps, with its own Oregon Department of State Lands, and with the other applicable federal and state agencies.

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<sup>812</sup> Final EIS at 4-133 to 4-134.

<sup>813</sup> *Id.* at 4-134 to 4-135.

<sup>814</sup> *Id.* at 4-83 to 4-122.

<sup>815</sup> The construction of the Jordan Cove LNG Terminal and the modifications to the federal navigation channel would impact approximately two acres of eelgrass habitat. Final EIS at 4-247. Pursuant to the Compensatory Wetland Mitigation Plan, this eelgrass would be removed from the channel and replanted in the nearby Jordan Cove embayment, and a new 9-acre Eelgrass Mitigation site will be created. *Id.* at 4-247, 4-251. The State of Oregon claims that the Eelgrass Mitigation plan does not adequately consider or resolve concerns that the quality of habitat at the mitigation site will differ from the project-impacted site; that sedimentation at the mitigation site might not be conducive to the survival, growth, and propagation of the replanted eelgrass; and that five years of monitoring is too short to evaluate the long-term success given that replanted eelgrass commonly fails in the Pacific Northwest. State of Oregon Rehearing Request at 68-70. The State of Oregon also states that the plan does not adequately demonstrate whether and how alternative sites were considered and rejected. *Id.* at 69.

<sup>816</sup> Both Jordan Cove and Pacific Connector propose to mitigate the loss of wetlands, including estuarine areas, through the Kentuck project on a 140-acre tract on the eastern shore of Coos Bay. Final EIS at 2-18. They will deposit approximately 0.3 million cubic yards of dredged material at the Kentuck project site. *Id.* The State of Oregon argues that the applicants have not updated plans to describe where this material will be relocated to allow a grading plan to be prepared for the Kentuck project site. State of Oregon Rehearing Request at 70. The State of Oregon asserts that an update is necessary to the grading and erosion control plans for both the Eelgrass Mitigation site and the Kentuck project site, which may result in additional or different impacts to fish and wildlife. *Id.*

## **2. The Projects' Impacts to Surface Water**

### **a. State Water Quality Standards**

#### **i. Oregon DEQ's Denial of the Applicants' Water Quality Certification**

269. As discussed above, on May 6, 2019, Oregon DEQ issued a denial of Jordan Cove's and Pacific Connector's requests for CWA section 401 water quality certification. Sierra Club and the State of Oregon claim that the terminal and pipeline as authorized will violate Oregon's state water quality standards.<sup>817</sup> Sierra Club states that when Oregon DEQ denied the water quality certifications, Oregon DEQ indicated that the terminal and project could violate certain state standards, specifically: the terminal may violate the Biocriteria Water Quality Standard due to construction, depositing dredged material in upland areas;<sup>818</sup> the pipeline may violate the Dissolved Oxygen Water Quality Standard due to sediment discharge, the placement of slash and vegetation in waterbodies, and fertilizer runoff;<sup>819</sup> the pipeline may violate the temperature total maximum daily loads due to the loss of vegetation during stream crossings;<sup>820</sup> the pipeline may violate the pH Water Quality Standard because Pacific Connector did not provide site-specific information on debris flow, stream chemistry, landslide hazard assessment, proposed road use and construction, or a maintenance plan;<sup>821</sup> the pipeline may violate the Toxics Substances Water Quality Criteria due to construction near contaminated soils and waters; both projects may violate the standard due to stormwater runoff;<sup>822</sup> and both projects may violate the State of Oregon's Turbidity Water Quality Standard due to dredging of the terminal and construction of the pipeline.<sup>823</sup>

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<sup>817</sup> Sierra Club Rehearing Request at 96.

<sup>818</sup> *Id.* at 98-99.

<sup>819</sup> Sierra Club Rehearing Request at 99.

<sup>820</sup> *Id.* at 101.

<sup>821</sup> *Id.* at 100.

<sup>822</sup> *Id.* at 102.

<sup>823</sup> *Id.* at 104. The Oregon DEQ certification denial also noted that the terminal may violate Oregon's narrative criteria which are general statements designed to protect the aesthetic and health of a waterway.

270. As discussed, the Commission conditioned its authorization on Jordan Cove and Pacific Connector obtaining all necessary federal authorizations. Specifically, Environmental Condition Number 11 requires that no construction, including no ground-disturbing activities, may occur without necessary federal authorizations or waiver thereof; consequently, there is no risk of any project discharges into waters before resolution of state action under section 401 of the CWA.<sup>824</sup> In addition, as discussed above and in more detail below for the temperature and dissolved oxygen, the Commission fully considered the projects' impacts to water quality and determined that there would be no significant impacts.

ii. **Dissolved Oxygen and Temperature at the Jordan Cove LNG Terminal**

271. The State of Oregon argues that the Jordan Cove LNG Terminal will violate dissolved oxygen protections under the CWA. According to the state, the Coos Bay estuary is listed in Oregon's Integrated Report as a Category 5 waterbody for dissolved oxygen,<sup>825</sup> which means the applicable state water quality standard is not being met and that a Total Maximum Daily Load standard must be adopted.<sup>826</sup> Until this standard is adopted, Oregon claims that the CWA prohibits any discharges that worsen dissolved oxygen levels in the estuary.<sup>827</sup> The State of Oregon argues the Commission has already conceded that the project will violate the CWA because the Final EIS notes that the cumulative impacts in the estuary associated with the project and the Port of Coos Bay Channel Modification will result in an increase in salinity up to 1.5% and "some

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<sup>824</sup> Authorization Order, 170 FERC ¶ 61,202 at app., envtl. condition 11.

<sup>825</sup> The State of Oregon claims that the Coos Bay estuary is listed as impaired for dissolved oxygen and temperature on its CWA § 303(d)(1) list but offers no support for this finding. The State of Oregon's currently effective CWA § 303(d)(1) list, known as the 2012 Integrated Report on Water Quality (Integrated Report), does not list Coos Bay as impaired for dissolved oxygen or temperature.  
<https://www.deq.state.or.us/wq/assessment/rpt2012/results.asp>.

<sup>826</sup> State of Oregon Rehearing Request at 38-39.

<sup>827</sup> *Id.* at 39 (citing *Friends of Pinto Creek v. EPA*, 504 F.3d 1007 (9th Cir. 2007) (*Friends of Pinto Creek*). We note that *Friends of Pinto Creek* is inapposite. There the state had an approved CWA § 303(d)(1) list, but it had not prepared the required Total Maximum Daily Load standard. *Friends of Pinto Creek*, 504 F.3d 1011. As discussed, Coos Bay estuary is not listed as impaired for dissolved oxygen or temperature under Oregon's currently effective Integrated Report.

decrease” in dissolved oxygen.<sup>828</sup> According to the State of Oregon, the project will violate water quality standards and the Commission cannot rely upon unknown mitigation, which will presumably be implemented by the Army Corps, to offset known violations of water quality standards.<sup>829</sup>

272. The Final EIS analyzes the cumulative impacts of the Port of Coos Bay’s Channel Modification and the project. The Final EIS reports the Army Corps’ modeled impacts on dissolved oxygen and salinity from the Port of Coos Bay Channel Modification.<sup>830</sup> The Final EIS explains that tidal exchange rates are the main factor affecting salinity and dissolved oxygen levels in the bay, and that recent Army Corps modeling for the more impactful Port of Coos Bay Channel Modification showed that after channel modification changes, tidal levels and current velocities in the bay would not occur except in a very limited area.<sup>831</sup> The Army Corps modeling for the Port of Coos Bay Channel Modification found despite slight decreases, all dissolved oxygen levels, even during periods of lowest levels, would remain well oxygenated at over 7.7 milligrams per liter.<sup>832</sup> The Final EIS recognizes that the scope of dredging in the bay for the Jordan Cove LNG Terminal is less than the Port of Coos Bay Channel Modification project.<sup>833</sup> Thus, the Final EIS appropriately concludes that the LNG terminal’s impacts on dissolved oxygen and salinity when considered with the Port of Coos Bay Channel Modification would not be substantial and that the impacts of the project on water quality would not be significant.<sup>834</sup>

273. Nonetheless, the State of Oregon argues that the Commission may not abdicate its responsibility under the CWA by deferring to mitigation to be required when the Army Corps’ approves its channel modification because, the State of Oregon claims, the current record suggests that state water quality standards will be violated,<sup>835</sup> citing *American*

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<sup>828</sup> *Id.* at 38 (citing Final EIS at 4-836).

<sup>829</sup> *Id.* at 40-41 (citing *Am. Rivers v. FERC*, 895 F.3d 32, 54 (D.C. Cir. 2018)).

<sup>830</sup> Final EIS at 4-94.

<sup>831</sup> *Id.*

<sup>832</sup> *Id.*

<sup>833</sup> *Id.*

<sup>834</sup> *Id.*

<sup>835</sup> State of Oregon Rehearing Request at 40-41.

*Rivers v. FERC*<sup>836</sup> and *Save Our Cabinets v. USDA* for support.<sup>837</sup> Neither case is dispositive. In *American Rivers v. FERC*, the court ruled that the Commission failed to fully examine mitigation for a hydroelectric project to address data that showed that the existing dam violated the state's water quality standard for dissolved oxygen.<sup>838</sup> As discussed, our NEPA analysis shows that the cumulative impacts on dissolved oxygen will not significantly impair water quality. In *Save Our Cabinets v. USDA*, the court determined that the Forest Service violated the CWA by issuing a decision spanning four phases of a mining project, but the state had only approved a water quality permit for the first phase and the Forest Service had failed to support its decision when evidence in the record showed that subsequent phases would violate the state's nondegradation standard.<sup>839</sup> Here, the Commission's Authorization Order has no bearing on the channel modification. Moreover, although we are unable to confirm, as the State of Oregon alleges, that the Coos Bay estuary is impaired for dissolved oxygen and temperature, even if it were, the EIS shows that the Jordan Cove LNG Terminal, when considered cumulatively, will result in little more than minimal impacts on either parameter, either in scope or in magnitude.

### iii. Stream Temperature

274. The State of Oregon and Sierra Club argue that the Final EIS errs in claiming that the pipeline's impacts on water temperature will be minor and are adequately mitigated.<sup>840</sup> Rather, the State of Oregon claims, the project will have a significant impact on water temperature due to the project's clearing of riparian vegetation at stream crossings, and along rights of way in proximity to streams.<sup>841</sup> The State of Oregon claims that modeling and monitoring of stream temperatures in certain locations shows that temperatures will exceed state temperature total maximum daily loads developed pursuant to the CWA.<sup>842</sup> For example, the total maximum daily load for the Upper Klamath River and Lost River Subbasins does not allow any additional warming above

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<sup>836</sup> 895 F.3d at 32.

<sup>837</sup> 254 F.Supp.3d 1241, 1254–55 (D. Mont. 2017).

<sup>838</sup> *Am. Rivers v. FERC*, 895 F.3d at 54.

<sup>839</sup> *Save Our Cabinets v. U.S. Dep't of Agric.*, 254 F. Supp. 3d at 1251.

<sup>840</sup> State of Oregon Rehearing Request at 56, 75-76; Sierra Club Rehearing Request at 106.

<sup>841</sup> State of Oregon Rehearing Request at 56.

<sup>842</sup> *Id.* at 56, 75-76.



0 degrees Celsius (°C) from ground disturbing activity, the total maximum daily load for the Rogue River Basin limits any cumulative increase to 0.04 °C, and the total maximum daily load for the Umpqua River Basin sets the cumulative increase at 0.1 °C.<sup>843</sup> The State of Oregon acknowledges that the Final EIS states that project temperature increases will be short term or that the increases can be reduced through a generalized plan to require planting of new riparian vegetation, but claims that despite discussion with Pacific Connector, Pacific Connector has not developed plans to show whether or how additional site-specific mitigation can occur to ensure compliance with applicable state limitations.<sup>844</sup> The State of Oregon argues that the Commission should have considered mitigation that produces in-kind canopy mitigation for trees harvested adjacent to streams.<sup>845</sup>

275. We do not anticipate any violations of the state's total maximum daily load standards. The Final EIS acknowledges that construction within riparian areas could affect aquatic resources by increasing erosion and runoff to nearby streams, losing future large wood input to streams, and increasing stream temperatures.<sup>846</sup> However, any changes in water temperature, related to the 75-to 95-foot-wide right-of-way vegetation clearing at waterbody crossings, are likely to be very small and undetectable through temperature measurements, except for possibly the very smallest perennial streams and occasional intermittent flowing streams that may have flow during a hot period. Any temperature changes that may occur would gradually be reduced or eliminated over time as most riparian vegetation, either from plantings or natural vegetation regrowth, would increase stream shading.<sup>847</sup>

276. The Final EIS includes BLM and Forest Service modeling to support this finding. BLM and Forest Service modeled specific streams to be crossed by the pipeline, which showed that clearings could result in an increase in temperature depending on stream size and flow.<sup>848</sup> Pacific Connector also assessed temperature increases due to loss of riparian vegetation using a Stream Segment Temperature Model.<sup>849</sup> The average modeled

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<sup>843</sup> *Id.* at 76.

<sup>844</sup> State of Oregon Rehearing Request at 57, 77.

<sup>845</sup> *Id.* at 75.

<sup>846</sup> Final EIS at 4-276, 4-299.

<sup>847</sup> *Id.* at 4-302.

<sup>848</sup> *Id.* at 4-300.

<sup>849</sup> *Id.* at 4-118 to 4-119.

temperature increase across a cleared right-of-way for a group of streams were slight, 0.03°F, and the maximum increase among the streams was 0.3°F.<sup>850</sup> This modeling did not account for proposed mitigation within the watershed that may reduce waterbody impacts and literature studies described in the Final EIS that determined that changes in temperature, especially in small streams, may recover quickly from cooler surrounding conditions downstream<sup>851</sup>; therefore, the model's findings can be considered conservative. Estimated stream temperature changes that would result from right-of-way clearing and permanent maintenance are expected to be minor and potential cumulative watershed temperature increases from project riparian clearing would be unlikely.<sup>852</sup>

277. Although these impacts are relatively minor, potential effects would be reduced by best management practices, including the *Erosion Control and Revegetation Plan* and the applicant's Plan and Procedures. For example, Pacific Connector will also limit right-of-way crossings to 75 feet and will locate temporary work areas 50 feet back from waterbody crossings.<sup>853</sup> Pacific Connector will also mitigate potential temperature increases on waterbodies through riparian plantings. This would include, as mitigation for the loss of riparian shade vegetation, replanting the streambanks after construction to stabilize banks and replanting the equivalent of 1:1 ratio for acres of construction or 2:1 for permanent riparian vegetation loss with the goal to restore shade along the affected or nearby stream channels in the same watershed.<sup>854</sup> In light of these measures, we find that no additional mitigation is necessary.

**b. Cooling Water Discharges**

278. The State of Oregon argues that LNG tanker cooling water discharges will result in temperature increases in and near the project and will likely result in violations of state water quality standards,<sup>855</sup> but does not elaborate on this point or offer any evidence that cooling water discharges will violate any specific water quality standard. The Final EIS determines that cooling water discharges would have temporary and negligible

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<sup>850</sup> *Id.* at 4-118, 4-300.

<sup>851</sup> *Id.* at 4-300 to 4-301.

<sup>852</sup> *Id.* at 4-301.

<sup>853</sup> *Id.*

<sup>854</sup> *Id.* at 4-120.

<sup>855</sup> State of Oregon Rehearing Request at 39.

impacts.<sup>856</sup> Jordan Cove modeled slip temperature changes resulting from the discharge of engine cooling water by an LNG carrier. The results show that the thermal effect of LNG carrier operations at the berth would have very minimal impact on water temperatures.<sup>857</sup>

**c. Horizontal Directional Drilling for Pipeline Crossings**

279. The State of Oregon argues that the Commission failed to mitigate the high risk of an inadvertent release of HDD fluid, otherwise known as a frac-out, when Pacific Connector uses HDD to cross the Coos Bay estuary, and the Coos, Rogue, and Klamath Rivers.<sup>858</sup> The state contends that required mitigation contained in the *Drilling Fluid Contingency Plan for Horizontal Directional Drilling Operations* is not sufficient because the only requirement is that drilling fluids released to tidal areas of the Coos Bay estuary would be contained and removed, but otherwise there is no requirement that any specific measures would be used to contain drilling fluid.<sup>859</sup>

280. As discussed in the Final EIS<sup>860</sup> and above,<sup>861</sup> the *Drilling Fluid Contingency Plan for Horizontal Directional Drilling Operations* contains several measures designed to prevent frac-outs and mitigate the effects of one in the event a frac-out should occur. Specifically, in the event of a frac-out in an estuarine or aquatic environment, Pacific Connector would halt HDD operations, and seal the leak, and develop a site-specific treatment plan in coordination with appropriate agencies.<sup>862</sup> While the particular suite of mitigation measures employed at a potential frac-out would vary in accordance with the site-specific treatment plan, the *Drilling Fluid Contingency Plan for Horizontal Directional Drilling Operations* provides for mitigation measures including the use of containment structures, monitoring downstream of the HDD to identify drilling mud accumulations, and, if possible, removal of the drilling mud.<sup>863</sup> Therefore, we find that

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<sup>856</sup> *Id.* at 4-93.

<sup>857</sup> Final EIS at 4-94.

<sup>858</sup> State of Oregon Rehearing Request at 51-52.

<sup>859</sup> *Id.*

<sup>860</sup> Final EIS at 4-93.

<sup>861</sup> *See supra* P 186.

<sup>862</sup> Final EIS at 4-277.

<sup>863</sup> *Id.*

the potential impacts from frac-outs on estuarine and aquatic environments have been adequately addressed.

**d. Impacts to Fish-Bearing Streams**

281. The State of Oregon argues that the Commission has failed to take the requisite hard look at the 155 fish-bearing stream crossings associated with the pipeline,<sup>864</sup> Alleging that the negative effects to aquatic/stream habitats resulting from construction and operation of the pipeline will reduce the productive value of the habitats of native fish and amphibians that use these streams and waterways. According to the State of Oregon, there may be significant sedimentation risks, particularly when construction occurs on steep slopes. The State of Oregon notes that coastal sandstone soils are highly susceptible to mass-wasting when undercut, deconsolidated, de-vegetated, and generally disturbed<sup>865</sup> and also states that Commission should have considered mitigation that produces in-kind canopy mitigation for trees harvested adjacent to streams and other measures to mitigate the loss of large woody debris in streams.<sup>866</sup>

282. The Final EIS fully considers the effects on waterbodies and resident and anadromous fish from the removal of riparian vegetation due to stream crossings during construction.<sup>867</sup> The Final EIS takes a hard look at temperature changes to streams, as described above,<sup>868</sup> and also assessed slope failures and erosion along streambeds that could increase sediment, decreased large woody debris in streams, and, while not raised by petitioners, the loss of terrestrial food for aquatic organisms.<sup>869</sup>

283. With regard to the loss of large woody debris, Pacific Connector would replant native tree and shrub species along all fish-bearing streams.<sup>870</sup> Only 23% of the former riparian vegetation cleared by pipeline construction would be restricted to low-growth (herbaceous) vegetation. Approximately 77% of affected riparian vegetation would be allowed to return to pre-construction conditions, thereby reducing impacts on fish

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<sup>864</sup> State of Oregon Rehearing Request at 74.

<sup>865</sup> *Id.*

<sup>866</sup> *Id.* at 75.

<sup>867</sup> Final EIS at 4-299.

<sup>868</sup> *See supra* PP 274-277.

<sup>869</sup> Final EIS at 4-299.

<sup>870</sup> *Id.*

resources.<sup>871</sup> To reduce the impact of clearing riparian vegetation and the subsequent reduction in large woody debris to affected waterbodies, Pacific Connector has developed and would implement a *Large Woody Debris Plan* which includes a proposal to install 733 pieces of large woody debris over several fifth-field watersheds along the pipeline route where the two ESA-listed coho salmon ESUs are present.<sup>872</sup> Additionally, construction and operation of the pipeline would not affect the introduction of large woody debris from upstream sources.

284. The State of Oregon also raises concerns of slope failure near waterbody crossings.<sup>873</sup> The Final EIS acknowledges that slope failures could result in soil deposition and sedimentation of nearby waterbodies and also describes the impacts of turbidity and sedimentation on water quality and aquatic wildlife. As reported in the Final EIS, Pacific Connector considered slope stability in its proposed route and rerouted the pipeline to avoid potentially unstable areas.<sup>874</sup> Some segments of the pipeline route were not accessible to Pacific Connector surveyors and slopes within these segments were not subject to risk analysis. The Final EIS explains that once Pacific Connector has access to these sites, Pacific Connector will assess slope failure; if Pacific Connector determines that the risk of slope failure remains unacceptable, it may reroute the pipeline or implement additional stabilization measures.<sup>875</sup> We note that the Director of the Office of Energy Projects retains authority, under environmental condition 3 of the Authorization Order, to require any additional measures necessary to protect the environment.<sup>876</sup>

### 3. Wetlands and Estuary Impacts

#### a. Dredging Impacts

285. The State of Oregon claims that the Final EIS superficially considers the potential effects of dredging on aquatic habitat and species in the Coos Bay estuary.<sup>877</sup> The state

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<sup>871</sup> *Id.* at 4-302.

<sup>872</sup> *Id.*

<sup>873</sup> State of Oregon Rehearing Request at 72.

<sup>874</sup> Final EIS at 4-296.

<sup>875</sup> *Id.*

<sup>876</sup> Authorization Order, 170 FERC ¶ 61,202 at app., envtl. condition 3.

<sup>877</sup> The State of Oregon attempts to incorporate supplemental comments on the Final EIS filed by the Oregon Department of Fish and Wildlife. Such incorporation by

provides one example where the Final EIS estimates the rate of recovery of affected benthic habitat and species based on a prior study of a group of small-bodied, rapidly-growing invertebrate species, a study group that according to the State of Oregon does not represent the large-bodied, long-lived bay clams in the estuary.<sup>878</sup>

286. We disagree and find that the Final EIS fully considers the impact of dredging on disturbed benthic habitat and species. In response to comments on the Draft EIS,<sup>879</sup> the Final EIS acknowledges that dredging would remove a variety of organisms with differing rates of recovery.<sup>880</sup> The Final EIS cites and summarizes findings from five studies about the recovery of various benthic communities to pre-dredging conditions<sup>881</sup> and concluded that recovery would likely occur on different timescales for different species: rapid initial colonization in six months after dredging, recovery for most typical benthic species within a year, and no recovery for some species, such as “longer-lived benthic resources (e.g., clams)” that could take several years to fully recover, because initial dredging will be followed by a 3- to 10-year maintenance dredging period.<sup>882</sup>

287. The State of Oregon also asserts that the Final EIS incorrectly illustrates the major known oyster and shrimp habitat and clamming and crabbing areas in the bay, despite the fact that Oregon Department of Fish and Wildlife provided comments on the Draft EIS noting the error.<sup>883</sup>

288. The Final EIS responds to the State of Oregon’s comments on the Draft EIS, explaining that the map of these habitats and resources was generated from a cited

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reference is improper and is dismissed. *See supra* P 15.

<sup>878</sup> State of Oregon Rehearing Request at 66-67.

<sup>879</sup> Final EIS at app. R, Response SA2-122; *id.* app. R,R-337 (“Wildlife and Aquatic Resources 5”).

<sup>880</sup> *Id.* at 4-254 to 4-255.

<sup>881</sup> *Id.* at 4-255. Commission staff relied on a variety of studies and other reference material to compose the Final EIS. A complete list of which was provided to the public. *See id.* app. P.

<sup>882</sup> *Id.* at 4-255.

<sup>883</sup> State of Oregon Rehearing Request at 67.

document and considered to generally represent the habitat types present in Coos Bay.<sup>884</sup> The Final EIS notes that further details about site-specific categories of commercially important species would not substantially change the assessment in the Final EIS.<sup>885</sup> But the Final EIS does modify language and figure 4.5-2 to provide greater clarity.<sup>886</sup> For example, the Final EIS acknowledges, based on information provided by Oregon Department of Fish and Wildlife in 2019, that locally-known clamming areas occur west and southwest of the end of the regional airport runway and along the shoreline near the Eelgrass mitigation site.<sup>887</sup> Under NEPA, agencies are “entitled to wide discretion in assessing ... scientific evidence”<sup>888</sup> and the State of Oregon does not demonstrate that Commission staff’s reliance on this evidence resulted in a flawed analysis.

289. The State of Oregon claims that the Final EIS underestimates the potential loss of sediment associated with the dredging of four navigational channel enhancements and subsequent impacts on aquatic resources, especially eelgrass.<sup>889</sup> The State of Oregon also asserts that lost sediment may result in further impacts to and loss of eelgrass and benthic invertebrates, and may result in further degradation of the shellfish and fish habitat.<sup>890</sup>

290. The impacts from the potential loss of sediment due to dredging the proposed four navigational channel enhancements in Coos Bay are addressed throughout the Final EIS.<sup>891</sup> The Final EIS acknowledges that side slope equilibration would occur following dredging of the navigational channel over a 6- to 8-year period<sup>892</sup> and also acknowledges that this equilibration and subsequent potential slumping would vary depending on site-specific characteristics. Out of four dredging areas, two sites would experience slight changes in slope equilibration and the other two sites could experience slope equilibration

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<sup>884</sup> Final EIS at app. R, Response SA2-121. A complete list of reference material was provided to the public. *See id.* app. P.

<sup>885</sup> *Id.*

<sup>886</sup> *Id.* at 4-255 fig. 4.5-2; *id.* app. R, Response SA2-121.

<sup>887</sup> *Id.* at 4-245.

<sup>888</sup> *Earth Island Inst. v. U.S. Forest Serv.*, 351 F.3d at 1301.

<sup>889</sup> State of Oregon Rehearing Request at 69.

<sup>890</sup> *Id.*

<sup>891</sup> *E.g.*, Final EIS at 2-10, 2-17 to 2-18, 2-55, 4-86.

<sup>892</sup> *Id.* at 4-54, 4-250.

extending 300 to 700 feet upslope from the dredged areas.<sup>893</sup> In total, these affected areas are a small portion of Coos Bay and are considered deep-water habitat, which is a common habitat in the bay.<sup>894</sup> Impacts on eelgrass,<sup>895</sup> benthic vertebrates,<sup>896</sup> wildlife,<sup>897</sup> aquatic species and habitat,<sup>898</sup> and water quality,<sup>899</sup> which would all be affected by the project, are discussed in the Final EIS.<sup>900</sup> Last, the Final EIS discusses Jordan Cove's proposal to mitigate for the loss of aquatic vegetation.<sup>901</sup> We find that the State of Oregon's claim that sediment loss in dredged areas will be substantial and significant is unsupported.

#### **4. Ground Water Impacts**

##### **a. Jordan Cove LNG Terminal's Ground Water Impacts**

291. Sierra Club argues that although the Final EIS acknowledges the potential for groundwater reduction and contamination related to the construction and operation of the LNG terminal, it does not provide an analysis of the environmental harm that is likely to occur from these impacts: e.g., harm to species from lost wetland and lake habitat from groundwater withdrawals, long-term impacts to sensitive coastal species or Coos Bay community (including fisheries) from contamination of groundwater. Sierra Club also states that the Final EIS does not appear to provide an analysis of alternatives, including ways to reduce water use and groundwater contamination.<sup>902</sup>

292. Sierra Club states that the Draft EIS identified that the nearest well might drop by 0.5 feet, but the Final EIS fails to acknowledge the potential reduction in that well and

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<sup>893</sup> *Id.*

<sup>894</sup> *Id.* at 4-257.

<sup>895</sup> *Id.* at 4-134, 4-191, 4-251.

<sup>896</sup> *Id.* at 4-133, 4-238, 4-241, 4-250 to 4-256, 4-270.

<sup>897</sup> *Id.* at 4-196, 4-235, 4-247.

<sup>898</sup> *Id.* at 4-249 to 4-270.

<sup>899</sup> *Id.* at 4-76 to 4-79, 4-84 to 4-94, 4-123 to 4-135.

<sup>900</sup> *Id.* at 4-87, 4-132, 4-249, 4-252 to 4-254.

<sup>901</sup> *E.g., id.* at 4-133.

<sup>902</sup> Sierra Club Rehearing Request at 104-106.



fails to consider what that drop would do to local lakes and wetlands, including the wetlands in the proposed mitigation site close to the well. Further, Sierra Club asserts that participants in scoping asked the Commission to consider the impact of using these wells on the Oregon Dunes ecosystem, but the Final EIS fails to address the issue.<sup>903</sup>

293. Sierra Club states that the Final EIS fails to take a hard look at the potential impacts of the Jordan Cove LNG Terminal project on several potentially affected communities and their drinking supplies, many of which are already sensitive to contaminants of concern and many of which have already invested in expensive technology to clean and disinfect water.<sup>904</sup>

294. We disagree and deny rehearing on these issues. The Final EIS acknowledges that project-related groundwater withdrawals would impact surface water resources.<sup>905</sup> The Final EIS describes modeling completed by the applicants that estimates the maximum drawdown of wells could be up to 6 inches but would usually be less.<sup>906</sup> However, the impact of this drawdown would likely be temporary, as about 90% of project water use at the LNG terminal would occur during construction.<sup>907</sup> Following construction, naturally occurring groundwater replenishment would occur and groundwater levels are expected to return to normal levels. The Final EIS acknowledges that the withdrawal and use of groundwater may impact wetlands and surrounding vegetation.<sup>908</sup> These impacts would occur primarily during construction and, as described above, are expected to return to pre-disturbance conditions following construction.

**b. Pacific Connector Pipeline's Drinking Water Impacts**

295. Sierra Club objects to Pacific Connector's proposed mitigation measures in the event the Pacific Connector Pipeline impacts groundwater supplies.<sup>909</sup> Sierra Club

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<sup>903</sup> *Id.* at 106.

<sup>904</sup> *Id.*

<sup>905</sup> Final EIS at 4-77.

<sup>906</sup> *Id.*

<sup>907</sup> *Id.* at 4-77 tbl. 4.3.1.1-1.

<sup>908</sup> *Id.* at 4-133, 4-156.

<sup>909</sup> *Id.* Specifically, if a groundwater supply is affected by the project, Pacific Connector would work with the landowner to provide a temporary supply of water; if determined necessary, Pacific Connector would provide a permanent water supply to replace affected groundwater supplies (restore, repair, or replace); and mitigation

asserts that trucking in bottled water, or piping in drinking water from an alternate water source, would not fully mitigate the loss of groundwater, due to high costs, the difficulty associated with implementing this requirement, residents' decline in quality of life, and the significant reduction in land value.<sup>910</sup>

296. The Final EIS and Authorization Order explain that the pipeline would cross wellhead protection areas and be in proximity to groundwater-fed springs and seeps and private wells.<sup>911</sup> The Final EIS determines that the project would not significantly affect groundwater resources due to required mitigation, including Pacific Connector's *Groundwater Supply Monitoring and Mitigation Plan* for springs, seeps, and wells located within 200 feet of construction disturbance, *Spill Prevention, Containment, and Countermeasures Plan* and *Contaminated Substances Discovery Plan*.<sup>912</sup> We address concerns regarding potential impacts to landowners' wells above.<sup>913</sup> No additional mitigation is necessary.

297. In addition, Sierra Club alleges that the Commission failed to assess the projects' impacts on municipal water supplies.<sup>914</sup> The Final EIS determines that the Jordan Cove LNG Terminal would not impact any Coos Bay – North Bend Water Board wells,<sup>915</sup> and that neither the Jordan Cove LNG Terminal nor the Pacific Connector Pipeline would impact any EPA-designated sole-source aquifers,<sup>916</sup> with the nearest aquifer located approximately forty miles from either project.<sup>917</sup> As noted in the Final EIS and the

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measures would be coordinated with the individual landowner to meet the landowner's specific needs and would be tailored to each property. Final EIS at 4-83.

<sup>910</sup> *Id.*

<sup>911</sup> Authorization Order, 170 FERC ¶ 61,202 at P 205; EIS at 4-77 to 4-81.

<sup>912</sup> *Id.* P 205.

<sup>913</sup> *See supra* P 183.

<sup>914</sup> Sierra Club Rehearing Request at 106.

<sup>915</sup> Final EIS at 4-76, 4-80.

<sup>916</sup> Per the EPA, a "sole-source aquifer" supplies at least 50% of the drinking water in an area where no alternative drinking water source is available that could physically, legally, or economically supply the area.

<sup>917</sup> Final EIS at 4-80.

Authorization Order,<sup>918</sup> the Pacific Connector Pipeline will cross six wellhead protection areas.<sup>919</sup> However, as explained above, with the implementation of Pacific Connector's mitigation measures, impacts to groundwater resources, which would include municipal water supplies, would not be significant.<sup>920</sup>

**R. Forest Plans**

298. Sierra Club claims that the Authorization Order violates the National Forest Management Act because the Forest Service's proposed amendments essentially exempt the Pacific Connector Pipeline from numerous forest plan requirements to preserve and protect National Forests affected by the pipeline.<sup>921</sup> Sierra Club argues that the Forest Service failed to adhere to 2012 Forest Service requirements that the Forest Service create new plan components that meet the resource protection requirements that the Pacific Connector Pipeline project cannot meet.<sup>922</sup> Sierra Club also claims that the Forest Service and the Commission failed to properly analyze the proposed forest plan amendments or identify, let alone analyze, other needed amendments to forest plans related to Late-Successional Reserve land, soil, water quality, riparian areas, and other resources.<sup>923</sup>

299. The Pacific Connector Pipeline will cross approximately 31 miles of Forest Service lands within the Umpqua, Rogue River, and Winema National Forests.<sup>924</sup> The Forest Service operates the lands under forest plans known as Land and Resource Management Plans pursuant to the National Forest Management Act.<sup>925</sup> Contrary to Sierra Club's claims, the Commission did not propose any Land and Resource

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<sup>918</sup> *Id.* at 4-80 to 4-81; Authorization Order, 170 FERC ¶ 61,202 at P 205.

<sup>919</sup> A wellhead protection area is defined as the surface and subsurface area surrounding a water well or well field, supplying a public water system, through which contaminants are reasonably likely to move toward and reach such a water well or well field. Final EIS at 4-80.

<sup>920</sup> *See supra* P 294.

<sup>921</sup> Sierra Club Rehearing Request at 91-92.

<sup>922</sup> *Id.* at 92.

<sup>923</sup> *Id.* at 93-94.

<sup>924</sup> Authorization Order, 170 FERC ¶ 61,202 at P 232.

<sup>925</sup> *See id.*

Management Plan amendments and the Authorization Order has no impact on the Forest Service's proposed amendment process; the Land and Resource Management Plan process is exclusively within the Forest Service's jurisdiction. The Forest Service analyzed amending its Land and Resource Management Plans to allow for the project to be sited within forest lands and solicited comments on the proposed amendments during the Draft EIS comment period.<sup>926</sup> The Forest Service will make final decisions on the respective authorizations before it, and Pacific Connector must obtain a right-of-way grant from BLM pursuant to the Mineral Leasing Act to cross federal lands, which may include compensatory mitigation requirements recommended by the Forest Service.<sup>927</sup>

300. Sierra Club also suggests that, because the pipeline project allegedly violates the National Forest Management Act, the Commission should not have authorized the pipeline until these issues were resolved.<sup>928</sup> As discussed, the Commission appropriately conditioned its authorization in Environmental Condition 11 on Pacific Connector obtaining required federal authorizations, including any required right-of-way grant, which are dependent upon required Land and Resource Management Plans amendments, before beginning pipeline construction or any other ground disturbing activities.<sup>929</sup>

#### **S. Cumulative Impacts**

301. Ms. McCaffree argues that the Commission failed to adequately analyze the cumulative impacts of the projects and should have conducted a more searching cumulative impacts analysis beyond citing to tables and lists of historic and proposed actions.<sup>930</sup> Sierra Club asserts there was inadequate discussion and analysis of reasonable outgrowth associated with the development of a pipeline and LNG terminal at Coos Bay or the potential for colocation of other pipelines in same corridor to facilitate growth of this industrial development.<sup>931</sup>

302. CEQ defines cumulative impacts as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and

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<sup>926</sup> *Id.*

<sup>927</sup> *Id.*

<sup>928</sup> Sierra Club Rehearing Request at 5.

<sup>929</sup> *See supra* P 75; *see also* Authorization Order, 170 FERC ¶ 61,202 at app., envtl. cond. 11.

<sup>930</sup> McCaffree Rehearing Request at 31-32.

<sup>931</sup> Sierra Club Rehearing Request at 62-63.

reasonably foreseeable future actions.”<sup>932</sup> The “determination of the extent and effect of [cumulative impacts], and particularly identification of the geographic area within which they may occur, is a task assigned to the special competency of the appropriate agencies.”<sup>933</sup> CEQ has explained that “it is not practical to analyze the cumulative effects of an action on the universe; the list of environmental effects must focus on those that are truly meaningful.”<sup>934</sup> Further, a cumulative impact analysis need only include “such information as appears to be reasonably necessary under the circumstances for evaluation of the project rather than to be so all-encompassing in scope that the task of preparing it would become either fruitless or well nigh impossible.”<sup>935</sup> An agency’s analysis should be proportional to the magnitude of a proposed action; actions that will have no significant direct or indirect impacts usually only require a limited cumulative impacts analysis.<sup>936</sup> A meaningful cumulative impacts analysis must identify five things: “(1) the area in which the effects of the proposed project will be felt; (2) the impacts that are expected *in that area* from the proposed project; (3) other actions—past, present, and proposed, and reasonably foreseeable—that have had or expected to have impacts *in the same area*; (4) the impacts or expected impacts from these other actions; and (5) the overall impact that can be expected in the individual impacts are allowed to accumulate.”<sup>937</sup>

303. The Authorization Order noted that the EIS considers the cumulative impacts of the proposed Jordan Cove LNG Terminal and Pacific Connector Pipeline with other

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<sup>932</sup> 40 C.F.R. § 1508.7 (2019).

<sup>933</sup> *Kleppe v. Sierra Club*, 427 U.S. 390, 414 (1976).

<sup>934</sup> CEQ, *Considering Cumulative Effects Under the National Environmental Policy Act* at 8 (Jan. 1997), [https://energy.gov/sites/prod/files/nepapub/nepa\\_documents/RedDont/G-CEQ-ConsidCumulEffects.pdf](https://energy.gov/sites/prod/files/nepapub/nepa_documents/RedDont/G-CEQ-ConsidCumulEffects.pdf) (1997 CEQ Guidance).

<sup>935</sup> *Natural Res. Def. Council, Inc. v. Callaway*, 524 F.2d 79, 88 (2d Cir. 1975).

<sup>936</sup> See CEQ, Memorandum on Guidance on Consideration of Past Actions in Cumulative Effects Analysis at 2-3 (June 24, 2005) (2005 CEQ Guidance).

<sup>937</sup> *TOMAC v. Norton*, 433 F.3d 852, 964 (D.C. Cir. 2006) (emphasis added) (quoting *Grand Canyon Trust v. FAA*, 290 F.3d 339, 345 (D.C. Cir. 2002) (internal quotations omitted)). See also *Columbia Gas Transmission, LLC*, 149 FERC ¶ 61,255, at P 113 (2014).

projects in the same geographic and temporal scope of the projects.<sup>938</sup> The types of other projects evaluated in the Final EIS that could potentially contribute to cumulative impacts include: Corps permits and mitigation projects, minor federal agency projects (including road/utility improvements, water flow control, weed treatments, and miscellaneous mitigation), residential and commercial development, timber harvest and forest management activities, livestock grazing, and solar panel fields.<sup>939</sup> As part of the cumulative impacts analysis, Commission staff also considered non-jurisdictional utilities at the terminal site, the use of LNG carriers, ongoing maintenance dredging, modifications to the Coos Bay Federal Navigation Channel, project impact mitigation projects, and the potential removal of four dams on the Klamath River.<sup>940</sup>

304. As described in the Authorization Order, the Final EIS concludes that, for the majority of resources where a level of impact could be ascertained, the projects' contribution to cumulative impacts on resources affected by the projects would not be significant, and that the potential cumulative impacts of the projects and other projects considered would not be significant.<sup>941</sup> However, the Authorization Order found that the Jordan Cove LNG Terminal and Pacific Connector Pipeline would have significant cumulative impacts on housing availability in Coos Bay, the visual character of Coos Bay, and noise levels in Coos Bay.<sup>942</sup> We affirm that the analysis of cumulative impacts was consistent with the requirements of NEPA and deny Ms. McCaffree's and Sierra Club's arguments on rehearing.

The Commission orders:

(A) Jordan Cove Energy Project, L.P. and Pacific Connector Gas Pipeline, LP's request for rehearing is hereby granted in part and denied in part, as discussed in the body of the order.

(B) The requests for rehearing filed by the Natural Resources Defense Council; Oregon Department of Energy, Oregon Department of Environmental Quality, Oregon Department of Fish and Wildlife, and Oregon Department of Land Conservation and Development; Sierra Club; the Cow Creek Band of Umpqua Tribe of Indians; the

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<sup>938</sup> Authorization Order, 170 FERC ¶ 61,202 at PP 267-268; Final EIS at 4-822 to 4-852.

<sup>939</sup> Authorization Order, 170 FERC ¶ 61,202 at PP 267-268; Final EIS at 4-825.

<sup>940</sup> Authorization Order, 170 FERC ¶ 61,202 at PP 267-268; Final EIS at 4-828.

<sup>941</sup> Authorization Order, 170 FERC ¶ 61,202 at PP 267-268; Final EIS at 4-852.

<sup>942</sup> Authorization Order, 170 FERC ¶ 61,202 at PP 267-268; Final EIS at 4-852.

Klamath Tribes; Confederated Tribes of the Coos, Lower Umpqua, and Siuslaw Indians; and Citizens for Renewables, Inc., Citizens Against LNG, and Jody McCaffree are hereby dismissed or denied, as discussed in the body of this order.

(C) The requests for stay filed by Sierra Club and the Natural Resources Defense Council are dismissed as moot, as discussed in the body of this order.

(D) The requests for rehearing filed by Kenneth E. Cates, Kristine Cates, James Davenport, Archina Davenport, David McGriff, Emily McGriff, Andrew Napell, Dixie Peterson, Paul Washburn, and Carol Williams are rejected, as discussed in the body of this order.

(E) Jordan Cove Energy Project, L.P. and Pacific Connector Gas Pipeline, LP's request for clarification is hereby granted, as discussed in the body of the order, and Environmental Condition No. 34 is modified to read:

Pacific Connector shall file a noise survey with the Secretary no later than 60 days after placing the Klamath Compressor Station in service. If a full load condition noise survey is not possible, Pacific Connector shall provide an interim survey at the maximum possible horsepower load and provide the full load survey no later than 60 days after all liquefaction trains at the LNG Terminal are fully in service. If the noise attributable to the operation of all of the equipment at the Klamath Compressor Station under interim or full horsepower load conditions exceeds an Ldn of 55 dBA at any nearby NSAs, Pacific Connector shall file a report on what changes are needed and shall install the additional noise controls to meet the level within 1 year of the in-service date that immediately preceded the noise survey showing an exceedance. Pacific Connector shall confirm compliance with the above requirement by filing a second noise survey with the Secretary no later than 60 days after it installs the additional noise controls.

By the Commission. Commissioner Glick is dissenting with a separate statement attached.

( S E A L )

Nathaniel J. Davis, Sr.,  
Deputy Secretary.

UNITED STATES OF AMERICA  
FEDERAL ENERGY REGULATORY COMMISSION

Jordan Cove Energy Project L.P.  
Pacific Connector Gas Pipeline, LP

Docket Nos. CP17-495-000  
CP17-494-000

(Issued May 22, 2020)

GLICK, Commissioner, *dissenting*:

1. I dissent from today's order because it violates both the Natural Gas Act<sup>1</sup> (NGA) and the National Environmental Policy Act<sup>2</sup> (NEPA). Rather than wrestling with the Project's<sup>3</sup> significant adverse impacts, today's order makes clear that the Commission will not allow these impacts to get in the way of its outcome-oriented desire to approve the Project.<sup>4</sup>

2. As an initial matter, the Commission continues to treat climate change differently than all other environmental impacts. The Commission steadfastly refuses to assess whether the impact of the Project's greenhouse gas (GHG) emissions on climate change is significant, even though it quantifies the GHG emissions caused by the Project's construction and operation.<sup>5</sup> That refusal to assess the significance of the Project's contribution to the harm caused by climate change is what allows the Commission to perfunctorily conclude that "the environmental impacts associated with the Project are

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<sup>1</sup> 15 U.S.C. §§ 717b, 717f (2018).

<sup>2</sup> National Environmental Policy Act of 1969, 42 U.S.C. §§ 4321 *et seq.*

<sup>3</sup> Today's order denies rehearing and motions for stay of the Commission's order authorizing both the Jordan Cove LNG export terminal (LNG Terminal) pursuant to NGA section 3, 15 U.S.C. § 717b (2018), and the Pacific Connector interstate natural gas pipeline (Pipeline) pursuant to NGA section 7, *id.* § 717f. I will refer to these two projects collectively as the Project.

<sup>4</sup> *Jordan Cove Energy Project L.P.*, 171 FERC ¶ 61,136, PP 245, 253 (2020) (Rehearing Order); *Jordan Cove Energy Project L.P.*, 170 FERC ¶ 61,202, at P 262 (2020) (Certificate Order); Final Environmental Impact Statement for the Jordan Cove Project at 4-850–4-851 (EIS).

<sup>5</sup> Certificate Order, 170 FERC ¶ 61,202 at P 259; EIS at Tables 4.12.1.3-1, 4.12.1.3-2, 4.12.1.4-1 & 4.12.1.4-2.



“acceptable”<sup>6</sup> and, as a result, conclude that the Project satisfies the NGA’s public interest standards.<sup>7</sup> Claiming that a project’s environmental impacts are acceptable while at the same time refusing to assess the significance of the project’s impact on the most important environmental issue of our time is not reasoned decisionmaking.

3. Moreover, the Commission’s public interest analysis still does not adequately wrestle with the Project’s adverse environmental impacts. The Project will significantly and adversely affect several threatened and endangered species, and historic properties, and it will limit the supply of short-term housing near the Project. It will also cause elevated noise levels during construction and impair the visual character of the local community. Although the Commission recites those adverse impacts, at no point does it explain how it considered them in making its public interest determination or why it finds that the Project satisfies the relevant public interest standards notwithstanding those substantial impacts. Simply asserting that the Project is in the public interest without any discussion why is not reasoned decisionmaking.

4. It is also important to briefly mention landowners. The underlying order approved a significant change to the route of the pipeline, taking it across new properties and affecting new landowners. Recognizing that this was a possibility early on, those landowners intervened in the proceeding. And following the underlying order, they filed a rehearing request. The Commission rejected this rehearing request for two reasons. First, as the Commission notes, the request was received at 7:54 p.m. Eastern Time (4:54 p.m. Pacific Time) on April 20, the last day to seek rehearing of that underlying order. Under the Commission’s regulations, filings received after 5:00 p.m. Eastern Time are deemed filed the next day.<sup>8</sup> Second, the rehearing request did not contain a detailed set of arguments as is also required by our regulations. As a result, today’s order leaves these landowners with no option to pursue judicial review and leaves this proceeding with no entity capable of fully representing their interests. Under those circumstances

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<sup>6</sup> Rehearing Order, 171 FERC ¶ 61,136 at PP 65-66; Certificate Order, 170 FERC ¶ 61,202 at P 294; EIS at ES-19. *But see* Certificate Order, 169 FERC ¶ 61,131 at PP 155, 220-223, 237, 242, 253, 256 (noting that the environmental impacts of the Project would be significant with respect to several federally listed threatened and endangered species, visual character in the vicinity of the LNG Terminal, short-term housing in Coos County, historic properties along the Pipeline route, and noise levels in Coos County).

<sup>7</sup> Rehearing Order, 171 FERC ¶ 61,136 at PP 65-66; Certificate Order, 170 FERC ¶ 61,202 at P 294.

<sup>8</sup> The Commission’s business hours are “from 8:30 a.m. to 5:00 p.m.,” and filings made after 5:00 p.m. will be considered filed on the next regular business day. *See* 18 C.F.R. §§ 375.101(c), 2001(a)(2) (2019).

and given the considerable issues at stake—as a result of underlying order, their property is now subject to condemnation—I would have waived the relevant regulations for good cause, rather than effectively snuffing any chance they may have to vindicate their rights on judicial review. We’ve heard a lot recently about how the Commission is willing to bend over backwards to accommodate landowners. Except we never actually see it.

- **The Commission’s Public Interest Determinations Are Not the Product of Reasoned Decisionmaking**

5. The NGA’s regulation of LNG import and export facilities “implicate[s] a tangled web of regulatory processes” split between the U.S. Department of Energy (DOE) and the Commission.<sup>9</sup> The NGA establishes a general presumption favoring the import and export of LNG unless there is an affirmative finding that the import or export “will not be consistent with the public interest.”<sup>10</sup> Section 3 of the NGA provides for two independent public interest determinations: One regarding the import or export of LNG itself and one regarding the facilities used for that import or export.

6. DOE determines whether the import or export of LNG is consistent with the public interest, with transactions among free trade countries legislatively deemed to be “consistent with the public interest.”<sup>11</sup> The Commission evaluates whether “an application for the siting, construction, expansion, or operation of an LNG terminal” is itself consistent with the public interest.<sup>12</sup> Pursuant to that authority, the Commission

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<sup>9</sup> *Sierra Club v. FERC*, 827 F.3d 36, 40 (D.C. Cir. 2016) (*Freeport*).

<sup>10</sup> 15 U.S.C. § 717b(a); *see EarthReports, Inc. v. FERC*, 828 F.3d 949, 953 (D.C. Cir. 2016) (citing *W. Va. Pub. Servs. Comm’n v. Dep’t of Energy*, 681 F.2d 847, 856 (D.C. Cir. 1982) (“NGA [section] 3, unlike [section] 7, ‘sets out a general presumption favoring such authorization.’”)). Under section 7 of the NGA, the Commission approves a proposed pipeline if it is shown to be consistent with the public interest, while under section 3, the Commission approves a proposed LNG import or export facility unless it is shown to be inconsistent with the public interest. *Compare* 15 U.S.C. § 717b(a) *with id.* § 717f(a), (e).

<sup>11</sup> 15 U.S.C. § 717b(c). The courts have explained that, because the authority to authorize the LNG exports rests with DOE, NEPA does not require the Commission to consider the upstream or downstream GHG emissions that may be indirect effects of the export itself when determining whether the related LNG export facility satisfies section 3 of the NGA. *See Freeport*, 827 F.3d at 46-47; *see also Sierra Club v. FERC*, 867 F.3d 1357, 1373 (D.C. Cir. 2017) (*Sabal Trail*) (discussing *Freeport*). Nevertheless, NEPA requires that the Commission consider the direct GHG emissions associated with a proposed LNG export facility. *See Freeport*, 827 F.3d at 41, 46.

<sup>12</sup> 15 U.S.C. § 717b(e). In 1977, Congress transferred the regulatory functions of

must approve a proposed LNG facility unless the record shows that the facility would be inconsistent with the public interest.<sup>13</sup> In addition, section 7 of the NGA requires the Commission to determine whether the pipeline component of the Project is required by the public convenience and necessity,<sup>14</sup> a standard the courts have likened to the public interest standard.<sup>15</sup> Today's order fails to satisfy these standard in multiple respects.

○ **The Commission's Public Interest Determination Does Not Adequately Consider Climate Change**

7. In making its public interest determination, the Commission examines a proposed facility's impact on the environment and public safety. A facility's impact on climate change is one of the environmental impacts that must be part of a public interest determination under the NGA.<sup>16</sup> Nevertheless, the Commission maintains that it need not consider whether the Project's contribution to climate change is significant in this order because it lacks a means to do so—or at least so it claims.<sup>17</sup> However, the most troubling part of the Commission's rationale is what comes next. Based on this alleged inability to assess the significance of the Project's impact on climate change, the Commission still summarily concludes that all of the Project's environmental impacts would be

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NGA section 3 to DOE. DOE, however, subsequently delegated to the Commission authority to approve or deny an application for the siting, construction, expansion, or operation of an LNG terminal, while retaining the authority to determine whether the import or export of LNG to non-free trade countries is in the public interest. *See EarthReports*, 828 F.3d at 952-53.

<sup>13</sup> *See Freeport*, 827 F.3d at 40-41.

<sup>14</sup> 15 U.S.C. § 717f (2018).

<sup>15</sup> *E.g., Atl. Ref. Co. v. Pub. Serv. Comm'n of N.Y.*, 360 U.S. 378, 391 (1959) (holding that the NGA requires the Commission to consider “all factors bearing on the public interest”).

<sup>16</sup> *See Sabal Trail*, 867 F.3d at 1373 (explaining that the Commission must consider a pipeline's direct and indirect GHG emissions because the Commission may “deny a pipeline certificate on the ground that the pipeline would be too harmful to the environment”); *see also Atl. Ref. Co.*, 360 U.S. 378 (holding that the NGA requires the Commission to consider “all factors bearing on the public interest”).

<sup>17</sup> Certificate Order, 170 FERC ¶ 61,202 at P 262; EIS at 4-4-850.

“acceptable.”<sup>18</sup> Think about that. With that “logical hopscotch,”<sup>19</sup> the Commission is simultaneously stating that it cannot assess the significance of the Project’s impact on climate change<sup>20</sup> while concluding that all environmental impacts are acceptable to the public interest.<sup>21</sup> That is unreasoned and an abdication of our responsibility to give climate change the “hard look” that the law demands.<sup>22</sup>

8. It also means that the Project’s impact on climate change does not play a meaningful role in the Commission’s public interest determination, no matter how often the Commission assures us that it does. Using the approach in today’s order, the Commission will always conclude that a project will not have a significant environmental impact irrespective of that project’s actual GHG emissions or those emissions’ impact on climate change. If the Commission’s conclusion will not change no matter how many GHG emissions a project causes, those emissions cannot, as a logical matter, play a meaningful role in the Commission’s public interest determination. A public interest determination that systematically excludes the most important environmental consideration of our time is contrary to law, arbitrary and capricious, and not the product of reasoned decisionmaking.

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<sup>18</sup> Rehearing Order, 171 FERC ¶ 61,136 at PP 65-66; Certificate Order, 170 FERC ¶ 61,202 at P 294.

<sup>19</sup> NRDC Rehearing Request at 42.

<sup>20</sup> Certificate Order, 170 FERC ¶ 61,202 at P 262; EIS at 4-4-850 (“[W]e are unable to determine the significance of the Project’s contribution to climate change.”).

<sup>21</sup> Rehearing Order, 171 FERC ¶ 61,136 at PP 65-66; Certificate Order, 170 FERC ¶ 61,202 at P 294 (stating that the environmental impacts are acceptable and further concluding that the Jordan Cove LNG Terminal is not inconsistent with the public interest and that the Pacific Connector Pipeline is required by the public convenience and necessity).

<sup>22</sup> See, e.g., *Myersville Citizens for a Rural Cmty., Inc. v. FERC*, 783 F.3d 1301, 1322 (D.C. Cir. 2015) (explaining that agencies cannot overlook a single environmental consequence if it is even “arguably significant”); see also *Michigan v. EPA*, 135 S. Ct. 2699, 2706 (2015) (“Not only must an agency’s decreed result be within the scope of its lawful authority, but the process by which it reaches that result must be logical and rational.” (internal quotation marks omitted)); *Motor Vehicle Mfrs. Ass’n, Inc. v. State Farm Mut. Auto. Ins. Co.*, 463 U.S. 29, 43 (1983) (explaining that agency action is “arbitrary and capricious if the agency has . . . entirely failed to consider an important aspect of the problem, [or] offered an explanation for its decision that runs counter to the evidence before the agency”).

9. The failure to meaningfully consider the Project’s GHG emissions is all-the-more indefensible given the volume of GHG emissions at issue in this proceeding. The Project will directly release over 2 million tons of GHG emissions per year.<sup>23</sup> The Commission recognizes that climate change is “driven by accumulation of GHG in the atmosphere through combustion of fossil fuels (coal, petroleum, and natural gas), combined with agriculture, clearing of forests, and other natural sources”<sup>24</sup> and that the “GHG emissions from the construction and operation of the projects will contribute incrementally to climate change.”<sup>25</sup> In light of this undisputed relationship between anthropogenic GHG emissions and climate change, the Commission must carefully consider the Project’s contribution to climate change when determining whether the Project is consistent with the public interest—a task that it entirely fails to accomplish in today’s order.

○ **The Commission’s Consideration of the Project’s Other Adverse Impacts Is Also Arbitrary and Capricious**

10. In addition, the Project will have a significant adverse effect on more than 20 Federally-listed threatened and endangered species—including whale, fish, and bird species<sup>26</sup>—as well as historic properties along the Pipeline route<sup>27</sup> and short-term housing in Coos County.<sup>28</sup> It will also cause harmful noise levels in the area<sup>29</sup> and impair the

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<sup>23</sup> Certificate Order, 170 FERC ¶ 61,202 at P 259; EIS at Tables 4.12.1.3-1, 4.12.1.3-2, 4.12.1.4-1 & 4.12.1.4-2 (estimating the Project’s direct and indirect emissions from construction and operation, including vessel traffic).

<sup>24</sup> EIS at 4-849.

<sup>25</sup> Certificate Order, 170 FERC ¶ 61,202 at P 262.

<sup>26</sup> *Id.* PP 220-223.

<sup>27</sup> *Id.* P 253; EIS at 4-683. Following the completion of some land surveys, the Commission states that at least 20 sites along the Pipeline route are eligible historic properties and cannot be avoided. EIS at 5-9 (“Constructing and operating the Project would have adverse effects on historic properties under Section 106 of the [National Historic Preservation Act].”).

<sup>28</sup> Certificate Order, 170 FERC ¶ 61,202 at P 242; EIS at 4-631–4-635 (finding that the construction of the Project may have significant effects on short-term housing in Coos County, Oregon, which could include potential displacement of existing and potential residents, as well as tourists and other visitors); *see also* Certificate Order, 170 FERC ¶ 61,202 at P 279 (further concluding that these impacts would more acutely impact low-income households).

<sup>29</sup> EIS at 4-717–4-721. The Commission finds that pile driving associated with

visual character of the surrounding community.<sup>30</sup> Although the Commission discloses the adverse impacts throughout the EIS and mentions them in today's order,<sup>31</sup> it does not appear that they factor meaningfully, if at all, into the Commission's public interest analysis. Simply deeming those adverse impacts to be "acceptable" without any explanation of how that conclusory finding supports the Commission's public interest determination is a far cry from reasoned decisionmaking.<sup>32</sup>

11. Rehearing parties make this very point, arguing the Commission's public interest determinations fails to account for adverse environmental impacts.<sup>33</sup> The Commission's only response is to regurgitate its usual boilerplate that "balancing of adverse impacts and public benefits is an economic test, not an environmental analysis" and that it will consider environmental impacts if the Project's benefits outweigh the adverse effect on economic interests.<sup>34</sup> That response certainly does nothing to clarify *how* environmental impacts are considered in the Commission's public interest determination, if they are considered at all.

12. The Commission also points us to a series statements about the purported need for the Project<sup>35</sup> and its public benefits, assuring us that, as a result, all environmental impact

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LNG Terminal construction occurring 20 hours per day for two years would result in a significant impact on the local community.

<sup>30</sup> Certificate Order, 170 FERC ¶ 61,202 at P 237.

<sup>31</sup> *Id.* PP 155, 220-223, 237, 242, 253, 256 (noting that the environmental impacts of the Project would be significant with respect to several federal-listed threatened and endangered species, visual character in the vicinity of the LNG Terminal, short-term housing in Coos County, historic properties along the Pipeline route, and noise levels in Coos County).

<sup>32</sup> That is particularly important when it comes to the Commission's section 7 authorization of the Pipeline because it conveys eminent domain authority, 15 U.S.C. § 717f(h) (2018), and roughly a quarter of the private landowners have not reached easement agreements, meaning that, upon issuance of the certificate, they may be subject to condemnation proceedings.

<sup>33</sup> Sierra Club Rehearing Request at 22-24; NRDC Rehearing Request at 36-43; State of Oregon Rehearing Request at 29, 46; McCaffree Rehearing Request at 10.

<sup>34</sup> Rehearing Order, 171 FERC ¶ 61,136 at P 64; *see also* Certificate Order, 170 FERC ¶ 61,202 at P 92.

<sup>35</sup> Rehearing Order, 171 FERC ¶ 61,136 at P 65. *But see infra* PP 13-19.

are “acceptable.”<sup>36</sup> But that again does not explain how the Commission considered those impacts or why the benefits rendered them “acceptable.”<sup>37</sup> Taken seriously, the Commission’s rationale, and the absence of any actual explanation for why the Project satisfies the relevant public interest standards despite the significant environmental impacts, suggests that environmental impacts cannot meaningfully factor into the Commission’s application of the public interest. Indeed, if serious impacts are on more than 20 threatened and endangered species are not even worth a mention in the Commission’s public interest analysis, one cannot help but doubt that they play a role in the Commission’s decisionmaking process. The failure to explain how the Commission considered those adverse impacts in making its decision would seem to conflict with the Supreme Court’s guidance that it must consider “all factors bearing on the public interest,”<sup>38</sup> not to mention basic principles of reasoned decisionmaking.

- **This Record Demanded a More Thorough Review of the Need for the Pipeline**

13. In addition to the above failures, the Commission finds that Pacific Connector Pipeline is needed based solely on its agreement with Jordan Cove, an affiliate of the same corporate parent, Pembina. As I have previously explained, precedent agreements between affiliates—e.g., a pipeline developer and a shipper that are part of the same larger enterprise—are not necessarily sufficient to show that a proposed project is “needed” for the purposes of a certificate of public convenience and necessity under section 7 of the NGA.<sup>39</sup> That is because, unlike ordinary precedent agreements, agreements between affiliates are not necessarily the product of arms-length negotiations and may reflect the best interests of their shared corporate parent, without indicating a genuine need for the pipeline. That does not, however, mean that precedent agreements between affiliates are irrelevant when evaluating the need for proposed pipeline. Instead, the absence of arms-length negotiations underscores the importance of considering all

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<sup>36</sup> *Id.*

<sup>37</sup> *Cf. Am. Tel. & Tel. Co. v. FCC*, 974 F.2d 1351, 1355 (D.C. Cir. 1992) (holding that “conclusory assertions” regarding hard issues are not the basis of reasoned decisionmaking).

<sup>38</sup> *See Atl. Ref. Co.*, 360 U.S. at 391 (holding that the NGA requires the Commission to consider “all factors bearing on the public interest”); *see also Sabal Trail*, 867 F.3d at 1373 (explaining that the Commission may “deny a pipeline certificate on the ground that the pipeline would be too harmful to the environment”).

<sup>39</sup> *See generally Spire STL Pipeline LLC*, 169 FERC ¶ 61,134 (2019) (Glick, Comm’r, dissenting at P 13).

evidence that may bear on the need for the proposed pipeline, which is, after all, exactly what the Commission's 1999 Certificate Policy Statement contemplates.<sup>40</sup>

14. A proposed pipeline that will serve as an LNG export facility's sole source of supply can often make the need showing without too much difficulty. After all, as the Commission has previously explained, an LNG export facility cannot go forward without a source of natural gas. But where there is serious doubt about whether the export facility will actually be developed, the Commission must both take a harder look at whether putative export facility is sufficient to establish a need for the pipeline or support a finding that the project is required by the public convenience and necessity. After all, a section 7 certificate conveys the authority to exercise eminent domain, and it would be unconscionable for this Commission to permit a developer to seize private land for a project that has little chance of ever being completed.

15. This case demands that sort of hard look. The evidence suggests a number of reasons to doubt whether the Project will ever be developed. For one thing, the LNG market was on the decline when the Commission issued the certificate order and the intervening months have not provided much reason to hope that things will turn around.

<sup>41</sup> A global downturn in the market, coupled with uncertain prospects in the months and years ahead, ought to compel the Commission to at least examine the assumption that the LNG export facility will be built and create the only conceivable need for the pipeline. That is especially so here because, unlike some of the LNG export facilities that the Commission has certificated over the last year, Jordan Cove does not have any contracts for its putative LNG output.<sup>42</sup> Moreover, the state of Oregon has consistently raised concerns about Project and its ability to satisfy various outstanding permitting

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<sup>40</sup> See Certification of New Interstate Nat. Gas Pipeline Facilities, 88 FERC ¶ 61,227, 61,747-48 (1999) (1999 Certificate Policy Statement).

<sup>41</sup> NRDC Rehearing Request at 32 (citing Irina Slay, *www.oilprice.com*, *Giant LNG Projects Face Coronavirus Death or Delay* (Mar. 17, 2020), <https://oilprice.com/Energy/Natural-Gas/Giant-LNG-Projects-Face-Coronavirus-Death-OrDelay.html> (noting the glut in LNG supply and the instabilities in the LNG market given trade issues and coronavirus)).

<sup>42</sup> Cf. Venture Global LNG, *PGNiG and Venture Global LNG sign agreement for the sales and purchase of LNG from the USA*, <https://venturegloballng.com/press/pgnig-and-venture-global-lng-sign-agreement-for-the-sales-and-purchase-of-lng-from-the-usa/> (last visited May 21, 2020). This is not to suggest that such contracts are a necessary prerequisite to a finding of need for a section 7 facility. But, where the record otherwise suggests concerns about the likelihood a project will be developed, the absence of any contracts only heightens those concerns.



requirements, including section 401 of the Clean Water Act,<sup>43</sup> state air quality permits<sup>44</sup>—not to mention the outstanding questions regarding the Coastal Zone Management Authorization (which Oregon has already rejected)<sup>45</sup> and the pending requests for Forest Service authorization to cross federal lands.<sup>46</sup> Finally, Jordan Cove has been attempting to develop this Project for roughly 15 years at this point. While not dispositive on its own, the long and winding road that the project has taken to date ought to cause the Commission to exercise a little caution before assuming the next step will clear the way for its eventual development, meaning that the time has come to permit Jordan Cove to take private property.<sup>47</sup>

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<sup>43</sup> See also Oregon Entities Rehearing Request at 15-18 (discussing the history of Jordan Cove’s Clean Water Act section 401 and section 404 applications).

<sup>44</sup> *Id.* at 33 (“In its [F]EIS, FERC asserts that operational emissions from the proposed new sources will remain below thresholds requiring a PSD Permit. . . . That conclusion is incorrect. [The Oregon Department of Environmental Quality] has not yet determined whether the operation of the proposed facilities will require a major new source review and PSD permit or a minor PSD permit, because the applicants have indicated continuing uncertainty about the exact nature of the liquefaction facilities and the Malin compressor station.”).

<sup>45</sup> *Id.* at 25-26.

<sup>46</sup> Rehearing Order, 171 FERC ¶ 61,136 at P 299.

<sup>47</sup> These points take on added significance given the Commission’s prior denial of the Project based on its failure to show it was needed. As the Natural Resources Defense Council points out in its request for rehearing, the only material change between the application that the Commission rejected in 2016 and the one it accepted in 2020 was the single affiliated precedent agreement. See NRDC Rehearing Request at 13-16 (citing, among others, *FCC v. Fox Television Stations, Inc.*, 566 U.S. 502 (2009) and *Organized Vill. of Kake v. U.S. Dep’t of Agric.*, 795 F.3d 956, 966-70 (9th Cir. 2015) (en banc)). In denying the prior application in 2016, the Commission noted that the project developer had “failed to make any significant showing of demand,” even though “submittal of precedent agreements was but one indicia of demand that an applicant could file to demonstrate the public benefits of its project.” *Jordan Cove Energy Project, L.P.*, 157 FERC ¶ 61,194, at P 23 (2016). Especially in light of that prior finding of a complete absence of evidence indicating need and the 1999 Policy Statement’s contemplation that the Commission would consider all relevant evidence bearing on need for a pipeline, reasoned decisionmaking requires the Commission to do more than simply point to the agreement among affiliates and call it a day.

16. On their own, none of those factors would necessarily require a hard look at the LNG facility's prospects as part of the Commission's section 7 review. But, together, they cannot be ignored. There is simply too much uncertainty in this record to justify the Commission's finding that the project is needed, that it is required by the public convenience, or that conveying the authority to exercise eminent domain is appropriate at this time. At the very least, the Commission should stay the operation of the certificate, and, with it, the authority to exercise eminent domain, pending a resolution of the numerous pending state proceedings or a showing that Jordan Cove is prepared to actually begin developing the Project.

17. Unfortunately, today's order doubles down on the conclusion that the single precedent agreement is a sufficient basis—and the sole basis—for finding that the pipeline project is needed and required by the public convenience and necessity.<sup>48</sup> The Commission's 1999 Certificate Policy statement, however, contemplates more holistic inquiry that weighs the extent of the need for a project against its adverse impacts. Today's order, however, makes no effort to discuss the considerable uncertainty clouding the need for the Project or how that uncertainty factors into its weighing of the adverse impacts, including the exercise of eminent domain<sup>49</sup> and the effects on environmental and cultural resources that lie along the pipeline's 229-mile path.<sup>50</sup> Especially given the Commission's increasingly frequent and fervent assurances of its concern for landowners, one would have thought that the Commission would have at least taken into account the considerable uncertainty surrounding the project before enabling the use of eminent domain for a project that may never be built. The absence of any such discussion is hard to square with that purported concern.

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<sup>48</sup> See Rehearing Order, 171 FERC ¶ 61,136 at P 35, 44. In so doing, the Commission is quick to point to D.C. Circuit cases that have upheld its reliance on precedent agreements, including a few that have done so when it comes to agreements among affiliates. But, as I have previously explained, the Court has never held that such agreements are always a sufficient condition to show the need for a proposed pipeline—the position the Commission takes in today's order. See generally *Spire STL Pipeline*, 169 FERC ¶ 61,134 (Glick, Comm'r, dissenting at PP 15-16) (discussing the D.C. Circuit's jurisprudence on precedent agreements). Instead, the court has recognized that contrary record evidence may make precedent agreements an insufficient basis on which to find a need for the new pipeline. *Id.* PP 15-16.

<sup>49</sup> 1999 Certificate Policy Statement, 88 FERC ¶ 61,227 at 61,749 (“The strength of the benefit showing will need to be proportional to the applicant's proposed exercise of eminent domain procedures.”).

<sup>50</sup> See Rehearing Order, 171 FERC ¶ 61,136 at P 7.

• **The Commission Fails to Satisfy Its Obligations under NEPA**

18. The Commission’s NEPA analysis of the Project’s GHG emissions is similarly flawed. As an initial matter, in order to evaluate the environmental consequences of the Project under NEPA, the Commission must consider the harm caused by its GHG emissions and “evaluate the ‘incremental impact’ that those emissions will have on climate change or the environment more generally.”<sup>51</sup> As noted, the operation of the Project will emit more than 2 million tons of GHG emissions per year.<sup>52</sup> Although quantifying the Project’s GHG emissions is a necessary step toward meeting the Commission’s NEPA obligations, listing the volume of emissions alone is insufficient.<sup>53</sup> Identifying the consequences that those emissions will have for climate change is essential if NEPA is to play the disclosure and good government roles for which it was designed. The Supreme Court has explained that NEPA’s purpose is to “ensure[] that the agency, in reaching its decision, will have available, and will carefully consider, detailed information concerning significant environmental impacts” and to “guarantee[] that the relevant information will be made available to the larger audience that may also play a role in both the decisionmaking process and the implementation of that decision.”<sup>54</sup> It is

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<sup>51</sup> *Ctr. for Biological Diversity v. Nat’l Highway Traffic Safety Admin.*, 538 F.3d 1172, 1216 (9th Cir. 2008); *WildEarth Guardians v. Zinke*, 368 F. Supp. 3d 41, 51 (D.D.C. 2019) (explaining that the agency was required to “provide the information necessary for the public and agency decisionmakers to understand the degree to which [its] decisions at issue would contribute” to the “impacts of climate change in the state, the region, and across the country”).

<sup>52</sup> Certificate Order, 170 FERC ¶ 61,202 at P 258; EIS at Tables 4.12.1.3-1, 4.12.1.3-2, 4.12.1.4-1 & 4.12.1.4-2 (estimating the Project’s direct and indirect emissions from the Project’s construction and operation, including vessel traffic associated with the LNG Terminal).

<sup>53</sup> *See Ctr. for Biological Diversity*, 538 F.3d at 1216 (“While the [environmental document] quantifies the expected amount of CO<sub>2</sub> emitted . . . , it does not evaluate the ‘incremental impact’ that these emissions will have on climate change or on the environment more generally.”); *Klamath-Siskiyou Wildlands Ctr. v. Bureau of Land Mgmt.*, 387 F.3d 989, 995 (9th Cir. 2004) (“A calculation of the total number of acres to be harvested in the watershed is a necessary component . . . , but it is not a sufficient description of the actual environmental effects that can be expected from logging those acres.”).

<sup>54</sup> *Dep’t of Transp. v. Pub. Citizen*, 541 U.S. 752, 768 (2004) (citing *Robertson v. Methow Valley Citizens Coun.*, 490 U.S. 332, 349 (1989)).

hard to see how hiding the ball by refusing to assess the significance of the Project's climate impacts is consistent with either of those purposes.

19. In addition, under NEPA, a finding of significance informs the Commission's inquiry into potential ways of mitigating environmental impacts.<sup>55</sup> An environmental review document must "contain a detailed discussion of possible mitigation measures" to address adverse environmental impacts.<sup>56</sup> "Without such a discussion, neither the agency nor other interested groups and individuals can properly evaluate the severity of the adverse effects" of a project, meaning that an examination of possible mitigation measures is necessary to ensure that the agency has taken a "hard look" at the environmental consequences of the action at issue.<sup>57</sup>

20. The Commission responds that it need not determine whether the Project's contribution to climate change is significant because "[t]here is no universally accepted methodology" for assessing the harms caused by the Project's contribution to climate change.<sup>58</sup> But the lack of a single consensus methodology does not prevent the Commission from adopting *a* methodology, even if it is not universally accepted. The Commission could, for example, select one methodology to inform its reasoning while also disclosing its potential limitations or the Commission could employ multiple methodologies to identify a range of potential impacts on climate change. In refusing to assess a project's climate impacts without a perfect model for doing so, the Commission sets a standard for its climate analysis that is higher than it requires for any other environmental impact.

21. Furthermore, even without any formal tool or methodology, the Commission can consider all factors and determine, quantitatively or qualitatively, whether the Project's

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<sup>55</sup> 40 C.F.R. § 1502.16 (2019) (requiring an implementing agency to form a "scientific and analytic basis for the comparisons" of the environmental consequences of its action in its environmental review, which "shall include discussions of . . . [d]irect effects and their significance.").

<sup>56</sup> *Robertson*, 490 U.S. at 351.

<sup>57</sup> *Id.* at 352.

<sup>58</sup> EIS at 4-850 (stating that "there is no universally accepted methodology to attribute discrete, quantifiable, physical effects on the environment to Project's incremental contribution to GHGs" and "[w]ithout the ability to determine discrete resource impacts, we are unable to determine the significance of the Project's contribution to climate change."); *see also* Certificate Order, 170 FERC ¶ 61,202 at P 262 ("The Commission has also previously concluded it could not determine whether a project's contribution to climate change would be significant.").

GHG emissions will have a significant impact on climate change. After all, that is precisely what the Commission does in other aspects of its environmental review, where the Commission makes several significance determinations based on subjective assessments of the extent of the Project's impact on the environment.<sup>59</sup> The Commission's refusal to similarly analyze the Project's impact on climate change is arbitrary and capricious.

22. The Commission also suggests that it cannot determine the significance GHG emissions because it “has no way to . . . assess how that amount contributes to climate change” without a way to “link physical effects caused by the projects’ GHG emissions.” Nonsense. The Commission acknowledges that every single ton of GHG emissions, including those from the Project,<sup>60</sup> contributes to climate change, which causes discrete adverse effects across the globe and in the Project region.<sup>61</sup> That is more than enough of a basis to evaluate the effects of the Project's GHG emissions on climate change. After all, even the recent Council on Environmental Quality draft NEPA guidance on consideration of GHG emissions—hardly a radical environmental manifesto—recognizes that the quantity of GHG emissions “may be used as a proxy for assessing potential climate effects.”<sup>62</sup> And yet, contrary to even that guidance, today's order insists that a quantity of GHG emissions cannot be used to tell us anything about the Project's effects

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<sup>59</sup> See, e.g., EIS at 4-184, 4-619–4-620, 4-645 (concluding that there will be no significant impact on vegetation, Tribal subsistence practices, and marine vessel traffic). The Commission makes these determinations without any disclosing any “metric for assessing the significance of the environmental impact on these resources,” contrary to the Commission's claim in today's order, see Rehearing Order, 171 FERC ¶ 61,136 at P 245.

<sup>60</sup> Certificate Order, 170 FERC ¶ 61,202 at P 262.

<sup>61</sup> EIS at 4-701, 4-706, 4-848–4-849 (finding that the Project results in 2 million tons of GHGs annually, that climate change is “driven by accumulation of GHG in the atmosphere,” and that the specific climate change impacts *in the Project region* with a high or very high level of confidence include increase in stream temperatures reducing salmon habitat, more frequent winter storms, warming trends that exacerbate snowpack loss increasing the risk for insect infestation and wildfires, longer periods between rainfall leading to depletion of aquifers and strain on surface water resources, and increases in evaporation and plant water loss rates resulting in saltwater intrusion into shallow aquifers).

<sup>62</sup> Draft National Environmental Policy Act Guidance on Consideration of Greenhouse Gas Emissions, 84 Fed. Reg. 30,097, 30,098 (2019) (“A projection of a proposed action's direct and reasonably foreseeable indirect GHG emissions may be used as a proxy for assessing potential climate effects.”).

on climate change or the significance thereof.<sup>63</sup> That proposition makes sense only if you do not believe that there is a direct relationship between GHG emissions and climate change.

23. In any case, as noted, the Commission does not apply this same standard when assessing the significance of the Project's other environmental impacts. For example, consider how the Commission discusses the Project's impact on upland vegetation, particularly forested land. It finds that the forested land affected by the Project supports "multiple interacting layers of organisms that include plants, animals, fungi, and bacteria"<sup>64</sup> and that the loss of an acre of forested land causes adverse effects on the supported organisms. In evaluating whether the Project's impact on forested land is significant, the Commission relies on acreage as the proxy for actual adverse environmental impacts, and concludes that the 2,750 acres of lost forested land would not be significant.<sup>65</sup> The Commission does not attempt to link those specific 2,750 acres of forested land to direct or quantifiable adverse effects for the purpose of assessing significance. Yet, this is exactly the standard the Commission suggests it must meet to assess the significance the quantity of GHG emissions on climate change. The Commission's insistence on applying a dramatically higher standard before it can assess the Project's climate change impacts is arbitrary and capricious.

24. In addition, the Commission has repeatedly justified its refusal to consider the significance of a Project's impact on climate change on the basis that it lacks "any GHG emission reduction goals established either at the federal level or by the [state]" with which to compare the Project's emissions.<sup>66</sup> Oregon, however, has an established "GHG

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<sup>63</sup> Rehearing Order, 171 FERC ¶ 61,136 at P 245 ("To assess a project's effect on climate change, the Commission can only quantify the amount of project emissions, but it has no way to then assess how that amount contributes to climate change.").

<sup>64</sup> EIS at 4-150.

<sup>65</sup> *Id.* at 4-184.

<sup>66</sup> See, e.g., *Alaska Gasline Dev. Corp.*, 171 FERC ¶ 61,134, at P 215 (2020) (Alaska LNG Certificate Order) ("[W]e are unaware of any GHG emission reduction goals established either at the federal level or by the State of Alaska . . . . Without either the ability to determine discrete resource impacts or an established target to compare GHG emissions against, the final EIS concludes that it cannot determine the significance of the project's contribution to climate change."); Alaska LNG Project Final Environmental Impact Statement, Docket No. CP17-178-000, at 4-1222 (Mar. 6, 2020) (Alaska LNG EIS); Rio Grande LNG Final Environmental Impact Statement, Docket No. CP16-454-000, at 4-482 (Apr. 26, 2019) (asserting the Commission has "not been able to find any GHG emission reduction goals established either at the federal level or by the [state]. Without either the ability to determine discrete resource impacts or an established

emission reduction goal[]” in the form a legislative goal of reducing GHG emissions 10 percent below 1990 levels by 2020 and 75 percent below 1990 levels by 2050.<sup>67</sup> As NRDC noted on rehearing, the emissions from the Project would represent an eighth of the entire state-wide emissions allowable under the state’s 2050 goal.<sup>68</sup> That is exactly the type of significance analysis that the Commission has been suggesting it could perform in order after order over the past couple of years.

25. Recognizing that, under its own standard, it might have to finally consider climate change, the Commission moves the goal posts once again, this time suggesting that Oregon’s goals cannot inform a significance determination because they are aspirational and the legislature “did not create any additional regulatory authority to meet its goals.”<sup>69</sup> More nonsense. The issue before us is whether the emissions from the Project are significant, not whether the state has the authority to enforce its goals. A comparison with state targets is relevant because it provides the context that the Commission has repeatedly claimed it needs to assess significance. The enforceability of those standards is irrelevant for the purposes of that exercise.

26. In any case, as noted, the Commission has repeatedly, including again today, suggested that these “goals” or “targets” are what it needs in order to assess the significance of a project’s GHG emissions.<sup>70</sup> It is hard to imagine a more arbitrary and capricious action than an agency excusing itself from considering a Project’s impact on climate change because there is no goal or target to compare the emissions with and then *on the same day*, when presented with such a goal, asserting that it cannot use that goal or

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target to compare GHG emissions against, we are unable to determine the significance of the Project’s contribution to climate change”).

<sup>67</sup> See Certificate Order, 170 FERC ¶ 61,202 at P 260; NRDC Rehearing Request at 65-66; Sierra Club Rehearing Request at 65; State of Oregon Rehearing Request at 36.

<sup>68</sup> NRDC Rehearing Request at 66; see Certificate Order, 170 FERC ¶ 61,202 at P 261 (recognizing the state’s goals and acknowledging that the Project’s GHG emissions would “represent 4.2 percent and 15.3 percent of Oregon’s 2020 and 2050 GHG goals, respectively”).

<sup>69</sup> Rehearing Order, 171 FERC ¶ 61,136 at P 253.

<sup>70</sup> See, e.g., Alaska LNG Certificate Order, 171 FERC ¶ 61,134 at P 215 (“[W]e are unaware of any GHG emission reduction *goals* established either at the federal level or by the State of Alaska . . . . Without either the ability to determine discrete resource impacts or an established *target* to compare GHG emissions against, the final EIS concludes that it cannot determine the significance of the project’s contribution to climate change.” (emphasis added)); Alaska LNG EIS, Docket No. CP17-178-000, at 4-1222.

target because, in the Commission’s judgment, the state lacks adequate to realize that goal.

27. It is clear what is going on. The Commission will say whatever it needs to in order to avoid having to evaluate whether a project’s GHG emissions are significant or whether the impact of those emissions on climate change is itself significant. For the better part of the last two years, the Commission has made excuse after excuse for why it does not need to consider climate change in its decisionmaking process. Today’s contradictory LNG orders are just a particularly clear example of the Commission’s serial attempts to duck its responsibilities. That will continue until a court steps in to set things right.

28. In any event, even if the Commission were to find that the Project’s GHG emissions are significant, that is not the end of the analysis. Instead, as noted above, the Commission could blunt those impacts through mitigation—as the Commission often does with regard to other environmental impacts. The Supreme Court has held that an environmental review must “contain a detailed discussion of possible mitigation measures” to address adverse environmental impacts.<sup>71</sup> As noted above, “[w]ithout such a discussion, neither the agency nor other interested groups and individuals can properly evaluate the severity of the adverse effects.”<sup>72</sup>

29. Consistent with this obligation, the EIS discusses mitigation measures to ensure that the Project’s adverse environmental impacts (other than its GHG emissions) are reduced to less-than-significant levels.<sup>73</sup> And throughout today’s order, the Commissions uses its broad conditioning authority under section 3 and section 7 of the NGA<sup>74</sup> to implement these mitigation measures, which support its public interest finding.<sup>75</sup> For

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<sup>71</sup> *Robertson*, 490 U.S. at 351.

<sup>72</sup> *Id.* at 351-52; *see also* 40 C.F.R. § 1508.20 (2019) (defining mitigation); *id.* § 1508.25 (including in the scope of an environmental impact statement mitigation measures).

<sup>73</sup> *See, e.g.*, EIS at 4-656 (discussing mitigation required by the Commission to address motor vehicle traffic impacts from the Project).

<sup>74</sup> 15 U.S.C. § 717b(e)(3)(A); *id.* § 717f(e); Certificate Order, 170 FERC ¶ 61,202 at P 293 (“[T]he Commission has the authority to take whatever steps are necessary to ensure the protection of environmental resources . . . , including authority to impose any additional measures deemed necessary.”).

<sup>75</sup> *See* Certificate Order, 170 FERC ¶ 61,202 at P 293 (explaining that the environmental conditions ensure that the Project’s environmental impacts are consistent



example, the Commission uses this broad conditioning authority to mitigate the impact on short-term housing in Coos County caused by the influx of workers during construction of the LNG Terminal and Pipeline. The Commission concludes that the influx of workers will not only create a short-term rental shortage during the peak tourist season, but this impact would be acutely felt by low-income households.<sup>76</sup> To mitigate this significant impact, the Commission requires Jordan Cove to designate a Construction Housing Coordinator to address these housing concerns. Despite this use of our conditioning authority to mitigate adverse impacts, the Project's climate impacts continue to be treated differently, as the Commission refuses to identify any potential climate mitigation measures or discuss how such measures might affect the magnitude of the Project's impact on climate change.

30. Finally, the Commission's refusal to seriously consider the significance of the impact of the Project's GHG emissions is even more mystifying because NEPA "does not dictate particular decisional outcomes."<sup>77</sup> NEPA "merely prohibits uninformed—rather than unwise—agency action."<sup>78</sup> The Commission could find that a project contributes significantly to climate change, but that it is nevertheless in the public interest because its benefits outweigh its adverse impacts, including on climate change. In other words, taking the matter seriously—and rigorously examining a project's impacts on climate change—does not necessarily prevent any of my colleagues from ultimately concluding that a project satisfies the relevant public interest standard.

For these reasons, I respectfully dissent.

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Richard Glick  
Commissioner

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with those anticipated by the environmental analysis).

<sup>76</sup> *Id.* P 279.

<sup>77</sup> *Sierra Club v. U.S. Army Corps of Engineers*, 803 F.3d 31, 37 (D.C. Cir. 2015).

<sup>78</sup> *Id.* (quoting *Robertson*, 490 U.S. at 351).



**Pacific  
Connector**  
GAS PIPELINE

**Pacific Connector Gas Pipeline, LP**

**Resource Report No. 1**

**General Project Description**

**Pacific Connector Gas Pipeline Project**

**September 2017**

## Responses to FERC's August 11<sup>th</sup> Comment List

Agency	Agency Comment #	Agency Comment (Original PCGP Report Text as Quoted are in “ ”)	Response Summary
BLM	1.1	<p>DATA REQUEST: Please confirm that these route modifications have been incorporated into the latest alignment GIS layer.</p> <p>Provide a supplemental analysis identifying the civil and biological surveys that have been completed in these areas. Purpose of the data request is to determine the need for additional surveys.</p>	<p>Confirmed that route modifications have been incorporated into the latest alignment GIS layer.</p> <p>Biological surveys have been ongoing on route modifications throughout 2017 and will be completed in 2018 with data supporting preparation of the APDBA. PCGP will be completing civil surveys on all route modifications in 2018.</p>
BLM	1.2	<p>Avista is a local distribution company. However, no interconnection to the local system is proposed in the description of the facilities. Remove this citation which incorrectly implies that the proposed pipeline will have local/domestic customers.</p>	<p>Reference to Avista has been removed from RR1.</p>
BLM	2	<p>“Two large under-utilized pipeline systems...” This statement is unsupported and will required additional evidence in subsequent resource reports.</p>	<p>New paragraph added to PCGP RR1 section 1.1.1.1.2 titled “Natural Gas Systems Transmission Capacity” that provides the requested support for GTN and Ruby capacity.</p>
BLM	3	<p>The discussion of the international markets uses a variety of units. Please provide conversions within the text for additional clarity.</p>	<p>Footnote (1) added to first occurrence of the use of the terms (second paragraph of page 1). Footnote added states: “ Natural gas rate is normally cited in volumetric units (e.g., standard cubic feet (scf)) or in thermal units (e.g. dekatherms (Dth), whereas LNG rate is normally cited in metric mass units (e.g., metric tons). For PCGP, the heating value of the gas used for hydraulic modelling purposes is expected to be approximately 1002 BTU/scf which means 1 Dth is equivalent to 998 scf. LNG is expected to have a molecular weight of 16.59 lb/lb-mol. Using ideal gas law and molecular weight to determine the density and then converting metric tons to pounds results in 1 metric ton equivalent to 50,429 scf, or 1 mtpa is equivalent to 138.16 million scf per day.”</p>
BLM	4	<p>The entire section presents a quagmire of studies, but fails to make summary statements or demonstrate relevance to this specific project. Edit to demonstrate relevance to this specific project and provide summary statements.</p>	<p>A new section has been added to the end of 1.1.1.1.3 starting with the underlined header titled Natural Gas Systems Transmission Capacity that provides summary statements.</p>

Agency	Agency Comment #	Agency Comment (Original PCGP Report Text as Quoted are in “ ”)	Response Summary
BLM	5	“In addition, the project is capable of serving domestic needs.” Remove this speculative statement because no interconnection is actually proposed.	Deleted the last paragraph of 1.1.1.1.2 which stated: In addition, the Project is capable of serving domestic needs. Natural gas customers in Oregon situated along the route of the new pipeline, particularly those west of the Cascade Mountains, will stand to benefit from its construction in conjunction with the Project. Capacity on the Pipeline could bring additional natural gas supplies to this otherwise isolated market area, with concomitant beneficial price effects.”
BLM	6	“...the Proposed Route crosses Highway 62 and the Rogue River by HDD..” What is the distance for the HDD crossing? Information is provided for other HDD crossings. “...crosses the Klamath River, and Highway 97 with an HDD.” What is the distance for the HDD crossing? Information is provided for other HDD crossings.	Lengths of HDD and DP crossings have been added to RR1 1.1.2.2.1 where each of the crossings are described. They include: MP 0.12 5200 ft across Coos Bay; MP 1.4 9000 ft across Coos Bay; MP 11.3 1600 ft across Coos River; MP 25 3500 ft across a steep slope; MP 71 1380 ft across I5/Umpqua River; MP 122.6 3050 ft across Hwy 62/Rogue River; and MP 199.2 2300 ft across Klamath River
BLM	7	“...crosses the Klamath River, and Highway 97 with an HDD.” What is the distance for the HDD crossing? Information is provided for other HDD crossings.	See response to comment BLM Comment #6
BLM	8	Add a column identifying jurisdiction(s)	Column added to Table 1.1-2 denoting jurisdiction (landowner; private or agency-name).
BLM	9	Rock Source and Permanent Disposal Sites. Please include a table in RR1 detailing county, size and jurisdiction.	RR1 1.2.1.4.2 was edited to include a reference to the table as follows: “PCGP has identified 20 rock source/disposal sites which total 85.98 acres (see Table A.8-4 in Appendix A.8 to Resource Report 8).” This table provides the location, size, purpose, jurisdiction, land use and vegetation for each site.
BLM	10	Add a column identifying jurisdiction(s) and a statement that no publicly owned lands will be utilized (if true).	The following sentence has been added to RR1 1.2.1.4.1: “No contractor or pipe storage yards have been located on federally managed lands.”
BLM	11	BLM anticipates that the Plan of Development (“POD”) will be included as an appendix to the FERC EIS. However, because of a new applicable plan, BLM’s previous determination that the POD were complete is no longer relevant. Delete this statement. Suggest instead something along the lines of: “during the previous FERC application PCGP submitted a POD to meet BLM ROW the requirements of BLM ROW regulations. These plans will be updated in consultation with the Federal land managing agencies (BLM, USFS and Reclamation).	In RR1 1.3.1.1.4 the sentence “BLM/USFS previously indicated that plans for a previous route were complete, and” was replaced with “During the FERC application process under Docket No. CP13-492-000, PCGP submitted a POD to meet BLM, Forest Service and Reclamation’s Right-of-Way Grant requirements. These Plans will be updated in consultation with the Federal land managing agencies;”  Also for BB Compensatory Mitigation Plan, the following was deleted “(Not Attached - Under Revision).

Agency	Agency Comment #	Agency Comment (Original PCGP Report Text as Quoted are in “ ”)	Response Summary
		Remove the notation associated with the Compensatory Mitigation Plan. All these plans will be subject to (mostly minor) revisions.	
BLM	12	Pink highlights indicate comments that may initiate edits to the Plan of Development.  Treatment of Forest Slash. These LWD and fuel loading standards may change due to the Revised BLM RMPs. BLM will provide information on any changed requirements once we have completed the plan conformance analysis.	Noted
BLM	13	Topsoiling. These Topsoiling standards may change due to the Revised BLM RMPs. BLM will provide information on any changed requirements once we have completed the plan conformance analysis.	Noted
BLM	14	Hydrostatic Testing. These Hydrostatic Testing standards may change due to the Revised BLM RMPs. BLM will provide information on any changed requirements once we have completed the plan conformance analysis.	Noted
BLM	15	Clean-up and Erosion Control Devices. These Clean-up and Erosion Control standards may change due to the Revised BLM RMPs. BLM will provide information on any changed requirements once we have completed the plan conformance analysis.	Noted
BLM	16	Revegetation. These Revegetation standards may change due to the Revised BLM RMPs. BLM will provide information on any changed requirements once we have completed the plan conformance analysis.	Noted

Agency	Agency Comment #	Agency Comment (Original PCGP Report Text as Quoted are in “ ”)	Response Summary
BLM	17	OHV Control. These OHV Control standards may change due to the Revised BLM RMPs. BLM will provide information on any changed requirements once we have completed the plan conformance analysis.	Noted
BLM	18	Road Crossing. These Road Crossing standards may change due to the Revised BLM RMPs. BLM will provide information on any changed requirements once we have completed the plan conformance analysis.	Noted
BLM	18	Waterbody Crossings. These waterbody crossing procedures, TEWA setback requirements and vegetation management standards may change due to the Revised BLM RMPs. BLM will provide information on any changed requirements once we have completed the plan conformance analysis.	Noted
BLM	19	Wetland Crossing. These Wetland crossing procedures, TEWA setback requirements and vegetation management standards may change due to the Revised BLM RMPs. BLM will provide information on any changed requirements once we have completed the plan conformance analysis.	Noted
BLM	20	“The cleared vegetation material will be stored on the edge of the right-of-way and spread...” What if the cleared vegetation is a noxious or invasive weed? Provide specific procedures, in accordance with landowner/land management agency direction in these instances in the updated POD.	Will be addressed in the POD to be submitted to BLM.
BLM	21	“...upland discharge at least 150 feet from wetlands or waterbodies with no direct discharge to these features.” Table 1.3-3 does not support this statement. Five sites are located closer. BMPs in the Revised BLM RMPs may require changes to the Hydrostatic Test Plan in the POD and potential changes in the locations of sites.	RR1 Table 1.3-3 footnote 5 was revised to read as follows: “Waterbodies were determined from USGS National Hydrography Dataset water course data( <a href="http://nhd.usgs.gov/">http://nhd.usgs.gov/</a> ). Distances are/were between the test break/header location to the closest water course regardless of flow characteristics (i.e., perennial, intermittent, or ephemeral); dewatering structures for the test break/header locations will be located a minimum of 150 feet from waterbodies/wetlands.”
BLM	22	Schedule. These Seasonal restriction requirements may have been altered by the Revised BLM RMPs. BLM will provide information on any changed requirements once we have completed the plan conformance analysis.	Noted

Agency	Agency Comment #	Agency Comment (Original PCGP Report Text as Quoted are in “ ”)	Response Summary
BLM	23	This section states that herbicides will not be used and that herbicides will be used selectively. Please clarify and specify any differences by ownership or jurisdiction. Herbicide use is an issue of high controversy for public land users. Revise to include discussion of noxious and invasive.	Will be addressed in the POD to be submitted to BLM.
USACE	1.1	The assist the Corps and FERC in identifying the NEPA scope and to evaluate the propose action under other relevant statutes and authorities please:	See responses to USACE comments 1.1.1 thru 1.1.5
USACE	1.1.1	o Clarify any actions PCGP intends to undertake, dependent on the purpose and need of the project, which would deliver natural gas supply or service to local municipalities, districts, or any person. PCGP states they have executed precedent agreements with the Avista Corporation. Corps Regulatory has previously participated in pre-application meetings with applicants in eastern/southern Oregon which would utilize natural gas potentially delivered from the PCGP if authorized and constructed.	Reference to Avista has been removed from RR1.  RR1 Section 1.1.1 last paragraph now states: “PCGP held an open season for transportation service on the Pipeline in July and August of 2017. PCGP has executed precedent agreements for 96% of the Pipeline’s capacity.”.
USACE	1.1.2	o Identify if the Mangan Mitigation Site would be impacted by the Pacific Connector pipeline crossing in Haynes Inlet (Corps No. NWP-2006-760). Please provide a more detailed drawing outlining the pipeline orientation on the Mangan property and an assessment as to if any construction activity would affect the mitigation site directly or indirectly.	Although this comment is flagged to RR1, it is addressed in 10.4.1.1 of RR10. The Proposed Route avoids Mangan, but the alternative routes do not.
USACE	1.1.3	o Identify any other compensatory wetland/waterway mitigation site authorized by the Corps or the Oregon Department of State Lands (DSL) that may be crossed or affected by the proposed pipeline route.	There are no known COE or DSL mitigation sites crossed by the route; however, the proposed route crosses Jordan Cove’s proposed Kentuck mitigation site.
USACE	1.1.4	o Identify the location and size of all culverts which would need to be replaced to allow project construction. Please identify if the existing fill prism for access roads would be changed in character, scope, or size through these replacements.	See updated Resource Report Section 1.3.1.2.4 second paragraph of Resource Report 1.
USACE	1.1.5	o Please identify all pipeline route deviations which are now planned to occur outside of the previously analyzed 400-foot survey corridor per the 2015 Final Environmental Impact Statement.	Route deviations have been incorporated into the current route and required biological surveys are currently in progress in areas where permission has been granted.

Agency	Agency Comment #	Agency Comment (Original PCGP Report Text as Quoted are in “ ”)	Response Summary
USACE	1.2	Please identify any property crossed by the pipeline route which may possess a wetland reserve easement or agricultural land/conservation easement with the U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS). Please identify the geographic scope of the easement to be impacted through the pipeline routing, the anticipated effects of routing the pipeline through this easement, and the NRCS' determination routing the pipeline through this easement is acceptable.	The route does not cross any known NRCS conservation easements.
NMFS	1	In many of the reports there is a notation that subsequent versions will include missing information. Finalization of the reports should precede or be issued concurrent with the Biological Assessment (BA) to avoid delays in Endangered Species Act consultations.  The Resource Reports have information that needs to be included in the proposed action in the BA. We suggest the proponents refer to National Marine Fisheries Service's additional information request letter of July 10, 2015, while preparing the BA to ensure the necessary information is provided.	Comment noted.
NMFS	1.1	Please supply the most recent copies of the Appendices for all Resource Reports, especially but not limited to, the topography maps with mileposts (Appendix 1G which was stated to be included later),	Provided in FERC Certificate application. See Resource Report 1 Appendix G.1
NMFS	1.2	• the location of new permanent roads and temp roads,	Provided in FERC Certificate application. See Resource Report 1 Appendix G.1 and H.1 and also Resource Report 8
NMFS	1.3	• uncleared storage areas and temporary extra work areas,	Provided in FERC Certificate application. See Resource Report 1 Appendix H.1
NMFS	1.4	• the environmental alignment sheets,	Provided in FERC Certificate application. See Resource Report 1 Appendix H.1
NMFS	1.5	• the site-specific proposed modifications to Federal Energy Regulatory Commission's Wetland and Waterbody Procedures and Upland Plan,	Provided in FERC Certificate application. See Resource Report 1 Appendix A.1, Table A.1-1
NMFS	1.6	• the Erosion Control and Revegetation Plan,	Provided in FERC Certificate application. See Resource Report 1 Appendix B.1



Agency	Agency Comment #	Agency Comment (Original PCGP Report Text as Quoted are in “ ”)	Response Summary
NMFS	1.7	• the Spill Prevention, Containment, and Countermeasures Plan,	Provided in FERC Certificate application. See Resource Report 2 Appendix B.2
NMFS	1.8	• the most recent Plan of Development, and	To be provided. Anticipated delivery is October 2017
NMFS	1.9	• GeoEngineers reports. If those appendices have not changed from earlier, indicating that would be helpful.	Provided in FERC Certificate application. GeoEngineers reports exist in several resource reports and are dated, which will identify similarly named documents that have been updated.
NMFS	1.10	• Lastly, somewhere in a Resource Report, please discuss the potential for pipeline failure.	See Resource Report 11 section 11.3.
NMFS	2	What is the proposed method for crossing the Kentuck Golf Course and Kentuck Slough?	The following was added to section 1.1.2.2.1: “From MP 3.09 to 3.56/6.37R, the alignment continues conventionally parallel to Kentuck Slough within the former Kentuck Golf Course (a property now owned by Fort Chicago LNG II U.S. L.P., an affiliate of JCEP, and proposed as a mitigation site for JCEP and PCGP).”
NMFS	1	<p>There is substantial information in this report that will be valuable for the Biological Assessment (BA) and subsequent consultation. As stated in Resource Report 1, page 6: The watershed boundary is the first subdivision of a sub-basin and considered the most appropriate to provide the context for management through description and understanding of specific ecosystem conditions and capabilities and to offer a consistent format for reporting results of analysis (Forest Service and BLM 2003)”. The effects of the project, including the Compensatory Mitigation Plan should be discussed in detail (turbidity, temperature, hydrostatic testing Riparian areas, etc.) on a watershed basis, and then integrated on a population scale. Will need to not only address effects to the species but how the project will affect critical habitat and if the project will/will not contribute to the limiting factors for each species. As the biological assessment (BA) is developed, please keep in mind the need to assess the effects to both the species and the Physical and Biological Features of critical habitat using the following criteria:</p> <p><b>Proximity</b> – the geographic relationship between the project element of action and the species/designated critical habitat.</p>	To be provided in Applicant-Prepared Draft Biological Assessment. Anticipated delivery is November 2017

Agency	Agency Comment #	Agency Comment (Original PCGP Report Text as Quoted are in “ ”)	Response Summary
		<p><b>Probability</b> – the likelihood that the species or habitat will be exposed to the biotic or abiotic effects of the project element or action to the indicator.</p> <p><b>Magnitude</b> – the severity and intensity of the effect.</p> <p><b>Distribution</b> – the geographic area in which the disturbance would occur (this may be several small effects or one large effect).</p> <p><b>Frequency</b> – how often the effect would occur</p> <p><b>Duration</b> – how long the effect would last. Potential categories include; short term events whose effects subside immediately (pulse effect); sustained, long-term effect, or chronic effect whose effects persist (press effect); and permanent event(s) that sets a new threshold for a species' environment (threshold effect).</p> <p><b>Timing</b> – when the effect would occur in relation to the species' life-history patterns.</p> <p><b>Nature</b> – effects of the action on elements of a species life cycle, population size or variability, or distribution; or on the physical and/or biological features of critical habitat, including direct and indirect effects.</p> <p>The better the effects are assessed as described above, the more likely delays in Endangered Species Act consultations will be avoided. Similarly, finalization of reports/appendices and mitigation plans with their references prior to the BA will help avoid consultation delays.</p> <p>Please note for critical habitat, the term primary constituent elements (PCEs) is no longer used; use the term physical and biological features (PBFs).</p>	

Agency	Agency Comment #	Agency Comment (Original PCGP Report Text as Quoted are in “ ”)	Response Summary
FERC	1	Include a table in Resource Report 1 that lists every plan that has been developed and/or will be developed as part of this Project (e.g., the various mitigation plans, development plans, construction plans, transportation plans, etc.). Include a column that indicates if the specific plan has been finalized, or when the plan would be finalized if it has not been completed to date.	See attached PCGP List of Plans/Reports/Applications that have been or will be submitted.
FERC	2	Regarding non-jurisdictional utility connections required for each aboveground facility include the anticipated location and length of utility interconnects, including if the interconnects would be located within or along existing roadways or easements, or if new rights-of-way would be required.	PCGP RR1 Section 1.8 updated to include details of utility connections to above ground facilities
FERC	3	Add a key to Figure 1.1-1 that defines the various colors, shading, and lines/polygons that are displayed in this figure.	Updated PCGP RR1 Figure 1.1-1 includes a legend denoting the various colors, shading and lines/polygons that are displayed.
FERC	4	Include a table of water usage for the Project facilities for both construction and operation. Include the amount of water volumes that would be withdrawn from each water source, and the total amount of water use for all relevant activities (e.g., concrete washouts, site work, and hydrostatic testing).	Plot Plan added to Resource Report 8 as figure 8.3-1
FERC	5	Summarize the process for determining land ownership, and confirm that approximately 240 private landowners (excluding federal, state, and local government owned lands) would be directly affected by the planned Project.	<p>Parcel ownership is verified by a combination of third party title professionals and legal counsel. Affected landowners are notified following CFR Title 18 Subpart A, 157.8(d). Properties are appraised by a combination of third party appraisal, land use information, and current county tax records. Financial offers are prepared using the acquired appraisal information to determine an offer value based on the amount of Permanent right of way and Temporary construction work space required.</p> <p>Land acquisition agents meet with landowners and present contract documents, seek property access and survey permission, and participate in unique parcel characteristic discovery efforts with the landowner, documenting these discoveries and other construction stipulations. Upon conclusion of the iterative negotiation process, which includes damage assessments and valuation, contract documents are executed using a notary public, landowner payments are made, and the contract(s) are recorded in the public domain.</p>

Agency	Agency Comment #	Agency Comment (Original PCGP Report Text as Quoted are in “ ”)	Response Summary
			The number of private, non-timber landowners as of this filing is 227.
FERC  FERC	General  General	Ensure that the acres of impact to the various resources are reported as “construction impacts” and “operational impacts.” Confirm that the environmental effects of rock source and permanent disposal sites, contractor yards, and access roads are accounted for in the resource reports.	Construction and operation impacts have been accounted for in the Resource Reports.  Rock source/disposal sites, yards, and access roads have been accounted for in the Resource Reports.

**PCGP List of Plans/Reports/Applications that Have Been or Will Be Submitted**

Resource Report Appendix	Report/Plan/Study/Application	Date to FERC (and main regulating agency)
<b>Notes: Appendix references are to the FERC Certificate application. Appendices to the Joint Permit Application, Applicant-Prepared Draft Biological Assessment, and Coastal Zone Certification Application are only listed if they differ from those provided in the FERC Certificate application and the other applications.</b>		
Appendix B.1	Erosion Control and Revegetation Plan	
Appendix E.1	Winter Construction Plan - Klamath	
Appendix F.1	Plan of Development (application to BLM, FS, BOR)	October
	Aesthetics Management Plan for Federal Lands	
	Air, Noise and Fugitive Dust Control Plan	
	Blasting Plan	
	Communication Facilities Plan	
	Contaminated Substances Discovery Plan	
	Corrosion Control Plan	
	Environmental Briefings Plan	
	Emergency Response Plan	
	Fire Prevention and Suppression Plan	
	Integrated Pest Management Plan	
	Klamath Project Facilities Crossing Plan	
	Leave Tree Protection Plan	
	Overburden and Excess Material Disposal Plan	
	Prescribed Burning Plan	
	Recreation Management Plan	
	Right-of-Way Marking Plan	
	Right-of-Way Clearing Plan for Federal Lands	
	Safety & Security Plan	
	Sanitation and Waste Management Plan	
	Transportation Management Plan	
	Upper Rock Creek ACEC	
	Wetland and Waterbody Crossing Plan	
Appendix B.2	SPCC Plan	
Appendix C.2	Stream Fluming Procedures	
Appendix D.2	Dam and Pump Procedures	
Appendix E.2	Waterbody Crossing Plans and Figures	
Appendix F.2	Groundwater Monitoring and Mitigation Plan	
Appendix G.2	HDD Feasibility Analysis	
Appendix H.2	HDD Drilling Fluid Contingency Plan	
Appendix I.2	HDD Failure Modes	
Appendix J.2	Direct Pipe - Memo	
Appendix L.2	Compensatory Wetland Mitigation Plan (Kentuck Slough)	October (with JPA)
Appendix M.2	Joint Permit Application (COE, DEQ, DSL)	October
Appendix N.2	Turbidity-Nutrients-Metals Water Quality Impacts Analysis	
Appendix O.2	Stream Crossing Risk Analysis	
Appendix P.2	Stream Crossing Hyporheic Analysis	

**PCGP List of Plans/Reports/Applications that Have Been or Will Be Submitted**

<b>Resource Report Appendix</b>	<b>Report/Plan/Study/Application</b>	<b>Date to FERC (and main regulating agency)</b>
Appendix Q.2	Thermal Impacts Assessment	
Appendix R.2	Mine Hazards Evaluation and Mercury Testing at the Red Cloud, Mother Lode, Nivinson, and Elkhorn Mining Groups	
Appendix S.2	Potential for natural-occurring mercury mineralization to enter the aquatic environment between M.P. 109 and East Fork Cow Creek	
Appendix T.2	Channel Migration and Scour Analysis	
Appendix U.2	HGM Report	
Appendix V.2	Hydrostatic Test Plan	
Appendix H.3	Blasting and Helicopter Noise Analysis & Mitigation	
Appendix I.3	Fish Salvage Plan	
Appendix B.4	Cultural Resources Survey and Evaluation Reports	
Appendix E.4	Unanticipated Discovery Plan	
JCEP Resource Report 5	ECONorthwest Reports	
Appendix A.6	Geologic Hazards and Mineral Resources Report	
Appendix B.6	Paleontology Assessment of Pacific Connector Gas Pipeline Project BLM Lands	
Appendix D.8	Communications Study	
Appendix J.9	Air permit application, Klamath Compressor Station	
Appendix K.9	Waterbody Crossing Noise Studies	
<b>Other Applications</b>		
JPA		October
	Wetland and Waterbody Mitigation Plan	
	Large Woody Debris Plan	
	Water Quality Criteria Assessment	
	Thermal Mitigation Trading Approach	
	Wetland Delineation Report	
SF-299/POD		October
NPDES/1200-C/Stormwater CDM		
	ODFW Fish Passage	Spring 2018
	ODFW Blasting	Spring 2018
	OWRD Water Withdrawal	Spring 2018
APDBA		November
	Conservation Measures	
	Compensatory Mitigation Plan	
	ESA Avoidance and Minimization Plans	
APDBA	MMPA Application	November
APDBA	Migratory Bird Conservation Plan	November
EIS	Management Indicator Species	FS Document
EIS	Biological Evaluation	FS Document
EIS	Aquatic Conservation Strategy Analysis	FS Document
Biological Survey Reports		Dec-Jan 2018
Survey and Manage Reports		Dec-Jan 2018

<b>General Project Description</b> <b>Location of Information to Satisfy Full Filing Requirements</b>	
<b>Requirement</b>	<b>Section</b>
<p>1. Describe and provide location maps of all jurisdictional facilities, including all aboveground facilities associated with the project (such as: meter stations, pig launchers/receivers, valves), to be constructed, modified, abandoned, replaced, or removed, including related construction and operational support activities and areas such as maintenance bases, staging areas, communications towers, power lines, and new access roads (roads to be built or modified). As relevant, the report must describe the length and diameter of the pipeline, the types of aboveground facilities that would be installed, and associated land requirements. It must also identify other companies that must construct jurisdictional facilities related to the project, where the facilities would be located, and where they are in the Commission's approval process.</p>	<p>Appendix G.1 Appendix H.1 Section 1.2</p>
<p>2. Identify and describe all non-jurisdictional facilities, including auxiliary facilities that will be built in association with the project, including facilities to be built by other companies.</p> <p>(i) Provide the following information:</p> <ul style="list-style-type: none"> <li>- (A) A brief description of each facility, including as appropriate: Ownership, land requirements, gas consumption, megawatt size, construction status, and an update of the latest status of federal, state, and local permits/approvals;</li> <li>- (B) The length and diameter of any interconnecting pipeline;</li> <li>- (C) Current 1:24,000/1:25,000 scale topographic maps showing the location of the facilities;</li> <li>- (D) Correspondence with the appropriate State Historic Preservation Officer (SHPO) or duly authorized Tribal Historic Preservation Officer (THPO) for tribal lands regarding whether properties eligible for listing on the National Register of Historic Places (NRHP) would be affected;</li> <li>- (E) Correspondence with the U.S. Fish and Wildlife Service (and National Marine Fisheries Service, if appropriate) regarding potential impacts of the proposed facility on federally listed threatened and endangered species; and</li> <li>- (F) For facilities within a designated coastal zone management area, a consistency determination or evidence that the owner has requested a consistency determination from the state's coastal zone management program.</li> </ul> <p>(ii) Address each of the following factors and indicate which ones, if any, appear to indicate the need for the Commission to do an environmental review of project-related non-jurisdictional facilities.</p> <ul style="list-style-type: none"> <li>- (A) Whether or not the regulated activity comprises "merely a link" in a corridor type project (e.g., a transportation or utility transmission project).</li> <li>- (B) Whether there are aspects of the non-jurisdictional facility in the immediate vicinity of the regulated activity which uniquely determine the location and configuration of the regulated activity.</li> <li>- (C) The extent to which the entire project will be within the Commission's jurisdiction.</li> <li>- (D) The extent of cumulative federal control and responsibility.</li> </ul>	<p>Section 1.8</p>
<p>3. Provide the following maps and photos:</p> <ul style="list-style-type: none"> <li>- (i) Current, original United States Geological Survey (USGS) 7.5-minute series topographic maps or maps of equivalent detail, covering at least a 0.5-mile-wide corridor centered on the pipeline, with integer mileposts identified, showing the location of rights-of-way, new access roads, other linear construction areas, compressor stations, and pipe storage areas. Show nonlinear construction areas on maps at a scale of 1:3,600 or larger keyed graphically and by milepost to the right-of-way maps.</li> <li>- (ii) Original aerial images or photographs or photo-based alignment sheets based on these sources, not more than 1 year old (unless older ones accurately depict current land use and development) and with a scale of 1:6,000 or larger, showing the proposed pipeline route and location of major aboveground facilities, covering at least a 0.5 mile-wide corridor, and including mileposts. Older images/photographs/alignment sheets should be modified to show any residences not depicted in the original. Alternative formats (e.g., blue-line prints of acceptable resolution) need prior approval by the environmental staff of the Office of Energy Projects.</li> <li>- (iii) In addition to the copy required under §157.6(a)(2) of this chapter, applicant should</li> </ul>	<p>Appendix G.1 Appendix H.1</p>

<b>General Project Description</b> <b>Location of Information to Satisfy Full Filing Requirements</b>	
<b>Requirement</b>	<b>Section</b>
send two additional copies of topographic maps and aerial images/photographs directly to the environmental staff of the Office of Energy Projects.	
4. When new or additional compression is proposed, include large scale (1:3,600 or greater) plot plans of each compressor station. The plot plan should reference a readily identifiable point(s) on the USGS maps required in paragraph (c)(3) of this section. The maps and plot plans must identify the location of the nearest noise-sensitive areas (schools, hospitals, or residences) within 1 mile of the compressor station, existing and proposed compressor and auxiliary buildings, access roads, and the limits of areas that would be permanently disturbed.	Resource Report 9
5.(i) Identify facilities to be abandoned, and state how they would be abandoned, how the site would be restored, who would own the site or right-of-way after abandonment, and who would be responsible for any facilities abandoned in place. - (ii) When the right-of-way or the easement would be abandoned, identify whether landowners were given the opportunity to request that the facilities on their property, including foundations and below ground components, be removed. Identify any landowners whose preferences the company does not intend to honor, and the reasons therefore.	Not applicable (new pipeline)
6. Describe and identify by milepost, proposed construction and restoration methods to be used in areas of rugged topography, residential areas, active croplands, sites where the pipeline would be located parallel to and under roads, and sites where explosives are likely to be used.	Section 1.3.1
7. Unless provided in response to Resource Report 5, describe estimated workforce requirements, including the number of pipeline construction spreads, average workforce requirements for each construction spread and meter or compressor station, estimated duration of construction from initial clearing to final restoration, and number of personnel to be hired to operate the proposed project.	Resource Report 5 (Section 1.3)
8. Describe reasonably foreseeable plans for future expansion of facilities, including additional land requirements and the compatibility of those plans with the current proposal.	Section 1.5
9. Describe all authorizations required to complete the proposed action and the status of applications for such authorizations. Identify environmental mitigation requirements specified in any permit or proposed in any permit application to the extent not specified elsewhere in this section.	Section 1.6 Table 1.6-1
10. Provide the names and mailing addresses of all affected landowners specified in §157.6(d) and certify that all affected landowners will be notified as required in §157.6(d).	Appendix D.1



<b>General Project Description Location of Information to Satisfy Minimum Filing Requirements</b>	
<b>Requirement</b>	<b>Section</b>
1. Provide a detailed description and location map of the project facilities – 18 CFR § 380.12(c)(1)	Section 1.1 Figure 1.1-1
2. Describe any non-jurisdictional facilities that would be built in association with the project – 18 CFR § 380.12(c)(2)	Section 1.8
3. Provide current original U.S. Geological Survey 7.5-minute-series topographic maps with mileposts showing the project facilities – 18 CFR § 380.12(c)(3)	Appendix G.1
4. Provide aerial images or photographs or alignment sheets based on these sources with mileposts showing the project facilities – 18 CFR § 380.12(c)(3)	Appendix H.1
5. Provide plot/site plans of compressor stations showing the locations of the nearest noise sensitive areas within 1 mile – 18 CFR § 380.12(c)(3,4)	Resource Report 9
6. Describe construction and restoration methods – 18 CFR § 380.12(c)(6)	Section 1.3 ECRP
7. Identify the permits required for construction across surface waters – 18 CFR § 380.12(c)(9)	Section 1.6 Table 1.6-1
8. Provide the names and address of all affected landowners and certify that all affected landowners will be notified as required in § 157.6(d) – 18 CFR § 380.12(c)(10)	Appendix D.1 Filed as privileged

<b>Information Recommended or Often Missing</b>	
<b>Requirement</b>	<b>Section</b>
1. Describe all authorizations required to complete the proposed action and the status of applications for such authorizations, including actual or anticipated submittal and receipt dates.	Table 1.6-1
2. Provide plot/site plans of all aboveground facilities that are not completely within the right-of-way.	Appendix H.1
3. Provide detailed typical construction right-of-way cross-section diagrams for each proposed right-of-way configuration showing information such as widths and relative locations of existing rights-of-way, new permanent rights-of-way, and temporary construction rights-of-way. Clearly identify any overlap of existing rights-of-way for projects involving collocation. Identify by pipeline facility and milepost where each right-of-way configuration	Figure 1.2-1
4. Summarize the total acreage of land affected by construction and operation of the project.	Table 1.2-1
5. Describe cathodic protection system; include associated land requirements as appropriate.	Section 1.4
6. Describe construction and restoration methods for offshore facilities as well as onshore facilities.	Section 1.3 Appendix B.1 (ECRP)
7. For proposed abandonments, describe how the right-of-way would be restored, who would own the site or right-of-way after abandonment, who would be responsible for facilities that would be abandoned in place, and whether landowners were given the opportunity to request removal.	Not applicable
8. If Resource Report 5, Socioeconomics is not provided, provide the start and end dates of construction, the number of pipeline spreads that would be used, and the workforce per spread	Resource Report 5 Section 1.3
9. If project includes construction in the federal offshore area, include in the discussion of required authorizations and clearances the status of consultations with the Bureau of Ocean Energy Management, Regulation and Enforcement. File with the Bureau of Ocean Energy Management, Regulation and Enforcement for right-of-way grants at the same time or before filing the Federal Energy Regulatory Commission (FERC) application.	Not applicable
10. For project involving the import or export of natural gas/liquefied natural gas and construction of liquefied natural gas facilities, include in the discussion of required authorizations and clearances the status of consultations and authorizations required from the U.S. Department of Energy, U.S. Coast Guard, and the Federal Aviation Administration, as applicable.	Not applicable
11. Send two (2) additional copies of topographic maps and aerial images/photographs directly to the environmental staff of the Office of Energy Projects.	
12. Provide an electronic copy of the landowner list directly to the FERC environmental staff (check with FERC staff for required format).	

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## List of Abbreviations and Acronyms

ABVA	automated block valve assembly
ACEC	Area of Critical Environmental Concern
API	American Petroleum Institute
Bcf/d	billion cubic feet per day
BLM	Bureau of Land Management
BMP	Best Management Practice
BOR	Bureau of Reclamation
BPA	Bonneville Power Administration
BVA	block valve assembly
CFR	Code of Federal Regulations
COE	U.S. Army Corps of Engineers
CP	cathodic protection
DLCD	Department of Land Conservation and Development
Dth/d	Dekatherms per day
DOE/FE	United States Department of Energy Office of Fossil Energy
DOT	U.S. Department of Transportation
ECRP	Erosion Control and Revegetation Plan
EI	Environmental Inspector
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act
FERC	Federal Energy Regulatory Commission
FEIS	Final Environmental Impact Statement
Forest Service	U.S. Forest Service
FWS	U.S. Fish and Wildlife Service
GTN	Gas Transmission Northwest
HDD	horizontal directional drill
HP	horsepower
I-5	Interstate-5
ISO	International Organization for Standardization
JCEP	Jordan Cove Energy Project, LP
JCLNG	Jordan Cove Energy LNG, LLC
JPA	Joint Permit Application
LiDAR	Light Detection and Ranging
LNG	liquefied natural gas
LSR	Late Successional Reserve
LWD	large woody debris
MAMU	marbled murrelet
MAOP	maximum allowable operating pressure
Mg/L	milligrams per liter
MP	milepost
mtpa	million metric tons per annum
MW	megawatts
NEPA	National Environmental Policy Act
NFS	National Forest System
NGA	Natural Gas Act
NHD	National Hydrography Dataset
NOI	Notice of Intent
NRCS	Natural Resource Conservation Service
NSO	northern spotted owl
NWI	National Wetland Inventory
O&C	Oregon & California
OAR	Oregon Administrative Regulations
ODEQ	Oregon Department of Environmental Quality
ODF	Oregon Department of Forestry

ODFW	Oregon Department of Fish and Wildlife
ODOT	Oregon Department of Transportation
ODSL	Oregon Department of State Lands
OHV	off-highway vehicle
OHWM	ordinary high water mark
ORS	Oregon Revised Statutes
OSHA	Occupational Safety and Health Administration
OWRD	Oregon Water Resources Department
PAR	permanent access road
PCGP	Pacific Connector Gas Pipeline
PHMSA	Pipeline and Hazardous Materials Safety Administration
PI	point of intersection
ppm	parts per million
POD	Plan of Development
psig	pounds per square inch gauge
Reclamation	Bureau of Reclamation
SPCC	Spill Prevention, Containment, and Countermeasures
SUA	Special Use Authorization
SVID	Shasta View Irrigation District
SWPPP	Stormwater Pollution Prevention Plan
TAR	temporary access road
Tcf	trillion cubic feet
TEWA	temporary extra work area
TMP	Transportation Management Plan
UCSA	uncleared storage area
USBR	United States Bureau of Reclamation
USDA-FS	U.S. Department of Agriculture – Forest Service
USFS	U.S. Forest Service
USGS	U.S. Geological Survey
WRP	Wetland Reserve Program

## 1. GENERAL PROJECT DESCRIPTION

### 1.0 INTRODUCTION

---

Pacific Connector Gas Pipeline, LP (“PCGP”) is seeking authorization from the Federal Energy Regulatory Commission (“FERC” or “Commission”) under Section 7 of the Natural Gas Act (“NGA”) to construct and operate a new approximately 229-mile-long, 36-inch-diameter natural gas transmission pipeline (“Pipeline”) capable of transporting approximately 1,200,000 dekatherms per day (Dth/d) of natural gas from interconnections with two existing interstate natural gas pipelines (Ruby Pipeline LLC [“Ruby”] and Gas Transmission Northwest LLC [“GTN”]) to the proposed liquefied natural gas (“LNG”) export facility (“LNG Terminal”) being developed by Jordan Cove Energy Project L.P. (“JCEP”). The Pipeline and the LNG Terminal are referred to, collectively, as the “Project.”

Contemporaneously, JCEP is seeking authorization from the Commission under Section 3 of the NGA to site, construct, and operate the LNG Terminal, located on the bay side of the North Spit of Coos Bay, Oregon. JCEP will design the LNG Terminal to receive a maximum of 1,200,000 Dth/d of natural gas and produce a maximum of 7.8 million metric tons per annum (“mtpa”) of LNG for export<sup>1</sup>. JCEP plans to submit a contemporaneous application to FERC that will include its own set of resource reports.

FERC’s National Environmental Policy Act (“NEPA”) review process requires that an applicant submit an Environmental Report consisting of up to 13 individual resource reports. While the LNG Terminal and the Pipeline are interrelated projects, this Resource Report 1 provides a description of the Pipeline and its purpose and need, as well as a specific description of the Pipeline facilities and certain non-jurisdictional facilities. This resource report also includes a description of the benefits to the local Pipeline area, land requirements, construction and operation procedures, and applicable regulatory approvals and coordination, as well as the current construction schedule for the Pipeline. Additionally, JCEP Resource Report 1 Appendix B.1 provides a discussion of the potential cumulative impacts that may result when the environmental effects associated with the Project are added to the impacts associated with other past, present, or reasonably foreseeable future actions.

Resource Report 12 (PCB Contamination) has not been prepared for this application because the Pipeline is new construction (not replacement or abandonment), and, therefore, PCB contamination is not an issue. Resource Report 13 (LNG Facilities) has not been prepared for the Pipeline but is included in the application for the proposed LNG Terminal.

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<sup>1</sup> Natural gas flowrate is normally cited in volumetric units (e.g., standard cubic feet (scf)) or in thermal units (e.g. dekatherms (Dth), whereas LNG flowrate is normally cited in metric mass units (e.g., metric tons). For PCGP, the heating value of the gas used for hydraulic modelling purposes is 1002 BTU/scf which means 1 Dth is equivalent to 998 scf. LNG is expected to have an approximate molecular weight of 16.59 lb/lb-mol, which means 1 metric ton LNG is equivalent to 50,429 scf of natural gas, and 1 mtpa to be equivalent to 138.16 million scf per day.

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## 1.1 PROPOSED FACILITIES

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### 1.1.1 Statement of Purpose and Need

The Project is as a market-driven response to the burgeoning and abundant natural gas supply in the U.S. Rocky Mountain and Western Canada markets, and the growth of international demand, particularly in Asia.

The overall Project purpose and need is to construct a natural gas liquefaction and deep-water export terminal capable of receiving and loading ocean-going LNG carriers, in order to export natural gas from a point of origin near the intersections of the GTN Pipeline system and the Ruby Pipeline system.

The Pipeline origin near the intersection of the GTN Pipeline system and Ruby Pipeline system is strategically located to give reliable and secure supplies of natural gas from two natural gas supply basins – one in the U.S. Rocky Mountains (through the existing Ruby Pipeline) and a second in western Canada (through the existing GTN Pipeline) – capable of delivering volumes of at least 1,200,000 Dth/d in order to support export of 7.8 mtpa of LNG.

The LNG Terminal, proposed to be located on the bay side of the North Spit of Coos Bay, would support receipt, liquefaction, storage, and loading of LNG onto ocean-going LNG tankers for delivery to export markets giving those supplies an efficient and cost-effective outlet. The Pipeline is needed to transport natural gas from the proposed receipt points near the intersection of the GTN Pipeline system and Ruby Pipeline system to the LNG Terminal.

#### 1.1.1.1 Project Summary

##### 1.1.1.1.1 Background

On September 4, 2007, JCEP filed an application with FERC to construct and operate an LNG import terminal at Coos Bay, Oregon, in Docket No. CP07-444-000. That same day, PCGP, in Docket No. CP07-441-000, filed an application with FERC to construct and operate a natural gas sendout pipeline connecting the JCEP LNG import terminal with existing natural gas transportation systems. In May 2009, FERC produced a final environmental impact statement (“FEIS”) for Docket Nos. CP07-441-000 and CP07-444-000. The Commission authorized both the import terminal and the natural gas sendout pipeline on December 17, 2009. On April 16, 2012, the Commission vacated the previously issued certificates for the LNG import terminal in Docket No. CP07-444-000 and the associated sendout pipeline in Docket No. CP07-441-000.

On May 21, 2013, JCEP filed an application seeking authorization for its proposed LNG export terminal on the North Spit of Coos Bay in Coos County, Oregon, in Docket No. CP13-483-000. PCGP filed its companion application with FERC for the supply pipeline to the proposed terminal on June 6, 2013, in Docket No. CP13-492-000. FERC conducted an extensive environmental review of both applications, issuing an FEIS in September 2015. On March 11, 2016, the Commission denied the applications in Docket Nos. CP13-483-000 and CP13-492-000, without prejudice to JCEP’s and PCGP’s refiling of new applications.

On January 23, 2017, JCEP and PCGP requested approval to participate in FERC’s Pre-Filing Review Process to assist in the identification and proper assessment of issues



and to obtain input on the development of the environmental resource reports. FERC granted this request on February 10, 2017, and assigned Docket No. PF17-4-000.

#### 1.1.1.1.2 Market Demand and Economic Support for the Project

The Project would provide clean burning natural gas to Asian markets, which would reduce the amount of coal-fired, oil-fired, and nuclear-powered generation currently being used in these markets and increase cleaner-burning supplies to other commercial and residential markets. The Project would also provide new market access for natural gas producers in the Rocky Mountains and Western Canada. These producers have seen their access to markets in the eastern and central regions of the United States and Canada erode with the development and ramp-up of natural gas production from the Marcellus and Utica shales.

#### **Global LNG Market Demand and Supply**

Demand for LNG is expected to grow 4% to 5% per year between 2015 and 2030, and LNG demand growth has exceeded expectations recently. While many expected the market to be oversupplied in 2016, demand in Asia and the Middle East absorbed the increase in supply from Australia and the U.S. Chinese imports of LNG increased 33% in 2016 over the prior year, and India saw an increase of 25% over the same period. There were also six new importing countries in 2016 (Colombia, Egypt, Jamaica, Jordan, Pakistan and Poland), bringing the total number of LNG importing countries to 35. Shortages in domestic gas supplies in Egypt, Jordan and Pakistan led those countries to be among the fastest growing importers, importing a total of 13.9 million tons of LNG in 2016 during their first year of imports.

Despite the resurgent LNG demand, global LNG prices fell dramatically over the last two years following the slump in oil prices. This has led to new LNG supply projects being deferred or cancelled, and it will undoubtedly lead to a tightening of the global market post 2020. With few new supply projects and strong demand growth driven by India, China and Southeast Asia, the market is expected to recover by 2023, and LNG demand is expected to almost double by 2030, requiring an incremental 150 mtpa of new supply by the end of the next decade.

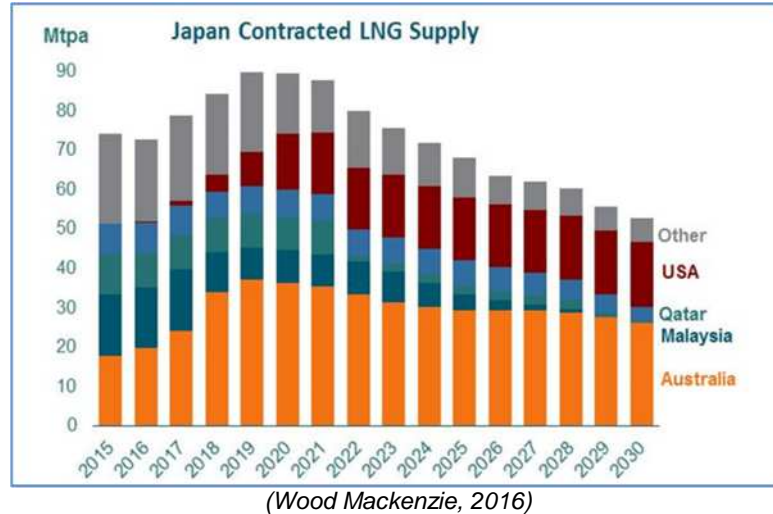
U.S. LNG exports are one of the lowest cost supply sources in the world and are expected to maintain their competitive advantage going forward due to the size and quality of the upstream natural gas resources in North America and the availability of infrastructure, including existing pipelines and road and rail infrastructure. Projects such as JCEP and PCGP on the west coast of the U.S. offer a particular strategic advantage in being able to supply the strong Asian market demand with shorter shipping distances relative to other U.S. export projects. The distance from the Port of Coos Bay to Tokyo Bay requires nine days shipping as compared to 22 days from the Gulf of Mexico utilizing the Panama Canal.

#### **Japanese Demand**

Demand in Japan is not dependent upon demand growth but is driven by the re-balancing of the supply portfolios held by Japanese companies. Twenty-five percent of Japan's long term contracts expire between 2020 and 2025. U.S. LNG exports to Japan are positive from a number of standpoints. Japan is the most important U.S. ally in Asia,

and increased U.S. imports will strengthen this alliance and improve the balance of trade between these two countries.

The figure below shows the current Japanese contracted LNG supply and demonstrates the increasing demand from US export supplies.



On March 22, 2016, JCEP announced that it had executed a preliminary agreement with JERA Co., Inc. ("JERA"), the largest LNG buyer in the world, for the acquisition of at least 1.5 mtpa of LNG capacity from the Project. JERA was formed on April 1, 2015, and is a joint venture between Tokyo Electric Power Company and Chubu Electric Power Company, two of the largest Japanese power utilities. The joint venture was formed to combine the international energy assets of the two companies, including energy procurement and shipping. At formation, JERA had 40 mtpa of LNG supplies under contract. Following the announcement of the JERA agreement, JCEP announced the execution of a preliminary agreement with ITOCHU Corporation, a significant Japanese investment and trading firm, for the procurement of 1.5 mtpa of LNG capacity from the Project.

Negotiations continue with other LNG buyers for the balance of the marketed plant capacity.

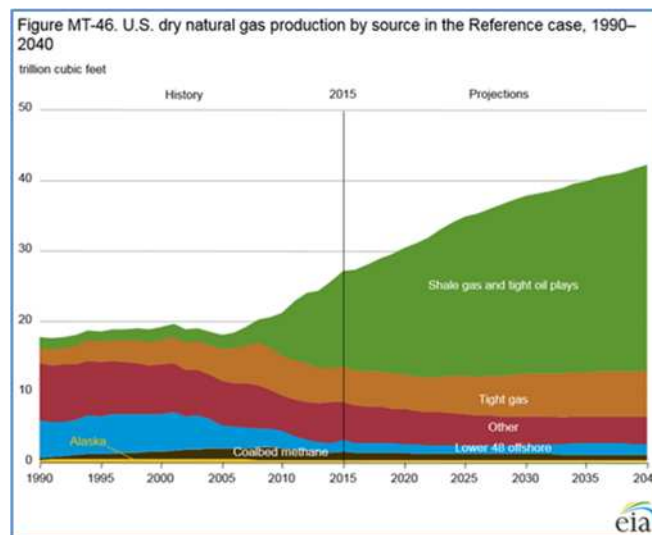
### U.S. and Canadian Market Supply

The development of ultra tight shales and siltstones through horizontal drilling and hydraulic fracking has revolutionized the U.S. and Canadian long-term natural gas outlook. Resource estimates continue to climb as new and advanced exploration, well drilling, completion and stimulation technologies allow access to and delineation of more technically recoverable natural gas resources. The U.S. Energy Information Agency ("EIA") is an independent agency of the U.S. Federal Statistical System responsible for collecting, analyzing, and disseminating energy information to promote sound policymaking, efficient markets, and public understanding of energy and its interaction with the economy and the environment. As of January 1, 2014, the EIA estimated there was 2,136 trillion cubic feet ("Tcf") of technically recoverable natural gas resources yet to be delineated in the U.S., with natural gas from shale plays an increasingly large part of the mix. The Potential Gas Committee sponsored by the Colorado School of Mines in its

biennial resource assessment estimated that at the end of 2014 technically recoverable resources were 2,515 Tcf. When combined with EIA's estimate of proved natural gas reserves of 308 Tcf of dry gas at the end of 2015, total U.S. natural gas resources are estimated at 2,444 Tcf to 2,823 Tcf, or approximately 100 years of natural gas supply at current rates of consumption.

Of particular importance to the Project, the U.S. Geological Society ("USGS") upgraded its assessment of technically recoverable natural gas resources in the Mancos Shale in the Piceance Basin of Colorado to 66 Tcf as compared to the USGS' 2003 assessment of 1.6 Tcf. The Piceance Basin is a key natural gas province that can be sourced by the Project through the Ruby Pipeline.

The graph below shows natural gas production in the Piceance Basin, one of the supply basins within the U.S Rockies.



(EIA, 2017)

Technically recoverable natural gas resources from the Western Canadian Sedimentary Basin ("WCSB"), which the Project can access via the GTN Pipeline system exceeds 1,000 Tcf with 449 Tcf of this from the Montney Formation as estimated in a joint report by the Canadian National Energy Board, the British Columbia Oil and Gas Commission, the Alberta Energy Regulator and the British Columbia Ministry of Natural Gas Development published in November 2013.

There is both adequate gas supply in western Canada and the U.S. northern Rocky Mountains, as well as adequate demand in multiple Asian markets (Japan, Korea, China, etc.), to support more than one West Coast LNG project.

In May 2014, the U.S. Department of Energy Office of Fossil Energy ("DOE/FE") announced its intention to undertake an updated economic study in order to gain a better understanding of how potential U.S. LNG exports between 12 and 20 Bcf/d could affect the public interest i.e. could exports impact natural gas availability and pricing in the U.S.

Specifically, DOE/FE commissioned the EIA to update its 2012 LNG Export Study. This document is titled Effect of Increased Levels of Liquefied Natural Gas Exports on U.S.

Energy Markets, dated October 2014 (USEIA 2014). Further, DOE/FE determined that it would follow the EIA Study with an additional study that would evaluate the macroeconomic impacts of the exports evaluated in the EIA Study and directed the National Energy Technology Laboratory to facilitate this additional analysis. To carry out this task, The Center for Energy Studies at Rice University's Baker Institute and Oxford Economics were commissioned on behalf of the DOE/FE to undertake a scenario-based assessment of the macroeconomic impact of alternative levels of U.S. LNG exports under different assumptions for U.S. resource endowment, U.S. gas demand, and the international market environment. This document is titled "The Macroeconomic Impact of Increasing U.S. LNG Exports" ("Economic Study"), dated October 29, 2015 (USDOE 2015).

As related by the Economic Study, the outlook on North American gas supplies has undergone a dramatic reversal since 2008, when the general consensus was that supplies would be insufficient to keep pace with growing demand and that foreign-sourced LNG would need to be imported. As discussed above, the Economic Study identifies shale gas production growth as the biggest contributor to overall gas supply abundance due to the ramp-up in production of natural gas extracted from ultralow permeability and ultralow porosity shale formations in the U.S. The development and continuing improvement of hydraulic fracturing technology have led to increasingly efficient shale gas production, and shale gas production "has grown in less than a decade to comprise about one-half of U.S. domestic production" (USDOE 2015). Estimates of dry natural gas resources in the U.S. have likewise grown, reflecting significantly increased estimates of shale gas resources. The EIA's Annual Energy Outlook 2016 ("AEO 2016") (USEIA 2016) estimates that total U.S. dry natural gas production was 27.2 Tcf in 2015. Of this total amount of production for 2015, it is estimated that 13.6 Tcf, or 50%, came from shale gas and tight oil plays. Based on the AEO 2016 Reference Case, total U.S. dry natural gas production is projected to increase to 42.1 Tcf by 2040, of which approximately 69% is derived from shale gas and tight oil plays, leading the share of U.S. dry natural gas production growth (see EIA graph above).

The Economic Study also states that gas production will continue to grow steadily throughout the forecast period to 2040, as "the majority of the increase in LNG exports is accommodated by expanded production rather than reductions in domestic demand, a result that reflects the very elastic long-run supply curve in North America" (USDOE 2015). The Economic Study also states that increased production will have a positive spillover to "key suppliers of the sector such as machinery and engineering services, and rising employment in the gas sector also leads to increased demand for goods and services more broadly" (USDOE 2015). Indeed, the growth potential is enhanced by the fact that the reduced geologic risk and resulting reliability of shale gas discovery and production make it responsive to demand and by the fact that the presence of natural gas liquids in some shale formations creates an added incentive for development.

For the demand outlook, the Economic Study projects steady growth, driven by demand in the industrial and power-generation sectors in the near term, and continued growth in power generation longer term. This projected growth is "driven by emerging environmental policies that target the use of coal" (USDOE 2015). Additionally, the AEO 2016 Reference Case estimates that total U.S. natural gas consumption will increase from 27.5 Tcf in 2015 to 34.4 Tcf in 2040. The AEO 2016 Reference Case also estimates that the U.S. will become a net exporter of natural gas in 2018 and that

“growing natural gas production from shale gas and tight oil formations at relatively low prices support an increase in U.S. LNG exports of 6.7 Tcf from 2015-40” (USEIA 2016). Even as both domestic demand and net exports are projected to grow throughout the forecast period, U.S. natural gas production is sufficient to meet these increases. As technology improves in the development of shale resources, higher rates of recovery at lower costs occur.

According to both the Economic Study and the AEO 2016 report, growing natural gas demand in the industrial and electric power sectors and increasing exports of LNG place upward pressure on U.S. natural gas pricing. While this is occurring, the AEO 2016 report notes that improvements in drilling technology allow production to keep pace with demand, “resulting in relatively stable prices throughout the projection period.” Examples of technology improvements include better rigs and drill bits, resulting in lower unit costs and the expansion of tight and shale gas formations. The Economic Study expects higher U.S. gas production and increased profitability of U.S. gas producers to “typically exceed the negative impacts of higher domestic natural gas prices associated with increased LNG exports” (USDOE 2015).

The Economic Study concludes that the overall macroeconomic impact of increasing U.S. LNG exports from 12 Bcf/d to 20 Bcf/d is marginally positive. “In aggregate the size of the economy is little changed in the long run, with GDP less than 0.1% (\$7.7 billion USD annually in today’s prices) higher on average over 2026-2040 than in the 12 Bcf/d export case” (USDOE 2015). While an increase in LNG exports from the U.S. will yield small declines in output for some energy-intensive industries, such as cement, concrete, and glass, “the estimated impact on sector output is very small compared to expected sector growth to 2040” (USDOE 2015). Also, since most of any U.S. LNG exports would be derived from increased extraction rather than diverted natural gas supplies, “other sectors benefit from increasing U.S. LNG exports, especially the industries that supply the natural gas sector or benefit from the capex needed to increase production. This includes some energy-intensive sectors such as cement and helps offset some of the impact of higher energy prices” (USDOE 2015). These conclusions are also consistent with the results from the EIA Study, which determined that “increasing LNG exports leads to higher economic output, as measured by real gross domestic product, as increased energy production spurs investment. This higher economic output is enough to overcome the negative impact of higher domestic energy prices over the projection period” (USEIA 2016).

### **Natural Gas Systems Transmission Capacity**

Based on the supply projections above, there is both adequate gas supply in western Canada and the U.S. northern Rocky Mountains, as well as adequate demand in multiple Asian markets (Japan, Korea, China, etc.), to support the Project purpose and need.

In order to connect the necessary natural gas feedstock of 1,200,000 Dth/d to the LNG Terminal for export of 7.8 mtpa, sufficient transmission system supply and diversity are required. Both GTN and Ruby can support the feed gas requirement of the Project based on current flows to date on their respective systems. In addition, given the current timing of when contracts roll off on GTN and Ruby, there is ample supply from those two systems when gas is needed starting in mid-2023.

Pipeline transmission system subscription (volume reserved within the pipeline total capacity) and available capacity are provided in Table 1.1-1. This table depicts the shortage of available gas subscription capacity of the Williams Northwest Pipeline system (“NWP”) and how it is not sufficient for the Project demand. While NWP can supply gas from Sumas for delivery at Stanfield, the amount of available capacity for Stanfield Delivery (227,846 Dth/d) is substantially less (approximately 80% less) than the required feedstock for the terminal (1,200,000 Dth/d). NWP can also deliver gas from the US Rockies, however, this supply is highly seasonal. During summer, there is approximately 536,040 Dth/d available. However, during the peak winter months, this capacity is almost fully utilized (as an example, on Feb 1, 2017, only 70,000 Dth/d were available).

A connection from a point near the intersections of the Ruby Pipeline and the GTN Pipeline would provide more than sufficient capacity to access the aforementioned gas markets utilizing existing infrastructure and avoiding impacts to domestic use of the gas resources.

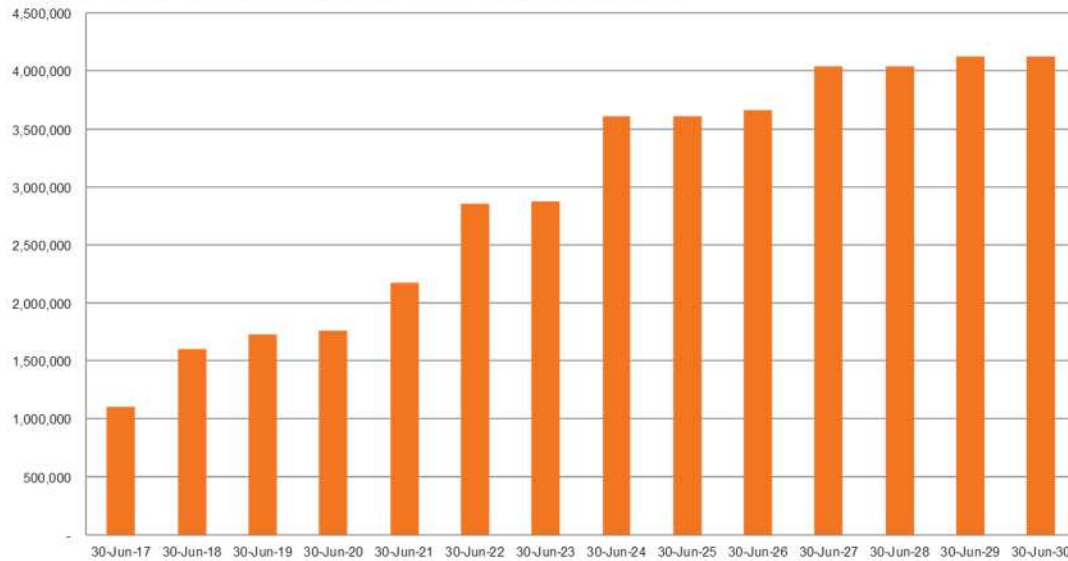
**Table 1.1-1**  
**Pipeline Capacity Available for New Long-Term Contracts**

Pipeline System	Operating Capacity	Subscribed Capacity	Available Capacity
	(Dth/d)		
Ruby Pipeline			
Opal Receipt	1,500,000	819,534	680,466
Williams Northwest (NWP)			
Sumas Receipt	1,314,750	1,113,815	200,935
Opal- Stanfield (summer)	655,000	118,960	536,040
Opal- Stanfield (winter)	655,000	584,993	70,007
Stanfield Delivery	244,560	16,714	227,846
GTN			
Kingsgate Receipt	2,812,440	2,047,243	765,197
Data extracted from EBB's of GTN, NWP and Ruby effective 08/21/2017 and Opal – Stanfield (winter) extracted from NWP's EBB effective 02/01/2017.			

Two large under-utilized pipeline systems, the Ruby pipeline and the GTN pipeline, already exist to transport natural gas from these large gas supply basins to the Malin hub in southern Oregon (see figure below). The Pipeline would be able to access these supplies and transport them to the LNG Terminal for export. PCGP has analyzed GTN and Ruby capacity to ensure that sufficient capacity is available.

## Aggregate GTN/Ruby Available Capacity as at June 2017

Potential Available Capacity For Long-Term Contract on GTN and Ruby (Dth/d)



Source: GTN and Ruby Websites (August 1, 2017)

### Pipeline Market Demand

PCGP has executed two Precedent Agreements with JCEP, as an anchor shipper, for 95.8 percent of the Pipeline's capacity. One Precedent Agreement relates to service during commissioning of the LNG Terminal and the second Precedent Agreement relates to service once the LNG Terminal has achieved commercial operation. PCGP conducted an open season from July 18, 2017 to August 17, 2017, seeking bids from potential customers wishing to contract for Pipeline transportation capacity. PCGP did not receive any qualifying bids during the open season beyond the Precedent Agreements with JCEP, and JCEP was accordingly awarded a full allocation of 1,150,000 Dth/day of capacity entitlements. JCEP will use the capacity it has subscribed to support its own sales of LNG and will serve as an aggregator and gas supplier to liquefaction service customers.

#### 1.1.1.1.3 Current Pipeline Proposals

PCGP proposes to construct and operate the Pipeline, an approximate 229-mile-long, 36-inch diameter pipeline between the intersection of the GTN Pipeline system and Ruby Pipeline system in Oregon and the LNG Terminal, crossing portions of Klamath, Jackson, Douglas, and Coos Counties, Oregon ("Proposed Route") that would be capable of providing 1,200,000 Dth/d of firm transportation service to the LNG Terminal.

In accordance with the pre-filing review process, PCGP is committed to continuing the review of the Proposed Route with stakeholders and working to address their concerns. PCGP will submit, in this docket, periodic updates of any changes in the Proposed Route.

Since the 2015 FERC FEIS, PCGP has continued to meet with agencies and landowners and conduct civil, environmental, and cultural field surveys where access has been granted. The Proposed Route has been improved in response to those meetings, landowner input, and civil survey results. Additionally, some temporary extra work areas, rock sources, and yards have been modified, and the Proposed Route has been adjusted based on civil survey along the same alignment in various locations. Table A.1-3 in Appendix A.1 provides a list of the individual changes and corresponding maps are provided in the Mapping Supplement (see Appendix G.1). The main modifications are:

- Coos Bay estuary/Haynes Inlet avoidance route
- Incorporation of the Blue Ridge Route Alternative
- Alignment modifications between MPs 73.77 and 76.05, and, MPs 84.94 and 86.30
- Shasta View Irrigation District (“SVID”) route modification and incorporation
- Increased compression at Klamath Compressor Station
- Increased pipeline maximum allowable operating pressure from 1480 to 1600 psig

In addition to meeting the statement of purpose and need discussed in Section 1.1.1, construction and completion of the Project would result in these additional benefits:

- Of the \$9.8 billion spent constructing the Project, approximately \$2.88 billion will be spent directly at Oregon businesses. Furthermore, the Project will directly pay Oregon resident workers about \$1.5 billion in compensation. Non-residents working on the Project’s construction and paying income taxes to Oregon will earn about \$650 million in labor compensation.
- Statewide, due to all of the direct, indirect, and induced impacts, 43,233 full-year equivalents (“FYE”) would be supported by construction of the Project. Those impacts will arise from project spending and the spending of the Project’s construction workers and staff. Wages, salaries, and benefits for those 43,233 FYEs will total almost \$3.4 billion.
- During operations, 200 workers will be directly employed in Oregon for the LNG Terminal and offices in Coos Bay and Portland. Total labor compensation in 2024 for the LNG Terminal and offices will be about \$44.8 million. The LNG Terminal, supporting marine operations and the Portland office will spend \$67.0 million, \$29.2 million, and \$2.8 million a year, respectively, for goods and services from Oregon suppliers, for a total of \$99.1 million.
- In 2024, PCGP will employ 15 workers in Oregon and spend \$3.1 million on wages, benefits, and other employee compensation costs. Purchases of goods and services from Oregon businesses for the Pipeline will total about \$8.7 million in 2024.
- Through the Project’s (both the LNG Terminal and PCGP) annual purchases of goods and services from Oregon businesses and household spending by employees, it will support an additional 1,567 jobs in Oregon, \$95.8 million in additional labor income, and \$235.2 in additional output for Oregon businesses.
- Additional investment in and modernization of the Port of Coos Bay, which was once the largest timber port in the world but has seen utilization and investment



steadily decline over time. JCEP would directly invest in improving marine-related infrastructure and capability, such as the procurement of four state-of-the-art tractor tugs with firefighting, active ship escort and emergency towing and rescue capability, procurement and set up of a private vessel traffic information system.

- The Project will contribute to the fiscal health of local communities through property taxes and through a local Community Enhancement Plan (“CEP”) in Coos County. For PCGP, property taxes are anticipated to average approximately \$20.0 million a year for school districts and other local districts to be shared between Coos, Douglas, Jackson, and Klamath counties. For JCEP, the cities of Coos Bay and North Bend, along with Coos County and the Port of Coos Bay, will oversee a community fund to implement the CEP, which once in operations will amount to approximately \$40 million per year, on average, during the initial 15 years of operations.

### 1.1.2 Location and Description of Facilities

The proposed Pipeline is composed of a pipeline and aboveground facilities. Although resource report discussions of natural gas projects typically begin at the point of gas receipt and move downstream in the direction of gas flow to delivery points, the various facility discussions in this report generally begin at the LNG Terminal delivery point and move upstream to the Pipeline receipt points near Malin, Oregon, in order to maintain consistency with prior route development efforts and planning documents.

The Pipeline will have these characteristics (also see Table 1.1-2):

- 36-inch diameter;
- 1600 psig maximum allowable operating pressure;
- 229-mile approximate length;
- beginning milepost (“MP”) 0.00 and ending MP 228.81.

Aboveground facilities for the Pipeline include (also see Table 1.1-3):

- the new Klamath Compressor Station with two operating compressor units totaling approximately 62,200 ISO horsepower (with one additional standby unit of 31,100 ISO horsepower) at MP 228.81 located in Klamath County, Oregon;
- three new meter station locations (three interconnects: Jordan Cove Meter Station/MP 0.00; Klamath-Beaver Meter Station [GTN]/MP 228.81; and Klamath-Eagle Meter Station [Ruby]/MP 228.81);
- five new pig launcher/receiver units (co-located with other aboveground facilities);
- 17 new mainline block valves spaced along the Proposed Route (Coos, Douglas, Jackson and Klamath Counties, Oregon) according to U.S. Department of Transportation (“DOT”) safety requirements; and
- new communications towers and equipment buildings and usage of existing communications towers and equipment buildings along the Proposed Route (Coos, Douglas, Jackson and Klamath Counties, Oregon) (see Table 1.1-4).

**Table 1.1-2  
Pipeline Facilities**

Diameter	Type	City/County	MP Begin <sup>1</sup>	MP End <sup>1</sup>	Length (mi)
36"	New Mainline	Coos	0.00 1.58	0.66 45.72	45.92

36"	New Mainline	City of North Bend	0.66	1.58	0.92
36"	New Mainline	Douglas	45.72	110.07	64.87
36"	New Mainline	Jackson	110.07	166.41	55.96
36"	New Mainline	Klamath	166.41	228.81	61.42
<b>Total</b>			0.00	228.81	229.09

<sup>1</sup> Mileposts are reference points and do not equal total length due to route changes.

**Table 1.1-3  
Aboveground Facilities**

Facility Type and Name	MP	County	Landowner	Description
<b>Compressor Stations</b>				
Klamath Compressor Station	228.81	Klamath	Private	New fenced compressor station with equipment and control buildings, with turbine-compressors, gas coolers, filter separators and other ancillary equipment. (2) operating units at 31,100 HP ea. (1) installed spare unit at 31,100 HP 93,300 HP total installed
<b>Meter Stations</b>				
Klamath-Eagle Meter Station	228.81	Klamath	Private	New meter station with ultrasonic meters, filtration, and gas analysis; collocated with Klamath Compressor Station interconnecting with GTN Pipeline
Klamath-Beaver Meter Station	228.81	Klamath	Private	New meter station with ultrasonic meters, filtration, and gas analysis; collocated with Klamath Compressor Station interconnecting with Ruby Pipeline
Jordan Cove Meter Station	0.00	Coos	Private	New fenced meter station with buildings, canopies, ultrasonic meters, filtration, and gas analysis interconnecting with LNG Terminal
<b>Launchers and Receivers</b>				
Jordan Cove Receiver	0.00	Coos	Private	New pig receiver collocated with Jordan Cove Meter Station
Myrtle Creek Receiver and Launcher	71.46	Douglas	Private	New pig receiver and launcher collocated with BVA #6
Butte Falls Receiver and Launcher	132.46	Jackson	Private	New pig receiver and launcher collocated with ABVA #11
Keno Receiver and Launcher	187.43	Klamath	Private	New pig receiver and launcher collocated with BVA #14
Klamath Launcher	228.81	Klamath	Private	New pig launcher collocated with Klamath Compressor Station
<b>Mainline Block Valve Assemblies (BVA)</b>				
BVA #1	0.00	Coos	Private	New, buried, Mainline Block Valve with aboveground actuator; fenced
BVA #2	15.07	Coos	Private	
BVA #3	29.50	Coos	Private	
ABVA #4 (Automated)	48.58	Douglas	BLM	
BVA #5	59.58	Douglas	Private	
BVA #6	71.46	Douglas	Private	

Facility Type and Name	MP	County	Landowner	Description
BVA #7	80.03	Douglas	BLM	
BVA #8	94.66	Douglas	Private	
BVA #9	113.66	Jackson	Private	
ABVA #10 (Automated)	122.18	Jackson	Private	
ABVA #11 (Automated)	132.46	Jackson	Private	
BVA #12	150.70	Jackson	BLM	
BVA #13	169.48	Klamath	Private	
BVA #14	187.43	Klamath	Private	
ABVA #15 (Automated)	196.53	Klamath	Private	
ABVA #16 (Automated)	211.58	Klamath	Private	
BVA #17	228.81	Klamath	Private	
Communication Sites <sup>1</sup>				
Jordan Cove Meter Station	0.00	Coos	Private	New 140 foot tower collocated with the meter station
Blue Ridge Communication Site	~ 20	Coos	BLM	Existing Tower Site located off of the pipeline alignment (space to be leased)
Signal Tree Communication Site	~45	Coos	BLM	New 140 foot tower located off of the pipeline alignment
ABVA #4	48.58	Douglas	BLM	New 40 foot tower collocated with BVA
Sheep Hill Communication Site	~70	Douglas	Private	New 140 foot tower located off of the pipeline alignment
Harness Mountain Communication Site	~75	Douglas	Private	Existing Tower Site located off of the pipeline alignment (space to be leased)
Starvout Communication Site	~115	Douglas	Private	New 140 foot tower located off of the pipeline alignment
ABVA #10	122.18	Jackson	Private	New 40 foot tower collocated with BVA
Flounce Rock Communication Site	~123	Jackson	BLM	New 140 foot tower located off of the pipeline alignment
ABVA #11	132.46	Jackson	Private	New 40 foot tower collocated with BVA
Robinson Butte Communication Site	~159	Jackson	Forest Service	New 140 foot tower located off of the pipeline alignment
ABVA #15	196.53	Klamath	Private	New 40 foot tower collocated with BVA
Stukel Mountain Communication Site	~209	Klamath	BLM	New 140 foot tower located off of the pipeline alignment
ABVA #16	211.58	Klamath	Private	New 40 foot tower collocated with BVA
Klamath Compressor Station	228.81	Klamath	Private	New 140 foot tower collocated with the compressor station
<sup>1</sup> The Communication facilities design assumes new towers are required as noted. However, PCGP will endeavor to first lease space on existing towers where available.				

In an effort to maintain milepost continuity while adjusting the Proposed Route, milepost equations have been incorporated into the alignment. This allows the mileposts, for the most part, to remain unchanged. However, the ending milepost no longer reflects the actual length of the Pipeline. The equation incorporation process results in two possible conditions near a milepost equation – the first being an overlap in or duplication of milepost values (longer reroute) and the second being a gap in the milepost values (shorter reroute). To minimize confusion where incorporated route modifications create a duplication in MPs, a letter suffix (“R” or “BR”) has been included with the MP designation. An “R” was used where PCGP incorporated the land route (WC-A.1) and the Brunschmid Wetland Reserve Program Easement Avoidance (“WRP”) (FERC FEIS, 2015) between MPs 0.00R and 11.29R. However, with the relocation of the Jordan Cove Meter Station and incorporation of the Coos Bay Avoidance Route between MP 0.00 and MP 3.56/6.37R, the “R” suffix only remains between MP 6.37R and MP 12.39R. A “BR” was also used where PCGP incorporated the Blue Ridge Alternative (FERC FEIS, 2015) into the Proposed Route between MPs 11.29R and 21.77 (see U.S. Geological Survey – USGS Maps 1 and 2 in the Mapping Supplement, Appendix G.1, and Environmental Alignment Sheets 3430.29-002 through 3430.29-008, Appendix H.1).

Because of the engineering station equations associated with the various reroutes and alternatives that have been integrated into the design since PCGP mileposted the centerline in 2007, the Pipeline’s total length (229.09 miles) does not equal the ending milepost (MP 228.81). Table A.1-3 in Appendix A.1 provides a matrix of the differences between the 2015 FEIS route in Docket No. CP13-492-000 and the Proposed Route (see Appendix G.1 for corresponding maps).

The Pipeline requires the acquisition of a new right-of-way. The alignment will be co-located with or adjacent to a number of existing powerlines, roads, and pipelines for approximately 97.74 miles or 42.7% of its length; the remaining 57.3% of the alignment will be cross-country construction. Table A.8-5 in Appendix A.8 to Resource Report 8 provides the locations where the alignment will be co-located with existing rights-of-ways.

### **1.1.2.2 Pipeline Facilities**

#### **1.1.2.2.1 Route Development**

During routing analysis of the Pipeline, PCGP reviewed more than 1,000 miles of alternative alignments for development of the Proposed Route. The Proposed Route was developed with consideration of the construction requirements for a large-diameter, high-pressure natural gas transmission pipeline. Constructability/stability requirements were of primary consideration for routing the pipeline along with minimizing potential impacts to protected species and their habitats, the number of waterbody crossings, and landowner encumbrances, where feasible. Avoidance of wilderness areas, known cultural resource areas, national parks and monuments as well as scenic waterways and byways was also a factor in development of the Proposed Route.

Where practicable, the Proposed Route utilized existing pipeline and powerline corridors while providing a safe distance between the proposed facilities and the existing utilities. Although the Proposed Route parallels existing roads and railroads in a number of areas, routing the Pipeline within existing transportation and utility easements was avoided because of the impact to traffic flow during construction and because future

road expansions or improvement projects may require the Pipeline to be relocated, which may create unforeseen environmental, landowner, and system impacts. Further, long-term safety and the potential for third-party damage to the Pipeline must be considered. Many roads are located in valleys or drainage bottoms adjacent to streams where it is not feasible to install a large-diameter, steel pipeline due to large temporary extra work area ("TEWA") requirements, confining topographic conditions, and waterbodies running parallel to the alignment. Many forest roads are located on steep side slopes where it is impractical to route the Pipeline because of constructability/stability requirements and concern for the long-term safety and integrity of the Pipeline. To ensure the Pipeline is installed properly within consolidated (non-filled) materials and to provide the necessary equipment workspace, construction on steep side slopes requires significantly more TEWAs to accommodate the necessary cuts or excavations and spoil storage.

The Pipeline will be constructed in Coos, Douglas, Jackson, and Klamath counties (see Figure 1.1-1). The western terminus of the Proposed Route is at MP 0.00 at the Jordan Cove Meter Station located adjacent to the LNG Terminal site in Coos County. The detailed discussion below proceeds from west to east, to correspond with the original milepost markings of the PCGP.

As shown on Map 1 (Mapping Supplement, Appendix G.1), the Proposed Route from the Jordan Cove Meter Station at MP 0.00 proceeds for a short distance to the west then utilizes an approximate 5,200-foot horizontal directional drill ("HDD") to cross the Coos Bay estuary from the North Spit at about MP 0.12 to MP 1.11 south of North Point on the west side of Highway 101 (see Appendix G.2 to Resource Report 2 for the HDD crossing plan). The HDD will cross the Coos Bay Rail line at MP 0.36 and the shipping channel at MP 0.66. Between MPs 1.11 and 1.40 the Pipeline will be conventionally laid, crossing beneath Highway 101 McCullough Bridge at MP 1.23. The alignment will be within the City of North Bend between MPs 0.66 and 1.58. From MP 1.40 to MP 3.09, an approximate 9,000-foot HDD will be utilized for the second crossing of the Coos Bay estuary and will cross the shipping channel again at MP 1.6. The HDD crossing plan is provided in Appendix G.2 in Resource Report 2. As indicated in Resource Report 10, PCGP is considering an HDD alternative along the same alignment that includes an in-water tie-in to shorten the length of this HDD.

From MP 3.09 to 3.56/6.37R, the alignment continues conventionally parallel to Kentuck Slough within the former Kentuck Golf Course (a property now owned by Fort Chicago LNG II U.S. L.P., an affiliate of JCEP, and proposed as a mitigation site for JCEP and PCGP). From MP 6.37R the alignment continues to the south following ridgelines and crossing Willanch Slough at MP 8.27R. At MP 9.42R the Proposed Route avoids the Brunschmid WPR 2 and continues to the south following ridgelines, crossing Echo Valley at MP 10.2R and the Coos River at MP 11.13R to avoid the U.S. Department of Agriculture, Natural Resources Conservation Service's ("NRCS") Brunschmid WRP easement.

At MP 11.13R there is a proposed HDD crossing of the Coos River that will be approximately 1,600 feet in length. The HDD crossing plan is provided in Appendix G.2 to Resource Report 2. Between MPs 11.29R and 21.77, PCGP incorporated the Blue Ridge Route Alternative (FERC FEIS, 2015) which affects fewer private parcels (24 vs. 57) and crosses less private land (6.5 miles vs. 12.9 miles).

At MP 23.06 the Proposed Route crosses the North Fork of the Coquille River. Appendix E.2 to Resource Report 2 provides the site-specific crossing plan for the North Fork Coquille River, which was requested by the Oregon Department of Fish and Wildlife (“ODFW”) during interagency task force meetings (Waterbody Crossing Methodologies Subgroup) on endangered species issues for the Project. Near MP 25.0, an HDD (approximately 3,500 feet) was incorporated into the design to avoid steep side slopes where the Proposed Route paralleled the BPA corridor and the Coos County Pipeline located between the two power transmission lines along a narrow ridgeline.

The Proposed Route leaves the BPA powerline corridor (MP 26.10) to avoid crossing Cherry Creek and an area of difficult side hill topography where the Coos County Pipeline is also located (see Map 5 in the Mapping Supplement, Appendix G.1). The Proposed Route then crosses the East Fork of the Coquille River near MP 30.00 (see Appendix E.2 to Resource Report 2 for the ODFW requested site specific crossing plan). After the river crossing, the Proposed Route proceeds for approximately 19 miles through timberlands in a southeasterly direction following ridgelines and existing logging roads, where feasible, before entering the Camas Valley at MP 49.50.

Between MPs 31.44 and 32.22, the Proposed Route was routed to avoid an Oregon State University Red Alder Test Plot on Bureau of Land Management (“BLM”) land. Based on geotechnical evaluations conducted during the summer and fall of 2006, the Proposed Route between MPs 23.50 and 47.00 was routed to avoid potential unstable areas due to deep-seated landslides as well as shallow, rapidly moving landslide areas. Detailed descriptions of routing choices that were made because of geotechnical concerns are provided in the Geologic Hazards and Mineral Resources Report (Resource Report 6). The most significant of these were located between MPs 36.90 and 39.20, where it was necessary to avoid a large landslide complex. Between MPs 43.00 and 44.70, the Proposed Route has been routed to avoid the BLM’s Coos Bay District’s Upper Rock Creek Area of Critical Environmental Concern (“ACEC”) and land use areas designated as Late Successional Reserve (“LSR”) (Section 5, T. 29 S., R. 9 W). With the issuance of the BLM’s 2016 Resource Management Plans (BLM 2016a and 2016b), the boundary of the ACEC has been modified, and the Proposed Route no longer crosses the ACEC. The Proposed Route crosses from Coos County into Douglas County at MP 45.70 (see Maps 5 through 8 in the Mapping Supplement, Appendix G.1).

At Weaver Ridge near MP 46.8, the Proposed Route incorporates a modification of a BLM-suggested route, which provides a better descent/ascent of Weaver Ridge and minimizes impacts to marbled murrelet (“MAMU”), northern spotted owl (“NSO”), and LSR on BLM-managed lands.

The Proposed Route was routed between MPs 47.60 and 49.50 to avoid multiple crossings of Deep and Wildcat creeks and associated constructability issues (see Map 8 in the Mapping Supplement, Exhibit G.1). The Proposed Route continues east across the Camas Valley, crossing Highway 42 at MP 51.54 in Section 16, T. 29 S., R. 8 W. Between MPs 51 and 53, the Proposed Route incorporates an avoidance of occupied MAMU habitat. The Proposed Route then proceeds east, along ridgelines crossing Ireland Road at MP 55.81 in Section 1, T. 29 S., R. 8 W. (see Map 9 in the Mapping Supplement, Appendix G.1). Between MPs 57.84 and 57.92, the Proposed Route proceeds to the south to avoid direct impacts to federally listed Kincaid’s Lupine populations as indicated in the Kincaid’s Lupine Mitigation Plan provided as Appendix J to the plan of development (“POD”) (Appendix F.1). Based on landowner input, the

Proposed Route between MPs 59.60 and 67.00, was aligned to minimize potential easement encumbrances by traversing primarily timberlands along narrow ridgelines and steep slopes away from residential areas. The Proposed Route in this area also minimizes impacts to agricultural lands, shallow ground and surface water domestic supplies, and proposed developments of a reservoir and large subdivision.

The Proposed Route continues easterly to just beyond MP 71 and approaches I-5 and the South Umpqua River. Several approaches to crossing these features were studied, considering geotechnical, channel characteristics and residential factors, and, included both open cut and trenchless crossing techniques. The Proposed Route utilizes Direct Pipe® technology to cross both I-5 and the South Umpqua River, in a single trenchless operation, approximately 1,380 feet in length (see Resource Report 2, Appendix I.2). This crossing method provides an efficient/single crossing of I-5, the South Umpqua River, Dole Road, and a railroad and eliminates an open cut river crossing. The Proposed Route also avoids improved pastures, croplands and construction near several residences.

The Proposed Route continues easterly for approximately 5 miles along ridgelines, then turns in a southeasterly direction crossing the stream valleys of Bilger Creek and Little Lick Creek (see Maps 12 and 13 in the Mapping Supplement, Appendix G.1). After crossing Little Lick Creek, the Proposed Route proceeds in a southeasterly direction across ridgelines and stream valleys for about 14.5 miles, crossing North Myrtle Creek, South Myrtle Creek, Wood Creek, Days Creek, and St. Johns Creek (see Maps 13, 14 and 15 in the Mapping Supplement, Appendix G.1). The Proposed Route between MPs 81.22 and 82.47 is routed so as to avoid an NSO nest patch. To further minimize potential impacts to NSO habitat, the Proposed Route is co-located with a logging road and routed through clear-cut forest. PCGP also modified the Proposed Route between MPs 81.4 and MP 82.0 to minimize parcel encumbrances and potential visual effects to a residence.

Between MPs 82.70 and 89.20, the Proposed Route has been routed to address landowner input regarding water supply springs in the Woods Creek area as well as landowner input regarding the Days Creek area. PCGP located and incorporated changes to avoid these two areas as well as steep, dissected topography. Between MPs 91.60 and 94.52, the Proposed Route was routed so that St. Johns Creek could be crossed within its floodplain using conventional crossing methods and to avoid NSO nesting habitat.

At MP 94.73, the Proposed Route crosses the South Umpqua River a second time near Milo, downstream of the Milo Academy (see Map 15 in the Mapping Supplement, Appendix G.1) utilizing a diverted open-cut crossing method. After the second crossing of the South Umpqua River, the Proposed Route continues in a southeasterly direction traversing steep narrow ridgelines primarily cross-country to Trail, Oregon at MP 122.60. Between approximate MPs 95.5 and 102.5, the Proposed Route passes through a forested area affected by the 2015 Stouts Creek fire, which burned more than 26,000 acres.

The Proposed Route enters the Umpqua National Forest at MP 99.3, west of Callahan Ridge. The Proposed Route crosses over Green Butte at MP 101.80 and Neauman Gap at MP 105.40 before traversing Wildcat Ridge. Along Wildcat Ridge, the Proposed Route parallels but is offset from Forest Road 32 and passes south of Drew Lake near

MP 108.70. The Proposed Route enters Jackson County near MP 110.0 and leaves the Umpqua National Forest Boundary at MP 113.20 (see Maps 16 through 18 in the Mapping Supplement, Appendix G.1).

Between MPs 108.9 and 111.24, the Proposed Route is routed to avoid the cultural resource concerns expressed by the Forest Service and Cow Creek Band of Umpqua Tribe of Indians. The Proposed Route in this area was designed to avoid cultural resources, topographic and geotechnical constraints, and NSO nesting habitat. Co-locating the Proposed Route within the existing road prism of Forest Road 3200, as the Forest Service recommended, was not feasible or practical because of steep side slopes and unstable conditions along this road, including occurrence of recent shallow-rapid landslides and high surface erosion potential from exposed and disturbed cut and fill areas. Additionally, the footprint and the quantity of excavation required for construction within the road prism would be greater than that required for the proposed ridgeline alignment.

The Proposed Route was routed between MPs 113.50 and 115.47 to improve constructability by minimizing side slope construction requirements. At MP 122.60, at Trail, Oregon, the Proposed Route crosses Highway 62 and the Rogue River by an approximate 3,050-foot HDD (see Map 18 in the Mapping Supplement, Appendix G.1). The Rogue River HDD Design Plan is provided in Appendix G.2 in Resource Report 2. After crossing the Rogue River, the Proposed Route proceeds in a southeasterly direction, crossing ridgelines and passing south of Indian Lake Reservoir near MP 128.00. The Proposed Route across Indian Creek and south of Mucky Flat and across the Butte Falls Highway between MPs 128.40 and 133.0 was routed to include landowner input. These areas are shown on Map 21 in the Mapping Supplement, Appendix G.1.

The Proposed Route continues southerly crossing the Butte Falls Highway at MP 132.47. Between MPs 132.60 and 133.00, the Proposed Route avoids a home site on the Mitchell Creek Ranch. At MP 133.38, the Proposed Route crosses the Medford Aqueduct. The Proposed Route is routed on the west side of Obenchain Mountain between MPs 135 and 137 to avoid a drainage, springs, and wet pasture lands (see Map 21 in the Mapping Supplement, Appendix G.1).

The Proposed Route proceeds in a southeasterly direction, past the east side of Star Lake Reservoir at MP 141.00 and crosses Highway 140 at MP 145.58 and North Fork Little Butte Creek at MP 145.68 (see Maps 22 and 23 in the Mapping Supplement, Appendix G.1). Between MPs 142.9 and 148.8, the Proposed Route crosses the C2 Ranch, on which there are numerous irregularly-shaped conservation easements held by the Southern Oregon Land Conservancy ("Conservancy"). PCGP met with the Conservancy and received GIS data showing the locations of the conservation easements. PCGP reviewed this information and, using aerial surveys as a basis, the Proposed Route minimizes potential impacts to the conservation easements and to irrigated pastures and irrigation facilities (canals/ditches) on the ranch.

The Proposed Route continues easterly traversing Heppsie Mountain near MP 152.00, and crossing into the Rogue River-Siskiyou National Forest at MP 153.80 (Section 4, T. 37 S., R. 3 E.) (see Map 24 in the Mapping Supplement, Appendix G.1). Between MPs 150.37 and 150.70, the Proposed Route was aligned, through consultations with the Medford BLM District, to minimize the crossing of the existing Heppsie Mountain rock



quarry. The Proposed Route continues south of Robinson Butte near MP 160.00 and crosses Big Elk Road (FS 3700) at MP 161.41. At MP 162.18, the Proposed Route turns in a southeasterly direction crossing northeast of Cox Butte and Daley Prairie between MPs 164.00 and 165.00 (see Maps 25 and 26 in the Mapping Supplement, Appendix G.1). The Proposed Route crosses into Klamath County at MP 166.42. The route on the Rogue River-Siskiyou National Forest has been aligned to minimize potential impacts to NSO and late successional habitats, Riparian Reserves, and to minimize TEWAs, thereby reducing total disturbance.

At MP 168.0, the Proposed Route crosses the boundary between the Rogue River-Siskiyou and Fremont-Winema National Forests. The Proposed Route between MPs 167.67 and 168.17 was aligned to provide a perpendicular crossing of the Pacific Crest Trail at MP 167.86, and the construction right-of-way was narrowed to minimize potential effects to the setting of the trail. The Proposed Route crosses Dead Indian Memorial Road at MP 168.84. Between MPs 168.30 and 168.80, the Proposed Route has been aligned on the Fremont-Winema National Forest to avoid an intermittent drainage and to minimize impacts to mature forest habitat by placing the Pipeline adjacent to an existing road and through a previously thinned area. This Proposed Route also avoids the Lakewoods community at the intersection of Dead Indian Memorial Highway and Clover Creek Road.

From MP 169.50 to MP 187.30, the Proposed Route parallels the east side of Clover Creek Road for approximately 18 miles. This route avoids areas such as Buck Lake, a wet meadow, and a crossing location at Spencer Creek, some of which include areas where redband trout are known to spawn and where the Oregon Spotted Frog (a U.S. Fish and Wildlife Service ("FWS") candidate species and BLM and Forest Service Sensitive species) has been documented. The Proposed Route leaves the Fremont-Winema National Forest at MP 175.39.

To avoid the community of Keno and residences along McLaughlin and Big Buck lanes, the Proposed Route abuts the Pacific Power & Light powerline corridor near MP 187.70 and is adjacent to the powerline for approximately 1 mile, skirting around the residential development. The Proposed Route then turns southerly through forested rangelands before, crossing agricultural hayfields, and to about MP 191.8. In this area, between MPs 189.15 and 191.20, the Proposed Route avoids a building site and a construction improvement by moving off of a nearby rocky ridgeline to minimize blasting requirements.

After crossing State Highway 66 (MP 191.47), the Proposed Route sharply turns to the east at MP 191.60 and parallels the south side of a drainage ditch for about 1 mile to MP 192.68, where the Proposed Route is adjacent to an existing road (Weyerhaeuser Timber Co Road) and the GTN Pipeline for about 2.85 miles (see Map 30 and 31 in the Mapping Supplement, Appendix G.1). The Proposed Route between MPs 195.42 and 196.60 deviates from the GTN Pipeline and road to minimize potential effects to suitable habitat for the Applegate's milk-vetch and avoids direct effects to a population of Applegate's milk-vetch, a federally listed endangered plant. PCGP developed a mitigation plan which describes the design, construction methods, and restoration measures to minimize effects to this species (see Appendix J to the POD, Appendix

F.1).<sup>2</sup> Between MP 196.8 and MP 199.00, the Proposed Route skirts an industrial facility owned by Collins Timber Company near the community of West Klamath.

Between MPs 199.20 and 199.60, the Proposed Route crosses the Klamath River, and Highway 97 with an approximate 2,300-foot HDD. At MP 200.00, south of the town of Klamath Falls, the Proposed Route has been routed adjacent to the BPA powerline corridor and proceeds in a southeasterly direction for approximately 4 miles to MP 204.20.

At MP 204.20, the Proposed Route deviates from the powerline and turns east to avoid a lake which the powerline spans (see Map 32 in the Mapping Supplement, Appendix G.1). At MP 205.20, the Proposed Route joins the powerline corridor again and follows this alignment, along with State Highway 39, and the Southern Pacific Railroad, in a southeasterly direction to MP 208.80. Along this alignment, the Proposed Route slightly deviates from the corridor to provide suitable waterbody crossing locations (*i.e.*, canals) and to avoid structures near MPs 207.70 and 208.10. The Proposed Route crosses over to the east side of powerline, railroad, and highway corridors at MP 208.80 and parallels this corridor on the east until MP 211.60. The Proposed Route was slightly offset from the corridor in this area to provide suitable crossings of roads and canals and to avoid residences. Between MPs 209.2 and 210.2, the Proposed Route was moved away from the BPA powerline corridor to abut State Highway 39 based on landowner input. At MP 211.52, the Proposed Route turns east and crosses the Lost River at MP 212.05 and the Burlington Northern Railroad at MP 212.52 (see Map 33 in the Mapping Supplement, Appendix G.1).

After crossing the Burlington Northern Railroad at MP 212.50, the Proposed Route proceeds in an easterly direction, paralleling a U.S. Bureau of Reclamation ("Reclamation") Drain Canal (No. 31). The Proposed Route crosses the G Canal at MP 213.87 and Hill Road at MP 214.07. The Proposed Route traverses the southern foot of Stukel Mountain to join with the BPA powerline corridor at MP 215.03. The Proposed Route was routed away from the west side of Stukel Mountain to avoid landslide deposits and a fault (see Geologic Hazards and Mineral Resources Report, Resource Report 6). The Proposed Route continues east in parallel with the powerline corridor for approximately 5 miles to MP 220.1 (see Maps 33 and 34 in the Mapping Supplement, Appendix G.1). Between MPs 220.0 and 228.8, the Proposed Route avoids Reclamation jurisdictional facilities within the Shasta View Irrigation District. The Proposed Route was based on available survey permissions, landowner input, optimizing topographic conditions to minimize disturbance, facilitating construction, and minimizing agricultural impacts, including crossing irrigated croplands and center pivot irrigation systems. The Proposed Route terminates at the northern boundary of the proposed Klamath Compressor Station site at MP 228.8. The Klamath Compressor Station site extends to the north edge of Malin Loop Road and is adjacent to the GTN Malin/Tuscarora Meter Station and the Ruby Turquoise Flats facility. The Klamath-Beaver Meter Station, which will interconnect with the GTN Pipeline, and the Klamath-

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<sup>2</sup> Some USGS topographic maps of the area show old Lower Klamath Refuge boundaries on lands that were withdrawn from consideration in the 1920s (Coles 2006). PCGP confirmed with the FWS in June 2006 that the pipeline will not impact any lands within the Klamath Basin Refuge boundaries.

Eagle Meter Station, which will interconnect with the Ruby Pipeline, will be co-located with the Klamath Compressor Station facility.

### **1.1.2.3 Aboveground Facilities**

#### **1.1.2.3.1 Jordan Cove Meter Station**

Gas will be delivered to the proposed LNG Terminal via the Jordan Cove Meter Station located at MP 0.00 (see Map 1 in the Mapping Supplement, Appendix G.1). The meter station will be located in Coos County in the NW of Section 3, T. 25 S., R. 13 W. The meter station will be located on JCEP property adjacent to the LNG Terminal. The meter station will occupy a site of approximately 1.72 acre and will be enclosed by a 7-foot high chain-link fence. The entire site will be graveled and existing power and phone service for gas control communication equipment is available. A pig launcher/receiver and mainline block valve will be located within the meter station facility. Access to the site will be from a road provided by the LNG Terminal. A building will be installed to house the gas chromatographs, moisture analyzer, communications equipment, and flow computer. A canopy will also be installed to cover the control valves and ultrasonic meters. A communications antenna will be installed to provide a link with the gas control monitoring system. The antenna will be installed on a new 140-foot tall steel tower.

#### **1.1.2.3.2 Klamath Compressor Station**

To meet contract pressure and flow requirements at the Jordan Cove Meter Station (MP 0.00), PCGP will install 93,300 ISO horsepower of new compression (two operating units totaling 62,200 ISO horsepower plus one standby unit of 31,100 ISO horsepower) at the Klamath Compressor Station located at MP 228.81 in Section 11, T. 41 S., R. 12 E. in Klamath County (see Map 35 in the Mapping Supplement, Appendix G.1). The location is accessed on the south from Malin Loop Road and on the west from Morelock Road. The site is located adjacent to the supply interconnects with GTN Malin/Tuscarora Meter Station and the Ruby Turquoise Flats facility.

The compressor station will consist of turbine-driven centrifugal compressor units. The compressor station is located approximately 1.75 miles northeast of Malin, Oregon, and will occupy a site of approximately 17 acres that will be secured by a 7-foot high chain-link fence. To minimize visual intrusions, the security fence around the perimeter of the station would be installed with screening slats and landscaping along appropriate sides of the station to reduce potential visual effects to area residences. Areas inside the fenced area subject to operating or maintenance traffic will have a covering of paving, concrete, crushed rock or gravel. The southern edge of the site is adjacent to Malin Loop Road, which will provide primary access to the site via a new paved road connecting the Malin Loop Road to the fenced area of the compressor station. There will be a secondary access/egress to the site via a new gravel road connecting the northeast corner of the site to Morelock Road. The proposed site is relatively flat, currently supports rangeland vegetation with a few scattered juniper trees, and is adjacent to croplands and rangelands.

The new compression units will be installed in a new Class 1 Division 2 rated compressor building. Other facilities will include an inlet filter/separator, lube oil cooler, inlet air silencer/cleaner, exhaust system, and gas coolers. The compressor building will include fuel gas conditioning, measuring, and regulation equipment. Related suction and discharge headers and piping will be installed between the Pipeline and the compressor units. Other buildings inside the footprint for the compressor station include

a new control room/ancillary equipment building and unit valve skid buildings. The ancillary equipment building will include an air compressor system, hot water boiler, and back-up generator. A high pressure vent system with a silencer will be installed in order to allow the compressor to be blown down. Near where the Pipeline leaves the station boundaries, aboveground pig launcher/receiver equipment and a mainline block valve will be installed. There will be a small office in one of the buildings with phone and computer access. The station will also be utilized as a maintenance base for operation of the Pipeline facilities. The station will not be manned 24 hours per day but will have emergency pipe, spare parts, portable equipment such as blow-down silencers, and small hand tools stored on site. The facility will be equipped with outside lighting to support night work activities; however, these lights will only be utilized when operations personnel are working at the station. During operations, nighttime work or maintenance activities will generally not be scheduled; therefore, these lights will only be used periodically and possibly for short periods during the winter when daylight hours are shorter.

The compressor station will be constructed contemporaneously with Pipeline construction.

#### 1.1.2.3.3 Klamath Meter Stations

The Pipeline will receive all of its gas supply from interconnections with the GTN Pipeline and Ruby Pipeline. These meter stations will be co-located within the Klamath Compressor Station. Each meter station will be capable of receiving up to 100 percent of the Pipeline design capacity of 1,200,000 Dth/d. The Klamath-Eagle Meter Station will serve as the interconnect with Ruby Pipeline, and the Klamath-Beaver Meter Station will serve as the interconnect with GTN Pipeline.

#### 1.1.2.3.4 Gas Control Communications

The meter stations and compressor station will require a communications link with the gas control monitoring system. A radio tower will be required at the Jordan Cove Meter Station and the compressor station. In order to communicate with these sites, PCGP will need to lease space on existing mountaintop radio communications towers or install new towers. PCGP has conducted initial communications studies and determined that in addition to the proposed towers that will be installed at the meter station and compressor station, leased space on existing communication towers as well as new towers will be needed for the Pipeline. Table 1.1-4 lists the existing and proposed tower locations.

PCGP developed a Communication Facilities Plan, Appendix D to the POD (Appendix F.1). The Communication Facilities Plan describes the construction, modification, operation and maintenance of communication facilities necessary for the operation of the Pipeline on lands managed by the BLM and the Forest Service. PCGP prefers to co-locate with existing facilities when possible and will do so if leased space is available within existing facility sites at the time of construction. If leased space is not available on existing facilities, and construction of new facilities is required, PCGP will seek to obtain an approximate 100 foot by 100 foot (0.23 acre) area for each of the new facility installations in the immediate vicinity of the existing communication tower facilities. The new towers and communication buildings will be enclosed within a 50 foot by 50 foot (0.06 acre) fenced footprint located within the larger 100 foot by 100 foot area. The Communication Facilities Plan provides preliminary location maps for the potential tower sites, as well as the BLM/Forest Service guidance for communication site

development plans regarding new facilities (see Attachments 3 and 4 of Appendix D to the POD (Appendix F.1). PCGP is reviewing the Communication Facilities Plan based on current technologies and Pipeline requirements.

Figure 1.1-1 and Table 1.1-4 provide the locations of the proposed communication system required for the Pipeline. Table 1.1-4 also provides the heights of these proposed or existing steel towers.

**Table 1.1-4**  
**Location of Proposed and Existing Gas Control Communication Towers**

Site Name	Location							Tower Height (feet)	Jurisdiction
	Latitude			Longitude			County		
Proposed New Towers within Proposed Aboveground Facility Sites									
Jordan Cove Meter Station <sup>1, 2</sup>	43	25	58.1	124	14	27.8	Coos	140	Private
ABVA #4 (Deep Creek Spur) <sup>2</sup>	43	3	2.6	123	42.	57.01	Douglas	40	BLM
ABVA #10 (Shady Cove) <sup>2</sup>	42	38	43.8	122	49	3.4	Jackson	40	Private
ABVA #11, Launcher/Receiver (Butte Falls) <sup>2</sup>	42	34	40.4	122	40	49.7	Jackson	40	Private
ABVA #15 (Klamath River) <sup>2</sup>	42	9	33	121	50	37.4	Klamath	40	Private
ABVA #16 (Hill Road) <sup>2</sup>	42	3	25.5	121	38	43.9	Klamath	40	Private
Klamath Compressor and Meter Stations, BVA #17, Launcher <sup>2</sup>	42	2	1.4	121	22	23.9	Klamath	140	Private
Existing Communication Tower Site									
Harness Mountain	43	31	27.4	123	5	39.2	Douglas	150	Private
Existing Communication Tower Sites (space to be leased or new tower installed)									
Blue Ridge	43	16	16	124	5	9	Coos	170	BLM <sup>3, 4</sup>
SignalTree (Kenyon Mtn.)	43	0	7.4	123	46	44.3	Coos	120	BLM <sup>3, 4</sup>
Sheep Hill MW	43	0	7.5	123	21	19.3	Douglas	125	Private <sup>4</sup>
Starvout Communication	42	42	50.3	123	12	10.4	Jackson	115	Private <sup>4</sup>
Flounce Rock	42	43	40.4	122	36	33.1	Jackson	120	BLM <sup>3, 4</sup>
Robinson Butte	42	21	51.4	122	22	54.1	Jackson	125	Forest Service <sup>3, 4</sup>
Stukel Mountain	42	5	46.0	121	38	1.0	Klamath	100	BLM <sup>3, 4</sup>
<sup>1</sup> A tower will be constructed at this site unless PCGP is able to mount an antenna on one of the structures within the LNG Terminal footprint.									
<sup>2</sup> Communication facilities are included in the fenced facility (disturbed areas) associated with the meter station, block valves and compressor station.									
<sup>3</sup> The Communication Facilities Plan (Appendix D to the POD, Appendix F.1) provides more detail on the communication tower sites located on federally-managed lands.									
<sup>4</sup> New towers and equipment buildings may be necessary at these locations if lease space is unavailable at the time of construction. Table 1.2-4 includes the potential disturbance for these sites.									

#### 1.1.2.3.5 Launchers/Receivers and Mainline Block Valves

Mainline block valves will be located along the Pipeline's permanent easement according to DOT's spacing requirements (49 CFR § 192.179) (see Table 1.2-4). Mainline block valves will be equipped with actuators and control equipment as necessary to allow operations compliant with DOT requirements in place at the time of construction, and consistent with any applicable guidelines or rules promulgated by the Pipeline and Hazardous Materials Safety Administration ("PHMSA") for such facilities. Each mainline block valve will occupy a site 50 x 75 feet (0.09 acre) and will be enclosed by a 7-foot high, chain-link fence. Five mainline block valve assemblies will be automated ("ABVA") to allow remote operation, which will require a 40-foot tower to be installed within the facility's fenced footprint (see Tables 1.1-4 and 1.2-4).

PCGP has attempted to locate block valves adjacent to existing roads to allow reliable all-weather access and minimize the length of new permanent access roads. PCGP will paint the aboveground piping in the block valve locations green unless otherwise dictated by permit conditions. Locations of mainline block valves are depicted on the quad-based site location maps in the Mapping Supplement, Appendix G.1, and on the photo-based Environmental Alignment Sheets, Appendix H.1.

Pig launcher/receiver equipment will be located at each end of the Pipeline (*i.e.*, the Jordan Cove Meter Station and the Klamath Compressor Station). Due to current limitations of in-line inspection tools (pigs), there will also be pig launcher/receiver equipment co-located at Block Valve Assemblies (BVAs) #6, #11 and #14 (MPs 71.51, 132.46 and 187.43). At these locations, the block valve and pig launcher/receiver assembly sites will be approximately 95 x 200 feet (0.44 acre); however, BVA #11 will be 0.27 acre to avoid adjacent wetlands. Pigging facilities will be located inside the fenced areas at all locations.

#### 1.1.2.4 Contractor and Pipe Storage Yards and Rock Source and Permanent Disposal Sites

##### 1.1.2.4.1 Contractor and Pipe Storage Yards

PCGP has identified potential yards and rail facilities (see Table 1.2-3) that may be used during Pipeline construction to off-load and store pipe and stage contractor equipment and materials. Stored materials may include: construction mats, fencing materials, fuel and lubricants, stormwater control materials (straw bales, erosion control fabric, silt fence materials, etc.), and other construction materials. The yards would also be used for contractor office trailers and employee parking facilities.

The existing industrial sites that have been previously graded and graveled, that are proximate to the Pipeline area, and that have rail service are the priority locations for these off-site facilities. PCGP has conducted the required surveys (cultural and environmental) for sites where access was available, and the survey results have been included in the appropriate resource reports. Once a contractor has been selected and chooses suitable, available yards, all necessary surveys will be completed and the survey results will be provided to FERC and the appropriate jurisdictional agencies for approval, prior to use of the yards. Figures of the proposed yards are provided in the Mapping Supplement, Appendix G.1.

#### 1.1.2.4.2 Rock Source and Permanent Disposal Sites

Permanent disposal sites may be required to handle excess rock, spoil, or drilling mud generated during construction. Disposal sites for these materials include existing and exhausted rock/gravel quarries and pits near the Proposed Route. Where existing quarries or pits are not available, PCGP has identified stable sites along the right-of-way as permanent disposal sites (see Resource Report 8). Locations of the rock source and disposal sites are also identified on the topographic maps and on site-specific figures in Appendix A.8 to Resource Report 8. PCGP has conducted appropriate surveys (cultural and environmental) where permission has been granted, and PCGP has incorporated the survey results into the appropriate resource reports. PCGP will obtain the appropriate landowner approvals prior to utilizing any of these existing quarries, pits, or disposal areas.

#### 1.1.3 Location Maps, Detailed Route Maps, and Plot/Site Plans

Figure 1.1-1 provides a general overview of the locations of the proposed facilities. Detailed maps, based on 7.5-minute topographic quadrangles, are included in the Mapping Supplement (see Appendix G.1), which show the location of access roads, aboveground facilities, and communication sites in relation to the Pipeline. Mileposts are shown on the detailed quad-based site location maps. Photo-based Environmental Alignment Sheets (1":200') are included as Appendix H.1. The photography utilized for the Environmental Alignment Sheets was obtained from 2015 high resolution photography flown for the Pipeline and 2016 images from USDA National Agricultural Imagery Program.

### 1.2 LAND REQUIREMENTS

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#### 1.2.1 Pipeline Facilities

Construction of the Pipeline will require acquisition of temporary construction rights-of-way, TEWAs, and permanent easements which are described in this section. Table 1.2-1 summarizes the construction and operational land requirements for the Pipeline.

##### 1.2.1.1 Construction Right-of-Way

**Temporary Construction Right-of-Way.** PCGP proposes to utilize a standard 95-foot wide temporary construction right-of-way with a 50-foot permanent easement (see typical construction right-of-way configuration Figure 1.2-1 at the end of this Resource Report). The temporary construction right-of-way configuration is required to accommodate the necessary clearing and grading activities to prepare the right-of-way, temporarily store spoil materials for construction, and to provide a passing lane during construction for equipment moving up and down the right-of-way. The temporary construction right-of-way will be used as the primary transportation corridor during construction. Eliminating the passing lane by narrowing the right-of-way width would significantly restrict traffic flow along the right-of-way. Efficient traffic flow minimizes impacts by reducing the number of access roads that may need to be constructed and by minimizing construction duration. The proposed 95-foot right-of-way configuration will minimize disturbance and accommodate many of the necessary cuts and spoil storage area requirements along the Proposed Route, thereby reducing the number of additional TEWAs that will be required to safely construct the Pipeline. Typically, large diameter pipeline projects (*i.e.*, 30-inch diameter or greater) utilize at least a 100-foot temporary construction right-of-way. For example, the 712-mile, 42-inch diameter Rockies Express Pipeline (West) Project (FERC Docket No. CP05-31-000) utilized a 125-foot wide

construction right-of-way to construct the pipeline project across the Rocky Mountain and Plains States, and the 675-mile, 42-inch Ruby Pipeline, which extends from southwest Wyoming to near Malin, Oregon, utilized a 115-foot wide construction right-of-way (FERC Docket No. CP09-54-000).

Where feasible (*i.e.*, where topographic conditions allow), at palustrine forested and scrub shrub wetland crossings (Cowardin 1979), the construction right-of-way has been reduced to 75 feet in width to minimize impacts to these resources (see Resource Report 2). The reduced construction right-of-way, or “neckdown,” is consistent with FERC’s Wetland and Waterbody Construction and Mitigation Procedures (“FERC’s Wetland and Waterbody Procedures”) (Section VI. A.3). The neckdowns are shown on the Environmental Alignment Sheets, Appendix H.1, and are included in the Pipeline’s acreage requirements in Table 1.2-1. Because TEWAs are typically required on either side of neckdowns, neckdowns within emergent wetlands were determined on a case-by-case basis depending on the quality of the wetland and the quality of the adjacent vegetation that would be disturbed by the TEWAs.

**Table 1.2-1**  
**Total Pipeline Land Requirements for Construction and Operation**

<b>Pipeline Component</b>	<b>Length (miles) or Number of Sites</b>	<b>Land Affected During Construction (acres)</b>	<b>Land Affected During Operation (acres)</b>
Pipeline Facilities	229.09*	2,582.04	1,373.66 <sup>1</sup> / 820.60
Temporary Extra Work Areas <sup>2</sup>	1,603	922.64	(44.80) <sup>7</sup>
Uncleared Storage Areas	320	676.44	0.00
Quarries & Disposal Sites	20	41.18	(41.18) <sup>7</sup>
Contractor and Pipe Storage Yards	36	674.17	0.00
Existing Roads Needing Improvements in Limited Locations <sup>3</sup>	32 Improvements (27 Roads)	22.52	(22.70) <sup>9</sup>
Temporary Access Roads	10	3.80	0.00
Permanent Access Roads	15	2.16 <sup>4</sup>	2.16 <sup>4</sup>
Aboveground Facilities	17	22.75 <sup>5</sup>	22.75 <sup>6</sup>
<b>Total</b>		<b>4,947.70</b>	<b>1,398.57<sup>7,8</sup></b>
<p>* Because of changes in the centerline and associated MP equations, the ending MP no longer represents the actual centerline length.</p> <p><sup>1</sup> New permanent easement is 50-feet on private and federal lands.</p> <p><sup>2</sup> TEWAs are shown on the Environmental Alignment Sheets provided in Appendix H.1.</p> <p><sup>3</sup> Includes those existing roads requiring widening in specific locations; does not include limbing/brush clearing or blading/grading for potholes.</p> <p><sup>4</sup> Portions of the PARs are within the construction right-of-way and permanent easement.</p> <p><sup>5</sup> Construction impacts associated with the aboveground facilities are included in the construction impacts for the Pipeline facilities except the 8 potential communication tower sites and the Klamath Compressor Station, which are included here (1.61 acres and 17.14 acres, respectively).</p> <p><sup>6</sup> Portions of the operational impacts of the aboveground facilities are included within the permanent easement acreage.</p> <p><sup>7</sup> Represents TEWAs, existing quarries, and rock source and disposal sites provided in Table A.8-4 that may be used as permanent storage areas. The acreages are not included in the overall operational total because the storage areas will not be used during operation of the Pipeline.</p> <p><sup>8</sup> Although the improvements will not be reclaimed, these road improvements are not needed for operations, and the acres are not included in the total operational acreage.</p>			

Steep or side slope areas will require the construction right-of-way to be greater than 95 feet in width, through the addition of TEWAs. These conditions may require unique



construction techniques such as a “two-tone” right-of-way (see Figure 3430.34-X-0019 in the Erosion Control and Revegetation Plan (“ECRP”) provided in Appendix B.1 to this Resource Report). Additional TEWAs are necessary for adequate spoil storage/staging and to ensure a safe working area during construction. Sharp angles or points of intersection (“PIs”) along the alignment also require TEWAs to provide adequate space to install pipeline field bends or manufactured pipeline fittings and to ensure that stringing trucks (which can be greater than 100 feet in length) have the necessary turning radius to navigate the corner and stay within the “certificated construction limits.” Areas where the construction right-of-way is greater than 95 feet in width are shown on the Environmental Alignment Sheets and included in the project acreages in Table 1.2-1.

In total, construction of the Pipeline will result in 4,947.70 acres of disturbance (excludes acres associated with contractor yards). Approximately 97.74 miles, or 42.7%, will be constructed within or adjacent to existing utility and transportation corridors (powerlines, pipelines, and roads).

**Temporary Extra Work Areas.** In addition to the 95-foot wide construction right-of-way, site-specific characteristics of the right-of-way make it necessary to obtain TEWAs. These TEWAs are required for (but not limited to) the following:

- Steep slopes and side sloping areas to accommodate cuts and spoil storage requirements;
- Bore pits and spoil storage at road, canal, pipeline, and railroad crossings;
- Spoil storage, staging, and construction of drag sections such as at wetland crossings, residential/industrial areas, and road crossings, etc.;
- Waterbody and wetland crossings;
- Pipe and equipment staging;
- Areas where tie-ins require additional trench widths to allow workers to enter the trench and perform welds and to ensure Occupational Safety and Health Administration (“OSHA”) trench safety requirements are met;
- Sharp angles or PIs where additional area is required to account for the wide turning radius of stringing trucks (which can be greater than 100 feet in length);
- Topsoil segregation areas to ensure topsoil and subsoils are not mixed; and
- Timber staging/decking.

Road and stream crossings and tie-in locations are typically conducted with a separate construction crew to fabricate and install the Pipeline across these features. To conduct these crossings, additional work area is required to stage or accommodate the equipment, crew vehicles, pipeline materials, dig the trench, store the spoil and safely install the Pipeline.

A total of 922.64 acres of TEWAs will be disturbed during construction of the Pipeline. All of these areas are considered temporary disturbance and will be reclaimed upon completion of construction (see ECRP in Appendix B.1).

FERC’s Wetland and Waterbody Procedures contain a number of specifications regarding the location of TEWAs in proximity to waterbodies and wetlands. PCGP will comply, where possible, with these specifications including:

- TEWAs have been located at least 50 feet away from waterbody and wetland boundaries unless a proposed modification has been requested; and

- TEWAs have been sized to the minimum necessary.

Because of the rugged terrain, there are numerous areas where site-specific conditions prevent compliance with the specifications provided in FERC's Wetland and Waterbody Procedures. These areas have been identified, described, and requested as proposed modifications in Table A.1-1 in Appendix A.1 to this Resource Report. The BLM and Forest Service have requested additional TEWA setbacks within Riparian Reserves (see Resource Report 3) which are greater than the 50-foot setbacks specified in FERC's Wetland and Waterbody Procedures. PCGP has determined that these increased setbacks in Riparian Reserves would not be practical and would render the necessary TEWAs unusable. Therefore, PCGP will follow FERC's Wetland and Waterbody Procedures to minimize the extent and duration of project-related impacts to wetlands and waterbodies. Where feasible, PCGP has attempted to minimize locating TEWAs in Riparian Reserves.

**Uncleared Storage Areas.** During design of the construction footprint for the Pipeline, PCGP identified the need for additional work areas in various locations such as in dense, mature forested areas; in areas of steep slopes; and in areas where the Proposed Route follows steep, narrow ridgelines. However, to minimize overall disturbance, PCGP has specifically designated some areas as uncleared storage areas ("UCSA") rather than TEWAs. Unlike the TEWAs, the UCSAs will not be cleared of trees during construction. These areas will be used to store forest slash, stumps and dead and downed log materials that will be scattered across the right-of-way after construction during restoration. The amount of this type of material is expected to be large enough to hinder construction activities if it were stored on the right-of-way. Therefore, these UCSAs will be important construction footprint features. Numerous forested areas crossed by the Pipeline on BLM-managed and National Forest System ("NFS") lands are designated as LSRs and Riparian Reserves (see Resource Report 8) and are also designated as critical habitat for the NSO or MAMU (see Resource Report 3). In these areas, forested habitat alteration is restricted, and the UCSAs will minimize forested habitat removal while still providing important work areas to facilitate Pipeline construction.

Generally, the forests in these areas are characterized by mature trees that are spaced such that sufficient storage space is available between them to store forest slash, stumps, dead and downed logs, and spoil. Where feasible, measures will be taken to minimize impacting trees by leaving as much space between the stored material and the trees as practical. Operators will be educated to place materials such that placement and retrieval of these materials minimize potential impacts (*i.e.*, soil compaction and bark damage). PCGP's inspectors will also encourage these practices during construction. PCGP developed a Leave Tree Protection Plan as part of the POD, Appendix F.1 (see Appendix P to the POD) which describes the Best Management Practices ("BMP") that will be employed to minimize damage to trees not removed from the construction right-of-way and TEWAs and to protect trees within UCSAs on federally-managed lands. This plan was developed in consultation with the BLM and Forest Service.

Understory vegetation will be temporarily impacted in these areas from storage and retrieval of the material; however, this disturbance would vary depending on the quantity and types of material stored. If damage to trees occurred from use of the UCSAs, it is expected to be minor bark damage from scuffing that should have little impact on the trees. However, if damage harms the tree and the tree is stressed and dies over time,

these damaged trees would provide a benefit to wildlife as snags. After construction, PCGP would assess potential tree damage within the UCSAs from construction activities and would appropriately compensate the landowner for the damage. Furthermore, appropriate erosion control and restoration measures would be applied as described in the ECRP (*i.e.*, scarification, seeding, replanting, etc. – see Appendix B.1) where determined necessary by the Environmental Inspector (“EI”) where disturbance/damage has occurred within the UCSAs. Vegetation disturbance within the UCSAs would generally depend on the site-specific vegetation characteristics – with younger regenerating forests being potentially more susceptible to damage (limb breakage or tree damage). PCGP’s EIs or Utility Inspectors would monitor the use of UCSAs that are in a regenerating age class and which could be more susceptible to tree damage to ensure potential impacts are minimized.

In some locations, the UCSAs may be used to store spoil or to temporarily park equipment between the mature trees. However, storage and temporary parking of equipment/vehicles will not occur immediately adjacent to trees so as to minimize impacts (soil compaction or tree damage). Where UCSAs are adjacent to or overlap a wetland or waterbody, PCGP will not store materials within the wetland or waterbody, and at least a 10-foot buffer will be maintained around the wetland or waterbody edge. In extremely steep and side sloping topography, the UCSAs may be required as a contingency location to contain rock which rolls beyond the construction limits. Along extremely steep and narrow ridgeline areas, logs, slash, and dead and downed material may be used as cribbing to contain excavated materials during construction (right-of-way grading and trenching activities). During restoration, some of the materials that are pulled out of the cribbing may roll beyond the construction limits. In these areas, it would be infeasible and impractical to retrieve all of the overcast materials because additional tree clearing and grading would be required to reach the materials.

A total of 676.44 acres of UCSAs have been identified (see Resource Report 8). The UCSAs are considered temporary disturbance because they will not be cleared and the materials (*e.g.*, slash, stumps and downed and dead material) stored within them will be removed during restoration activities; therefore, effects are expected to be short-term and minor.

#### **1.2.1.2 Permanent Easement**

A permanent easement is needed for long-term operation and maintenance of the Pipeline. The dimensions of the permanent easement on all federally-managed and private lands will be 50 feet and will be centered over the pipe as installed. As quantified in Table 1.2-1, the permanent easement for the Pipeline will consist of approximately 1,373.66 acres. PCGP will negotiate perpetual easements for the permanent easement. There will be a one-time payment to the landowner based on the impact of the easement on the property (*i.e.*, impact of the easement on the functional utility of the land). The easement will restrict placement of permanent structures. Subject to PCGP’s safety, maintenance, and operational requirements, the easement may be crossed by roads, fences, utilities, etc., and the easement will allow for the growing of trees within 15 feet of the Pipeline centerline. The easement will include one pipeline and associated aboveground facilities, will be assignable to successors in interest, and will provide for ingress and egress. The landowner will have the right to cultivate, work, plow, harvest and use the land so long as it does not hinder, conflict or interfere with PCGP’s surface or subsurface rights or disturb its ability to operate, maintain and protect its facilities. No

reservoir, excavation that results in a change in surface grade, obstruction or structure will be allowed to be constructed, created, or maintained within the described easement area. PCGP will utilize the fee schedule for pipelines that cross BLM-managed and NFS lands according to the standard federal Right-of-Way Grant.

### 1.2.1.3 Construction Access Roads

Existing egress and ingress points to and from the construction right-of-way have been identified in Resource Report 8 as well as on the quad-based maps in the Mapping Supplement, Appendix G.1, and on the Environmental Alignment Sheets, Appendix H.1. These points have been identified to allow for safe, efficient construction and movement of equipment and materials.

In some areas, it will be necessary to grade or widen existing roads (to allow large equipment a turning radius) to access the construction right-of-way. The stringing trucks will be hauling 40 to 80-foot joints of pipe. The total length of these vehicles may be more than 100 feet and therefore these vehicles would travel outside the existing road footprint, especially on corners and with oncoming traffic. Widening access roads in the identified constricted locations is necessary to accommodate the potential for the stringing trucks to “walk” outside of the existing road footprint. In some circumstances, it may also be necessary for oncoming traffic to “pull out” of the existing road footprint for passing purposes.

Minor improvements (e.g., potholing, grading to remove ruts, limbing to remove overgrowth) may be needed in some areas to accommodate oversized and heavy construction equipment. In general, roadway improvements will require a minimal amount of site disturbance and earthwork necessary to make the roads useable for access to the construction right-of-way. All maintenance will conform to BLM, Forest Service, state, county, and landowner requirements included in the easement agreement. No maintenance or improvements will be allowed on any road not authorized for use and approved for improvements.

In consultation with the BLM, Forest Service, and Reclamation, PCGP developed a Transportation Management Plan (“TMP”) to support the federal Right-of-Way Grant required on federally-managed lands. The TMP is included as Appendix Y to the POD (Appendix F.1). The TMP identifies and applies to all federally-managed roads located on federally-managed lands and privately-owned lands that will be used/authorized during timber removal, construction, and operations to access the construction and operational right-of-way. The TMP details the measures, standards, and stipulations to be employed by PCGP and its contractors in the construction, use, improvement, and maintenance of roads under the jurisdiction of the BLM, Forest Service, and Reclamation during and after construction for the duration of the federal Right-of-Way Grant.

#### 1.2.1.3.1 Temporary Access Roads

PCGP has identified 10 locations where it will be necessary to construct temporary access roads (“TAR”) which will be reclaimed to preconstruction conditions following completion of construction. Construction of the TARs will temporarily impact 3.80 acres. Appropriate cultural and environmental surveys have been completed for the temporary access roads or will be completed prior to use.

### 1.2.1.3.2 Permanent Access Roads

PCGP will need to construct 15 permanent access roads ("PAR") for access to the aboveground facilities (see Table 1.2-2). These roads will provide access during operational and maintenance activities while the Pipeline is in service. Most of the PARs will be located within PCGP's permanent easement. Construction of the PARs will permanently impact 2.16 acres.

**Table 1.2-2**  
**Temporary and Permanent Access Roads for the Pipeline**

Access Road (TAR/PAR-MP)	Dimension (feet)	Impact (acres) <sup>1</sup>	Jurisdiction	Purpose
TAR-27.06	20x1,500	0.69	BLM – Coos Bay	Access to TEWA 27.05-W
TAR-29.92	16x2,249	1.03	Private	Access TEWA 29.87-N
TAR-88.69	20x416	0.19	Private	Access to TEWA 88.62-N
TAR-94.81	20x114	0.05	Private	Access to S. Umpqua River
TAR 101.70	25x1,517	0.69	Private/FS - Umpqua	Access to TEWA 101.63-W
TAR-141.10	25x471	0.44	Private	Access to TEWA-140.98
TAR 143.19	20x146	0.07	Private	Access to right-of-way
TAR 145.60	20x391	0.18	Private	Access to TEWA 145.58-N
TAR-208.72	20x281	0.13	Private	Access to TEWA-208.67-W
TAR-215.72	14x728	0.33	Private	Access from Taylor Road
<b>Total TAR</b>		<b>3.80</b>		
PAR-15.07	25x258	0.15	Private	Access to BVA#2
PAR-29.48	25x85	0.04	Private	Access to BVA#3
PAR-48.58	25x222	0.13	BLM	Access to BVA#4
PAR-59.58	25x105	N/A* (0.07)	Private	Access to BVA#5 McNabb Creek Rd.
	25x90	0.04	Private	
PAR-71.46	25x692	0.84	Private	Access to BVA#6; Access to right-of-way
PAR-80.03	25x92	0.05	BLM	Access to BVA #7
PAR-94.66	25x501	0.29	Private	Access to BVA#8
PAR-113.66	25x73	0.04	Private	Access to BVA#9
PAR-122.18	25x181	0.10	Private	Access to BVA#10
PAR-132.46	25x271	0.16	Private	Access to BVA#11 Launcher/Receiver
PAR-150.70	25x282	0.16	BLM	Access to BVA#12
PAR-169.48	25x219	N/A* (0.13)	Private	Access to BVA#13
	25x123	0.06	Private	
PAR-187.46	25x377	N/A* (0.23)	Private	Access to BVA#14/ Launcher/Receiver Existing Unknown Rd.
	25x61	0.02	Private	
PAR-196.53	25x106	0.04	Private	Access to BVA#15
PAR-211.58	25x72	0.04	Private	Access to BVA#16
<b>Total PAR</b>		<b>2.16</b>		
<b>Total TAR &amp; PAR</b>		<b>5.96</b>		

<sup>1</sup> All or portions of the PARs are located within the permanent Pipeline easement.

\* Existing roads not included in area of impact (acreage represented in parentheses and not included in total).

### 1.2.1.4 Contractor and Pipe Storage Yards and Rock Source and Permanent Disposal Sites

#### 1.2.1.4.1 Contractor and Pipe Storage Yards

PCGP has identified yards and rail facilities that may be used during Pipeline construction to off-load and store pipe and stage contractor equipment in the Pipeline

area (see Table 1.2-3). Identification of existing private industrial sites that have been previously graded and graveled, are proximate to the Pipeline area, and which have rail service are the priority locations for these off-site facilities. No contractor or pipe storage yards have been located on federally managed lands. PCGP will complete the required surveys (cultural and environmental) for these sites prior to initiating any construction activities.

**Table 1.2-3  
Privately-Owned Contractor and Pipe Storage Yards  
that May Be Used during Construction of the Pipeline**

<b>Name</b>	<b>County</b>	<b>Size (acres)</b>	<b>Description</b>
North Spit Dock Yard	Coos	4.79	Industrial dock with gravel/native surface lot
Menasha	Coos	36.93	Export log yard and dock with rail sidings
K-2	Coos	25.56	Export log yard and dock with rail sidings
Brunell	Coos	12.88	Vacant industrial lot and dock with rail siding
Millington 1	Coos	28.4	Log yard
Millington 2	Coos	5.66	Vacant industrial lot, connected to railroad
Coquille Yard	Coos	20.37	Old industrial mill site, vacant lot
Coquille Park	Coos	3.28	Sturdivant Park, adjacent to rail siding
Coquille Mill	Coos	4.37	Mill log, lumber, storage yard and parking lot, adjacent to rail siding
Coquille Sawmill Yard	Coos	7.46	Industrial lot/previous sawmill that was utilized as a contractor's yard
Winchester	Douglas	101.94	Undeveloped lots connected to rail yard, adjacent to interstate interchange
Green #1 Yard	Douglas	9.37	Vacant industrial lot, adjacent to rail siding
Green District Yard	Douglas	7.06	Vacant industrial lot/ log yard, gravel surface/ parking lot adjacent to railroad
Hult Chip Yard 2 (Pipe)	Douglas	13.30	Vacant industrial site; paved/gravel surface
Hult Chip Yard (Parking)	Douglas	2.66	Vacant industrial site; gravel surface
Hult Chip Yard 1 (Roll)	Douglas	8.91	Vacant industrial site; paved lot with rail siding
Roth	Douglas	3.79	Pasture, adjacent to rail siding, connects to project right-of-way
Weaver Highway 99	Douglas	6.37	Vacant undeveloped lot adjacent to Interstate interchange and close to railroad and sidings
Weaver Road Yard	Douglas	7.77	Vacant industrial log storage yard, adjacent to railroad
Riddle Main Street	Douglas	8.78	Vacant industrial lots including railroad siding
Riddle Pasture	Douglas	7.31	Vacant field adjacent to industrial sites and rail siding
Milo Yard 1	Douglas	5.27	Reclaimed quarry
Milo Yard 2	Douglas	10.32	Reclaimed quarry
Burrill Lumber	Jackson	61.44	Vacant lumber mill/log yard
Avenue F and 11 <sup>th</sup> Street	Jackson	26.15	Industrial business and vacant graveled lot, adjacent to rail sidings
WC Short	Jackson	8.36	Rail siding and industrial yard
Rogue Aggregates	Jackson	38.90	Pasture/undeveloped land within active aggregate quarry and processing facility and undeveloped land includes rail siding
Collins Pacific Yard 1	Klamath	9.47	Active wood products plant – vacant gravel lot
Collins Pacific Yard 2	Klamath	5.41	Active wood products plant – vacant gravel lot
Klamath Falls Amuchastegui Building	Klamath	25.46	Existing commercial site and undeveloped industrial lots adjacent to rail siding
Klamath Falls Industrial Oil	Klamath	39.48	Undeveloped industrial lots adjacent highway, rail and rail sidings.
Klamath Falls Memorial Drive 2 / Bair	Klamath	65.53	Undeveloped industrial lots adjacent to rail siding

Name	County	Size (acres)	Description
Klamath Falls Memorial Drive 1 Pipe Yard	Klamath	24.72	Vacant industrial mill site / lot, adjacent to railroad and sidings
Klamath Falls Cross Road East	Klamath	6.99	Farmland, adjacent to rail siding
Klamath Falls Cross Road West (Stukel) Rail siding	Klamath	9.93	Railroad siding
Merrill Oregon RR Siding	Klamath	9.78	Pasture adjacent to rail siding
<b>Total</b>		<b>674.17</b>	

#### 1.2.1.4.2 Rock Source and Permanent Disposal Sites

PCGP has identified 20 rock source/disposal sites which total 85.98 acres (see Table A.8-4 in Appendix A.8 to Resource Report 8). Of these 20 rock source/disposal sites, 15 sites are existing quarries/gravel pits or abandoned quarries/gravel pits. Although some of the existing/abandoned sites appear to have land use types other than quarries/gravel pits, it is not PCGP's intent to expand these sites beyond the existing or previously disturbed footprints.

### 1.2.2 Aboveground Facilities

Permanent disturbance associated with aboveground facilities is summarized in Table 1.2-4. The locations of aboveground facilities are shown on the maps in the Mapping Supplement, Appendix G.1, and on the Environmental Alignment Sheets, Appendix H.1.

**Table 1.2-4  
Summary of Disturbance Associated with Aboveground Facilities**

Facility <sup>1</sup>	MP	Acres Disturbed During Construction <sup>2</sup>	Acres Disturbed – for Permanent Operations <sup>3</sup>	Jurisdiction
Jordan Cove MS, BVA #1, and Receiver <sup>4,5</sup>	0.00	1.72	1.72	Private
BVA #2 (Boone Creek Road)	15.07	0.09	0.09	Private
BVA #3 (Myrtle Point Sitkum Road)	29.50	0.09	0.09	Private
ABVA #4 (Deep Creek Spur) <sup>5</sup>	48.58	0.09	0.09	BLM
BVA #5 (South of Olalla Creek)	59.58	0.09	0.09	Private
BVA #6, Launcher/Receiver (Myrtle Creek) <sup>5</sup>	71.46	0.49	0.49	Private
BVA #7 (Pack Saddle Road)	80.03	0.09	0.09	BLM
BVA #8 (Hwy 227)	94.66	0.09	0.09	Private
BVA #9 (BLM Road 33-2-12/Dead Horse Creek)	113.66	0.09	0.09	Private
ABVA #10 (Shady Cove) <sup>5</sup>	122.18	0.09	0.09	Private
ABVA #11, Launcher/Receiver (Butte Falls) <sup>5</sup>	132.46	0.27	0.27	Private
BVA #12 (Heppsie Mtn Quarry Spur)	150.70	0.09	0.09	BLM
BVA #13 (Clover Creek Road)	169.48	0.09	0.09	Private
BVA #14 and Launcher/Receiver Site	187.43	0.44	0.44	Private
ABVA #15 (Klamath River) <sup>5</sup>	196.53	0.09	0.09	Private
ABVA #16 (Hill Road) <sup>5</sup>	211.58	0.09	0.09	Private
Klamath Compressor Station, Klamath-Beaver and Klamath-Eagle Meter Stations, BVA #17, Launcher & Communications Tower <sup>5</sup>	228.81	17.14	17.14	Private
<b>Total</b>		<b>21.14</b>	<b>21.14</b>	

Facility <sup>1</sup>	MP	Acres Disturbed During Construction <sup>2</sup>	Acres Disturbed – for Permanent Operations <sup>3</sup>	Jurisdiction
Blue Ridge Communication Site – Coos County <sup>6</sup>	~ 20	0.23	0.23	BLM
Signal Tree Communication Site – Coos County <sup>6</sup>	~45.0	0.23	0.23	BLM
Sheep Hill Communication Site – Douglas County <sup>6</sup>	~70	0.23	0.23	Private
Harness Mountain Communication Site – Douglas County <sup>6</sup>	~75	0.00 <sup>7</sup>	0.00 <sup>7</sup>	Private
Starvout Communication Site – Jackson County <sup>6</sup>	~115	0.23	0.23	Private
Flounce Rock Communication Site – Jackson County <sup>6</sup>	~123.0	0.23	0.23	BLM
Robinson Butte Communication Site – Jackson County <sup>6</sup>	~159.0	0.23	0.23	Forest Service
Stukel Mountain Communication Site – Klamath County <sup>6</sup>	~209	0.23	0.23	BLM
<b>Total</b>		<b>1.61</b>	<b>1.61</b>	
<b>Grand Total</b>		<b>22.75</b>	<b>22.75</b>	

<sup>1</sup> Mainline Block Valves (“BVA”) denoted as ABVA are automated valves and will include a 40-foot tall communication tower.

<sup>2</sup> Temporary construction disturbance associated with the aboveground facilities is included within the Pipeline construction right-of-way, and is not double counted in total project disturbance estimates.

<sup>3</sup> The 17 mainline block valves will be located within areas disturbed by the construction right-of way or within associated aboveground facility footprints (*i.e.*, meter stations and the compressor station); however, the permanent operation acres provided will remain as permanent disturbance associated with these graded, graveled and fenced facilities.

<sup>4</sup> The Jordan Cove Meter Station will be located entirely within the proposed Jordan Cove Terminal facilities.

<sup>5</sup> Communication facilities are included in the disturbed areas associated with the meter station, block valves and compressor station.

<sup>6</sup> Communication facilities will utilize existing towers and equipment buildings, where space is available for lease, with no associated disturbance. If construction of new facilities is required, PCGP will obtain an approximate 100 x 100 foot (0.23 acre) area in the immediate area of the existing communication tower facilities (see Appendix D to the POD for site drawings).

<sup>7</sup> The Harness Mountain Communication Tower is an existing communication facility, where no new disturbance is required.

### 1.3 CONSTRUCTION PROCEDURES

This section describes the general procedures that will be used to construct the Pipeline and aboveground facilities under typical conditions and consistent with the requirements of FERC’s Upland Plan and Wetland and Waterbody Procedures.

The Pipeline will be designed, constructed, tested, operated, and maintained to conform with DOT requirements, 49 CFR Part 192, FERC’s regulations, 18 CFR § 380.15, PHMSA’s regulations and other applicable federal and state regulations.

In addition to the requirements listed above, PCGP will construct and reclaim all disturbed areas in accordance with FERC’s Wetland and Waterbody Procedures and FERC’s Upland Erosion Control, Revegetation, and Maintenance Plan (hereafter FERC’s Upland Plan). However, where exceptions to FERC’s Wetland and Waterbody Procedures and Upland Plan have been identified, proposed modifications have been requested in Table A.1-1 in Appendix A.1 to this Resource Report.



The Pipeline will likely be divided into five (or more) construction spreads to allow for mainline pipeline construction to be completed in two construction years. The average numbers of pipeline construction workers at each spread during mainline construction (January 2021 – December 2022) are provided below, and the pipeline construction workforce is expected to peak in the summer of 2021.

- Spread 1 = 380 workers
- Spread 2 = 610 workers
- Spread 3 = 261 workers
- Spread 4 = 158 workers
- Spread 5 = 137 workers

In addition to the construction personnel distributed across the pipeline spreads, PCGP estimates that between 10 and 25 surveyors and between 25 and 150 construction and environmental inspectors will work along the pipeline route during mainline construction. The survey and inspection workforces are expected to peak in the summer and autumn of 2021.

Aboveground facility construction is scheduled between April 2021 and April 2022. PCGP estimates that the compressor station will require between 25 and 100 workers between April 2021 and April 2022, and that the three proposed meter stations will require between 15 and 75 workers between April and November 2021. Construction of the communications towers is expected to require an additional 15 to 25 workers between April and November 2021. The aboveground facility construction workforces are expected to peak in the late summer of 2021. Total PCGP construction employment – including pipeline and above facilities construction workers, inspectors and surveyors – will follow a similar, diminishing, pattern during the two years of mainline construction. The construction workforce is expected to peak at 4,131 workers in August 2021. The second year peak will include 2,016 workers in July 2022. Between 2021 and 2022, the entire construction workforce is estimated to range between 128 and 4,131 workers and to average 1,410 workers (Devers 2017).

### **1.3.1 Pipeline**

#### **1.3.1.1 Preconstruction Filings**

##### **1.3.1.1.1 Coldwater Fisheries**

Section V.B.1 of FERC's Wetland and Waterbody Procedures contains recommended crossing timeframes/windows for coldwater fisheries where crossing dates are not otherwise specified by an appropriate state agency. ODFW does not issue approvals or permits for waterbody crossings but provides guidelines for in-water timeframes which will minimize impacts to spawning fish species and their eggs. To minimize impacts to fish and aquatic habitats, PCGP will utilize the ODFW in-water construction windows for all stream crossings using conventional crossing techniques (*i.e.*, open cut, flume, dam and pump, etc.). PCGP has requested that HDD crossings be allowed to occur outside of ODFW's in-water construction windows to ensure that enough time is provided to successfully complete the crossings. PCGP has also requested permission for temporary equipment bridges to be installed prior to the ODFW recommended in-water construction windows because the construction right-of-way will be utilized as the primary transportation corridor to move equipment and materials up and down the right-of-way.

PCGP has completed wetland and waterbody surveys for approximately 89% of the entire alignment; the remaining 11% are mostly areas where access has been denied. Resource Report 2 provides details of the wetland surveys results. Geotechnical studies have also been completed at various waterbody crossings. Resource Reports 2 and 3 describe the waterbodies that will be crossed by the Pipeline as well as the fish and aquatic habitats that these waterbodies support. Resource Reports 2 and 3 also specify the crossing method for each waterbody and provide the timing of the proposed crossings. Where blasting is anticipated at waterbody crossings, the potential impacts associated with blasting are identified in the Resource Reports and in the Geologic Hazards and Mineral Resources Report (Resource Report 6). Mitigation methods that would be implemented to reduce impacts from blasting are also identified. The need for blasting would be determined by the contractor and would only be initiated after ODFW blasting permits are obtained.

PCGP consulted with ODFW regarding the presence of fish and aquatic habitats in the waterbodies crossed by the Pipeline during the interagency task force Waterbody Crossing Methodologies Subgroup meetings held under FERC Docket No. CP07-441-000. This information is incorporated into Resource Report 3. The proposed stream crossing methods provided in Table B.3-4 have taken into consideration ODFW recommendations to provide fish passage in streams with fish presence or where fish presence is presumed. The Geologic Hazards and Mineral Resources Report, Resource Report 6, indicates where blasting is anticipated along the Proposed Route. Where blasting in streambeds may be required to provide adequate pipeline design depths, PCGP proposes to use the dam and pump method (see Resource Report 2) to minimize potential impacts to aquatic species. Although this crossing method does not provide for fish passage during construction, potential impacts to aquatic species will be minimized by conducting the crossings during the in-water construction windows specified by ODFW. Fish passage at these streams will only be restricted in the short-term while the dams are in place, which is expected to be fewer than seven days.

#### 1.3.1.1.2 Stormwater Pollution Prevention Plan

A Stormwater Pollution Prevention Plan ("SWPPP") will be prepared and submitted to authorize stormwater discharge under the Oregon Department of Environmental Quality ("ODEQ") General Stormwater Discharge Permit (Permit No. 1200-C) approximately one year prior to the start of construction. The SWPPP will be available on-site pursuant to FERC's Wetland and Waterbody Procedures (Section II.C) and U.S. Environmental Protection Agency ("EPA") regulations.

#### 1.3.1.1.3 Spill Prevention, Containment, and Countermeasures Plan

Pursuant to FERC's Wetland and Waterbody Procedures (see Section IV.A), PCGP has prepared a Spill Prevention, Containment, and Countermeasures ("SPCC") Plan for the Pipeline (see Appendix B.2 to Resource Report 2).

Additionally, SPCC Plans will be developed in accordance with 40 CFR Part 112 for the Klamath Compressor Station and Jordan Cove Meter Station. Oil storage tanks at the facilities will be constructed with appropriately sized secondary containment. Oil-filled operational equipment will be addressed in a manner consistent with the requirements of 40 CFR Part 112. In addition to the SPCC Plan, a Spill Procedure poster specific to the station will be prominently displayed in the facility's control room. The poster will identify all potential spill hazards at the facility (including oil) and list the appropriate response

actions and contacts for facility and emergency response personnel. All station technicians will be trained for proper handling, storage, disposal, and spill response of hazardous fluids.

#### 1.3.1.1.4 Federal and State Land Management Agencies and Lands Managed by Federally Recognized Tribes

The Pipeline will cross federal lands managed by the BLM, Forest Service, and Reclamation. The Proposed Route will not cross any Tribal Lands (see Resource Report 8). BLM-managed lands include four BLM districts: Coos Bay, Roseburg, Medford, and Lakeview. It is estimated that 46.86 miles of BLM-managed lands will be crossed by the Pipeline. Approximately 30.58 miles of Forest Service lands will be crossed in the Umpqua, Rogue River-Siskiyou, and Fremont-Winema National Forests. The Pipeline will cross approximately 0.31 mile of Reclamation facilities, which consists of approximately 23 facilities.

Discussions are ongoing with the BLM, Forest Service, and Reclamation regarding construction of the Pipeline across these lands as well as procurement of a Right-of-Way Grant for the Pipeline's permanent easement. Specific requirements for construction, erosion control, revegetation, and maintenance will be contained in the Right-of-Way Grant. To support the Right-of-Way Grant under the prior docket, PCGP prepared the Plan of Development ("POD") (see Appendix F.1), which includes numerous plans that describe the specific activities that will occur on federally-managed lands. During the FERC application process under Docket No. CP13-492-000, PCGP submitted a POD to meet BLM, Forest Service and Reclamation's Right-of-Way Grant requirements. These plans will be updated in consultation with the Federal land managing agencies; PCGP is updating the plans to address route revisions reflected in this Resource Report. Based on continuing discussions with the agencies, PCGP will submit an updated POD in Fall 2017. Appendix F.1 provides a Table of Contents for the forthcoming Plan of Development. The plans, some of which are duplicates to appendices in this FERC Certificate application, include:

- A Aesthetics Management Plan
- B Air, Noise and Fugitive Dust Control Plan
- C Blasting Plan
- D Communication Facilities Plan
- E Contaminated Substances Discovery Plan
- F Corrosion Control Plan
- G Environmental Briefings Plan
- H Emergency Response Plan
- I Erosion Control and Revegetation Plan
- J Federally-Listed Plant Conservation Plan
- K Fire Prevention and Suppression Plan
- L Fish Salvage Plan
- M Hydrostatic Test Plan
- N Integrated Pest Management Plan
- O Klamath Project Facilities Crossing Plan
- P Leave Tree Protection Plan
- Q Overburden and Excess Material Disposal Plan
- R Prescribed Burning Plan
- S Recreation Management Plan
- T Right-of-Way Marking Plan
- U Right-of-Way Clearing Plan for Federal Lands

V	Safety & Security Plan
W	Sanitation and Waste Management Plan
X	Spill Prevention, Containment, and Countermeasures Plan
Y	Transportation Management Plan
Z	Unanticipated Discovery Plan (Cultural Resource Preservation)
AA	Wetland and Waterbody Crossing Plan
BB	Compensatory Mitigation Plan
CC	Environmental Alignment Sheets

#### 1.3.1.1.5 Other Federal and State Agency Requirements

PCGP will submit or update applications to the federal, state, and local agencies for permits to construct. PCGP does not expect the permit conditions from these agencies to conflict with FERC's Upland Plan or Wetland and Waterbody Procedures. Pursuant to Section I.A of FERC's Upland Plan, PCGP will file other agency requirements prior to the start of construction, if necessary.

#### 1.3.1.1.6 Municipal Water Intakes

Municipal water intake structures have been identified within three miles downstream of waterbody crossings (see Resource Report 2). PCGP will comply with Section V.A.2 of FERC's Wetland and Waterbody Procedures by providing written notification to the authorities of municipal water supply intakes at least one week before beginning in-water work or as otherwise specified by the authorities.

#### 1.3.1.1.7 Wetland Delineation Report

As required by Section II.A of FERC's Wetland and Waterbody Procedures, PCGP has completed a wetland and waterbody survey and has provided the results of this survey in Resource Report 2 and the Wetland Delineation Report, as an appendix to Resource Report 2. The locations of wetlands and waterbody crossings that will be affected by construction are shown on the Environmental Alignment Sheets and are described in more detail in Resource Report 2. Wetland surveys have been conducted for approximately 89% of the Proposed Route where survey permission has been granted. In areas where survey permission has not been granted, PCGP used available data (NWI maps, NHD Data<sup>3</sup> and USGS topographic maps) as well as other information, including low level high resolution aerial photographs and LiDAR data taken for the Pipeline in 2015, to make an assessment of wetlands and waterbodies that may be affected. Areas where surveys could not be completed because survey permission was denied have also been identified on the Environmental Alignment Sheets.

#### 1.3.1.1.8 Environmental Controls, Supervision, and Inspection

PCGP will include all requirements in federal, state, and local permits and FERC's Upland Plan and Wetland and Waterbody Procedures in contract documents, including the construction drawings. Sensitive environmental areas are shown on the Environmental Alignment Sheets and will be identified in the contract documents. Procedures for completing construction within these areas will be discussed in detail. Information will be provided regarding wetland and waterbody construction techniques and monitoring requirements. Permit specifications will not be a separate portion of these contracts, but will be incorporated with all other specifications. All inspectors,

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<sup>3</sup> <https://www.google.com/#q=National+Hydrography+Data+Set>

including EIs, PCGP project management, and the contractor's project management and foremen will receive all necessary contract documents.

PCGP will employ a lead EI and multiple EIs per spread during construction, cleanup, and restoration consistent with FERC's Wetland and Waterbody Procedures. PCGP will evaluate the number of EIs that will be needed to provide adequate coverage to ensure compliance based on the Pipeline's length, access constraints and complexity. Consistent with FERC's Wetland and Waterbody Procedures, the EIs will have knowledge of the wetland and waterbody characteristics in the project area. The EIs will have peer status with all other activity inspectors and will have authority to stop activities that threaten to violate environmental conditions of the FERC Certificate or other authorizations. The EIs will be authorized to order corrective action. All contractor foremen and inspectors will receive training on all specifications and requirements of the Pipeline. Environmental compliance procedures will receive special attention during training of contractor foremen and company inspectors. These individuals will support the EIs by communicating potential conditions observed during daily activities that may jeopardize environmental compliance. All personnel will receive basic training on actions necessary to ensure compliance. All personnel hired after Pipeline construction begins will receive the same basic environmental training.

PCGP's project management/engineering/environmental staff will have ultimate compliance responsibility. If noncompliance occurs, all personnel employed on the Pipeline will be made aware of the noncompliance. Training and/or adjustments in current procedures and techniques will be provided to ensure that the same noncompliance does not occur again.

#### 1.3.1.1.9 Preconstruction Planning

**Erosion Control, Revegetation, and Noxious Weed Control.** PCGP has completed agency coordination, as required by FERC's Upland Plan (Section III.F.1). PCGP has consulted with the BLM, the Forest Service, and the NRCS regarding erosion control and revegetation specifications. Other appropriate agencies have been consulted as well. The Oregon Department of Agriculture Noxious Weed Control Program, as well as the BLM and the Forest Service, have been contacted regarding recommendations for the prevention and spread of noxious weeds. Copies of consultations are provided in Appendix B.7 to Resource Report 7. Recommendations have been incorporated into the project-specific ECRP provided in Appendix B.1 to this Resource Report. As part of the POD (see Appendix N to the POD, Appendix F.1), PCGP developed an Integrated Pest Management Plan to address the control of noxious weeds, invasive plants, forest pathogens, and soil pests across the entire Pipeline. BMPs have been created to minimize the potential spread of invasive species and minimize the potential adverse effects of control treatments.

**Grazing Deferments.** Although PCGP believes grazing deferments will not be necessary because grazing is not a dominant land use crossed by the Pipeline, PCGP has consulted with the BLM and the Forest Service regarding grazing resources. Potential impacts to grazing resources and deferments are addressed in Resource Report 8.

**Timber Clearing.** During tree and brush clearing, all operations and tree falling will occur within the certificated construction limits. As required by Oregon's regulations, PCGP will cut hazard/danger trees<sup>4</sup> that have been designated by PCGP's professional forester and/or certified arborist that may be on the edges of the certificated construction work limits. PCGP has included a Danger/Hazard Tree Modification to FERC's Upland Plan in Table A.1-1. All timber cleared from the right-of-way will be cut and cleared in accordance with landowner and land management agency requirements, where practical. Typical BMPs for timber harvesting are designed for standard forest practice operations, and these methods may not be feasible for the narrow right-of-way corridor associated with pipeline installation. For example, BLM BMPs may restrict tractor logging on slopes greater than 35%; however, tractor or a ground-based logging method may be the only feasible or practical timber yarding method in areas along the Proposed Route because of the alignment configuration, site-specific topographic conditions and the location of landings and existing haul roads. Cable log yarding systems will not be practical in many areas because of the requirements associated with this logging method, including lack of suitable access along the right-of-way to transport the yarder to a landing due to the steep, rugged and uneven topography, and the area necessary for swinging and landing logs, log decking, and loading.

PCGP has developed scenarios and methods to remove timber from the construction right-of-way and TEWAs using "desk top" methods based on best available data (*i.e.*, aerial photography, contour data, LiDAR data, as well as field reconnaissance). The proposed timber removal methods, direction, and staging areas are detailed in the Right-of-Way Clearing Plan (see Appendix U to the POD, Appendix F.1) developed for the entire Pipeline. These timber removal scenarios were developed utilizing applicable BMPs and compliance protocols outlined in the ECRP.

Prior to right-of-way easement acquisition, agency (BLM or Forest Service) representatives or their designated contractors will conduct timber cruises to verify timber volumes and species composition on forested lands to determine timber values. Timber cruises will be completed according to industry and/or federal agency standards. The timber cruises will validate the Right-of-Way Clearing Plan (see Appendix U to the POD, Appendix F.1), based on site-specific conditions in the field, and help identify the logging systems that will be practical along the route based on the pipeline alignment, construction right-of-way configuration (*i.e.*, temporary construction right-of-way and TEWAs), topographic conditions and constraints, existing access, timber types and volumes to be removed, and the various logging system limitations.

Merchantable timber will be removed and sold according to landowner/land managing agency stipulations; however, it is PCGP's preference to cut and remove all timber from the right-of-way and TEWAs to ensure that these areas are cleared prior to construction. In very limited areas, TEWAs have been identified for log storage and decking. These are existing cleared areas adjacent to existing roads where log storage could occur for extended periods. The construction right-of-way has been designed to minimize additional TEWAs to minimize overall project disturbance. The construction footprint is currently not large enough in many areas to accommodate log clearing and efficient

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<sup>4</sup> OAR 437, Division 7 Forest Activities - Oregon OSHA: Danger tree – A standing tree, alive or dead, that presents a hazard to personnel due to deterioration or physical damage to the root system, trunk (stem), or limbs, and the degree and direction of lean.

construction activities simultaneously. Therefore, cut timber must be removed from the construction right-of-way to avoid project delays.

PCGP will minimize potential impacts to timber resources by implementing BMPs and applying the measures outlined in the ECRP (see Appendix B.1). These measures include avoidance of construction and restoration delays as well as avoidance of construction during the late fall and winter rainy season. Any timber cleared from the right-of-way that will be used for instream or upland wildlife habitat structures will be stored on the edge of the right-of-way or in TEWAs or UCSAs for later use during restoration efforts. Information regarding placement, size, and species of trees that will be used for instream large woody debris ("LWD") is included in Resource Report 3. Where LWD is acquired for instream habitat use, this material will only be obtained from the certificated construction limits and will be collected outside riparian zones to maintain root structure within the riparian zone. An exception to this is where the LWD can be obtained from the trenchline or right-of-way cut areas where root systems would be removed during trench excavation or grading operations. Prior to clearing operations, the EI or PCGP's authorized representative will flag existing snags on the edges of the construction right-of-way or TEWAs where feasible to protect from clearing, considering OSHA safety requirements. These snags will be saved as mitigation to benefit primary and secondary cavity nesting birds, mammals, reptiles, and amphibians. During this process, other large diameter trees on the edges of the construction right-of-way and TEWAs would also be flagged for salvage as green recruitment or habitat trees, where feasible. Some of these trees would be girdled to create snags to augment the number of snags along the right-of-way to benefit cavity nesting birds, mammals, reptiles, and amphibians.

Other habitat diversity features that would be created from downed logs, unmerchantable woody debris, and slash (greater than 16 inches in diameter) including large rocks and boulders may also be stacked or piled along the right-of-way to provide wildlife habitat diversity features to benefit mammals, birds, reptiles, amphibians, and the prey base they depend upon. These habitat features would be created within the Pipeline's certificated construction limits where approved by the EI or PCGP's authorized representative and the landowner or land management agency. These features are also included in Section 10.14 of the ECRP (see Appendix B.1).

PCGP developed a Leave Tree Protection Plan as part of the POD (see Appendix P to the POD, Appendix F.1) which describes the BMPs that will be employed to minimize damage to trees not removed from the construction right-of-way and TEWAs and to protect trees within UCSAs on federally-managed lands. This plan was developed in consultation with the BLM and Forest Service.

**Timber Clearing – Forest Service and BLM.** The authority and procedure the Forest Service would use to dispose of merchantable timber cut for construction of the Pipeline is addressed under 36 CFR § 223.12. This regulation authorizes the Forest Service, under the issuance of a right-of-way or special use authorization ("SUA"), to sell the timber directly to PCGP at the current appraised value. The intent would be to negotiate one contract covering the three National Forests crossed by the Pipeline. Payment for the timber sold would be made in a lump sum in advance of cutting and removal.

The BLM has authority under 43 CFR Part 5400 to sell PCGP the right-of-way timber through a negotiated sale when it is determined to be impracticable to obtain competitive

bids through an advertised sale. The BLM intends to sell the right-of-way timber directly to PCGP under lump sum timber sale contracts at not less than the appraised value as determined by the BLM District. Timber sale contracts would be prepared, negotiated, and administered by each BLM office involved (Coos Bay, Roseburg, Medford, and Lakeview). All federal timber purchased by PCGP would be prohibited from log export and would require domestic processing consistent with existing agency policy and federal law.

The BLM and the Forest Service have required that on federally managed lands, PCGP comply with Oregon Revised Statutes (ORS 527.670(3)) and provide a written timber harvest plan to the federal land management agencies and the Oregon Department of Forestry ("ODF") State Forester for each state forest region that would be crossed. Timber harvest plans would include such information as timber sale boundary designation, volume estimation, appraisal, and contract preparation. PCGP would file its final logging plans for both federal and non-federal lands after the completion of timber cruises and the selection of a timber removal contractor(s). PCGP will request proposals from contractors and contracts will be awarded to the most qualified bidder(s). Logging methods will be left to the contractors (subject to appropriate company and agency approval). The exact timber harvest and decking requirement locations will be determined by the contractor within the access roads and staging areas already identified for the Pipeline. Areas for log decking, log loadout, etc. are identified on the Environmental Alignment sheets as TEWAs.

PCGP will be responsible for log removal, log accountability, and marketing of the federal timber. The BLM and Forest Service will be responsible for monitoring payment, log accountability, and trespass. Many of the operational requirements typically detailed in such a timber sale contract such as erosion control, road maintenance, and slash disposal are expected to be contained in the Right-of-Way Grant and would only need to be incorporated by reference into the timber sale contract. Performance bonding typically required in such a timber sale, if included in the Grant and considered adequate, would be used to cover operations performed under the timber sale contract(s). Agency sale administrators would oversee timber disposal operations to ensure they are carried out following any site-specific requirements as well as to ensure payment and proper log accounting for specially-designated revenues. PCGP's Right-of-Way Clearing Plan (see Appendix U to the POD, Appendix F.1) provides details of timber removal requirements on federally-managed lands, including roles and responsibilities of PCGP/BLM/Forest Service, timber cruise and valuation, felling and yarding and logging methods, slash disposal, and BMPs that will be employed to minimize potential effects from these operations. Many of the practices outlined in the Right-of-Way Clearing Plan (see Appendix U to the POD, Appendix F.1) also generally apply to the private timber lands crossed by the Pipeline.

**Treatment of Forest Slash.** PCGP has determined that the quantity of slash material that will be generated during forest clearing operations will be substantial. The typical size of the trees that will be cut and cleared from the construction right-of-way and TEWAs are too large to conduct whole tree yarding and, therefore, require the trees to be cut, topped, limbed, and bucked on site where the trees are fallen. Generally, only the logs will be yarded to a landing for decking, loadout, and transport and the slash (tree tops and limbs) will remain on the construction right-of-way where the tree was initially cut. During grading and trenching, stumps would also be generated which are also considered slash. The timber clearing and grading processes are expected to



generate a significant quantity of slash that will be impractical to completely remove. During logging, limbs and tops will also be broken/crushed during tree falling and yarding operations, creating a large volume of smaller slash material that is impractical to remove because of the expected large quantity, size and distribution of this material. Further, the slash generated during timber clearing operations will remain on the ground and in place to provide important cover to minimize erosion over the winter prior to main line construction. The retained slash will be stored on the edges of the construction right-of-way, TEWAs, and UCSAs and then pulled back and redistributed/scattered across the right-of-way after construction during final cleanup after seeding during reclamation (according to BLM and Forest Service fuel loading limits) to minimize fire hazard risks.

Where it is not feasible to pull the slash back onto the right-of-way after seeding, seeding in these areas (broadcast or hydroseeding) will occur with specifications to ensure adequate seed coverage. Scattering the slash across the right-of-way will hinder off-highway vehicle ("OHV") traffic on the right-of-way and will act as a natural mulch to minimize erosion as well as organic matter for nutrient recycling to maintain long-term soil productivity. PCGP's proposed slash treatment is a typical silvicultural practice in the Pacific Northwest during logging operations.

Because more than 1 ton per acre of woody material (logs, slash and chips) may be scattered across the right-of-way during final cleanup in many areas, PCGP proposes a modification to Section IV.F.4.e. of FERC's Upland Plan. PCGP will utilize the fuel loading standards of the BLM and the Forest Service as the limit for the quantity of woody debris that will be distributed across the right-of-way to minimize fire hazard risks under the proposed modification. Section IV.F.4.e. of FERC's Upland Plan states that if wood chips are used as mulch to not use more than 1 ton per acre of chips and to add an equivalent of 11 pounds of available nitrogen where chips are used as mulch. The purpose of Section IV.F.4.e. of FERC's Upland Plan is to ensure that revegetation efforts are not hindered due to the decaying process of large amounts of wood chips which can bind up soil nitrogen and impede revegetation. PCGP requests this proposed modification because it will be impractical and infeasible to remove this material from the right-of-way and it is a typical silvicultural practice in the project area (*i.e.*, forest slash left in logged areas). Furthermore, it is expected that the woody slash material will not deplete soil nitrogen in the short-term, during revegetation establishment, because the size of the woody material that will be scattered on the right-of-way will be large and will not readily decay in the short-term. However, as proposed in Section 10.8 of the ECRP (see Appendix B.1), PCGP will apply a standard fertilization rate of 200 pounds per acre bulk triple-16 fertilizer (16:16:16 - nitrogen, potassium and phosphorus) on all disturbed areas to be reseeded, except in wetlands and in federally-designated Riparian Reserves. This fertilization rate will apply 32 pounds per acre of elemental nitrogen, potassium, and phosphorus. The elemental nitrogen rate will also satisfy FERC's requirement to add nitrogen where wood chips are used as mulch (see Section IV.F.4.e.).

On NFS lands, the maximum amount of slash that will be scattered across the right-of-way will be 12 tons per acre, which will be distributed over the following fuel loading size classes:

<b>Fuel Loading Specification by Size Class</b>	
<b>Size Class</b>	<b>tons/acre</b>

<b>(diameter)</b>	
0-1/4"	< 1
1/4- 3"	4-8
3-8"	7-12
maximum	12

On BLM-managed and private lands, the fuel loading specifications will be:

<b>Fuel Loading Specification by Size Class</b>	
<b>Size Class (diameter)</b>	<b>tons/acre</b>
0-1/4"	< 1 <sup>1</sup>
1/4 -8"	5-8 <sup>1</sup>
>8"	10-15
<sup>1</sup> Adapted from U.S. Forest Service Fuel Loading Standards	

As required by the Forest Service, dead and downed woody debris greater than 16 inches in diameter does not contribute to fire hazard and will be maintained on site. Large woody debris will be retained on the construction right-of-way according to agency specifications, as mitigation, to provide down wood for wildlife habitat and to aid in soil productivity. Slash may be chipped and scattered across the right-of-way provided that the average depth of wood chips covering the area does not exceed 1 inch following application. This chip depth will be sufficient to stabilize the soil surface from erosion while allowing grass seed to germinate and seedlings to develop. It is not expected to significantly increase fuel hazards as long as the maximum tonnage for fuel loading does not exceed 12 tons per acre.

In areas where the fuel loading exceeds these standards, such as where slash has been concentrated, as on landings, and cannot be evenly scattered across the right-of-way according to the fuel loading standards, PCGP will machine or hand pile and burn the excess material depending on the site location. Where offsite disposal is necessary, it would occur in accordance with federal, state, and local regulations. Burning will occur during the appropriate burning season and according to the conditions permitted by the BLM, the Forest Service, and ODF (OAR 629-615-300). A Prescribed Burning Plan was developed for these activities and is included as Appendix R to the POD (Appendix F.1). The Prescribed Burning Plan describes the protocols that PCGP will follow to obtain appropriate agency authorizations to burn forest slash materials on all lands crossed by the Pipeline and the BMPs that will be implemented to safely conduct slash burning operations.

On BLM-managed and NFS lands, larger slash pieces (more than 8 inches in diameter), may be removed from the project area and decked in designated storage sites, as stipulated by these agencies, or on the right-of-way at road crossings. This material will be made available to the public as firewood.

PCGP believes that the slash materials that may be generated during periodic right-of-way maintenance activities, which are likely to occur about every 3-5 years along the permanent easement, will not exceed BLM or Forest Service fuel loading standards.

**Drain Tiles.** The BLM has identified that French drains were installed to stabilize Elk Creek Road near MPs 34.02 and 37.15. The Pipeline crosses agricultural lands in Klamath County which are underlain by drain tiles. The drain tiles are located along approximately 20 miles of the 40-mile agricultural area crossed by the Pipeline. The tiles are mostly small (4 to 6 inches) and depending upon the exact pipeline location and groundwater levels, potential impacts to the drain tiles are unknown at this time. PCGP has not obtained the exact locations of the drain tiles along the Proposed Route but will

identify the presence of drain tiles on individual properties during right-of-way easement acquisition. Drain tile repair and/or replacement will be a part of the easement damage negotiations.

**Irrigation canals and ditches.** The Proposed Route will cross numerous irrigation canals and ditches in agricultural fields in Klamath County. PCGP will work with Reclamation, irrigation districts, and landowners to minimize disruption of these canals and ditches during construction and has agreed to utilize trenchless (bored) crossings of these features to minimize any downstream impacts. PCGP will maintain water flow in all crop irrigation systems, unless shutoff is coordinated with affected landowners. PCGP will negotiate with the landowners at these locations to minimize impacts to their agricultural operations and will compensate the landowners for any crop loss/damage resulting from the Pipeline.

PCGP has developed the Klamath Project Facilities Crossing Plan, as part of the POD (see Appendix O to the POD, Appendix F.1), which identifies the 26 locations where the Pipeline crosses facilities managed by Reclamation in the Klamath Basin. The plan was developed in consultation with Reclamation and specifies the methods proposed to cross these facilities.

### 1.3.1.2 Typical Pipeline Construction Procedures

#### 1.3.1.2.1 Construction Spreads

PCGP has determined that to efficiently construct the Pipeline, pipeline construction will be divided into at least five construction spreads. PCGP has preliminarily determined the extent of each construction spread as shown in Table 1.3-1.

**Table 1.3-1  
Spread Locations**

<b>Spread</b>	<b>Milepost Range</b>
1	0.00 -51.60
2	51.60-94.67
3	94.67-132.47
4	132.47-169.50
5	169.50-228.81

Each spread will consist of all construction activities necessary to construct the Pipeline within a specific milepost range including: clearing, grading, trenching, pipe stringing, welding, lowering-in, backfilling, regrading, and restoration. Figure 1.3-1 (see end of this Resource Report) provides the construction sequence and activities that each pipeline spread will include. Table A.1-2 provided in Appendix A.1 provides the typical construction crews and equipment that are anticipated for each construction spread. The construction spread activities will generally occur in sequence or in assembly-line fashion along the right-of-way with one crew following the next from clearing until final cleanup. As work proceeds, there are often small periods between job tasks when work at a specific location on the right-of-way is delayed such as between trenching and pipe stringing or pipe stringing and welding.

#### 1.3.1.2.2 Certificated Work Areas

Consistent with Section IV.A.1 of FERC's Upland Plan, PCGP will confine project-related disturbance to those areas shown on the Environmental Alignment Sheets or discussed in this Resource Report. No disturbance will be allowed to occur outside of these areas without appropriate surveys (cultural, threatened and endangered species, residential, etc.), other federal, state, or local permits and prior written approval from the appropriate FERC representative.

#### 1.3.1.2.3 Surveying and Staking

Preliminary civil, cultural, and environmental surveys were completed between 2006 and 2017 for the majority of the Proposed Route, except for various minor reroutes and access roads or where survey permission was denied. The remaining cultural and wetland surveys will be completed as landowner permission is granted. The various biological surveys were completed in suitable habitat on all areas where survey permission was granted between 2007 and 2017. Biological surveys will continue in 2017 and 2018 in suitable habitat where alignment modifications occurred outside of previously surveyed areas. Additionally, follow up surveys for NSO and MAMU will occur prior to construction. Civil surveys have been conducted according to state and federal standards where applicable.

During construction, the exterior right-of-way limits and the boundaries of TEWAs shown on the Environmental Alignment Sheets will be staked prior to construction. Prior to the start of construction, an EI will verify the limits of the staked right-of-way and TEWAs and these survey stakes will be maintained throughout construction. Survey monuments that occur within the construction right-of-way will be protected, where possible, and if damage occurs, these monuments will be replaced according to state and federal standards. Property line monuments or survey corners on BLM-managed and NFS lands will be reestablished according to federal standards if damaged during construction. PCGP developed a Right-of-Way Marking Plan in consultation with the BLM and Forest Service as part of the POD (see Appendix T to the POD, Appendix F.1). This plan identifies the survey standards and types of survey markings that will be used by PCGP on federally-managed lands during the pre-construction, construction, and operational phases of the Pipeline.

All work will be performed by professional land surveyors licensed in the State of Oregon and which hold a valid and current Certified Federal Surveyor certificate for federal land surveying and setting of monuments. All surveys related to the Pipeline will be performed in accordance with procedures found in the Manual of Surveying Instructions (2009), and all applicable state or county statutes, codes and regulations, and specifications of the County Surveyor. These surveys will meet the minimum degree of precision and accuracy defined by the State of Oregon's minimum standard requirement for the recording of surveys.

#### 1.3.1.2.4 Construction Right-of-Way Egress and Ingress/Equipment Mobilization

Access roads that will be used during construction or crossed by the Pipeline have been identified and are provided in Resource Report 8. This table lists roads which may be used to access the construction right-of-way and identifies roads which will require improvement (e.g., brush clearing, grading, widening). The locations of egress and ingress points are shown on the Environmental Alignment Sheets, Appendix H.1. Generally, all roads crossed by the right-of-way will be used for access. No additional

roads will be widened or otherwise improved to accommodate construction traffic without obtaining the appropriate federal, state, and local approvals, including written authorization from FERC.

During the detailed engineering design phase for the Pipeline, existing culverts will be investigated along all identified access roads. This investigation will determine the condition and integrity of existing culverts and identify any location that may require mitigation measures to ensure construction activities do not damage or impair the existing function of the culverts. Mitigation measures may be required prior to access road use to allow safe construction equipment travel and prevent damage to the culverts. In select locations, replacement and/or modification of a culvert may be necessary. The measures outlined in PCGP's Culvert Crossing Best Management Practices (see Attachment F to the ECRP) and appropriate erosion control and revegetation measures outlined in the ECRP would be implemented during any road improvement activities. The Culvert Crossing BMP has been developed based on consultation with ODFW and includes a typical culvert replacement design that would meet ODFW fish passage criteria (OAR 635-412-0035). Implementation of PCGP's Culvert Crossing BMP would ensure that each road crossing of a stream that could potentially support fish would meet ODFW fish passage standards.

As previously noted, PCGP in consultation with the BLM and Forest Service developed a TMP. The TMP is included as Appendix Y to the POD (Appendix F.1). The TMP identifies and applies to all federally-managed roads located on federally-managed lands and privately-owned lands that will be used/authorized during timber removal, construction, and operations to access the construction and operational right-of-way. The TMP details the measures, standards, and stipulations to be employed by PCGP and its contractors in the construction, use, improvement, and maintenance of roads under the jurisdiction of the BLM, Forest Service, and Reclamation during and after construction for the duration of the Right-of-Way Grant.

Equipment involved in Pipeline construction will be moved onto the right-of-way using the roads identified in Resource Report 8. Generally, equipment moved to the construction right-of-way will proceed down the right-of-way performing their job tasks and minimizing the need to transport the equipment to various areas along the right-of-way. PCGP has developed a Noxious Weed Control Plan as part of the ECRP (see Appendix B.1 – Section 12) which addresses measures (such as cleaning) that will be utilized to minimize the potential spread of noxious weeds onto the right-of-way from equipment transport. The Integrated Pest Management Plan (see Appendix N to the POD, Appendix F.1) also addresses the BMPs that will be implemented to minimize the spread of noxious weeds on federally-managed lands.

#### 1.3.1.2.5 Vegetation Clearing

The construction right-of-way will cross a variety of types of vegetation cover. These vegetation cover types are described in Resource Report 3. The construction right-of-way will be cleared of all timber using standard logging practices in forested areas as described in the Timber Clearing section above. PCGP expects that all logging methods may be necessary to efficiently remove timber from the right-of-way, depending on the specific location. Ground-based skidding and cable (where feasible) logging methods will likely be the standard method; however, in some isolated rugged topographic areas with poor access, helicopter logging may be utilized. The specific logging methods will not be determined until a contractor has been selected through the bidding process.

On lands supporting taller shrub-type vegetation cover (sagebrush communities), PCGP will clear the right-of-way by mowing or scalping off the tops of the shrubs with a motor-grader or a bulldozer. This material will be salvaged on the edge of the construction right-of-way and scattered across the right-of-way after seeding during final cleanup. Hayfields and vegetation cover types such as grass, low shrubs, or other low-growth vegetation will not be cleared except in areas directly over the trench or where grading will be required. The cleared vegetation material will be stored on the edge of the right-of-way and spread back over disturbed areas during final restoration. This material will increase moisture retention and reduce wind and water erosion and is considered by PCGP to be the functional equivalent of mulch and a source of native seed. Vegetation clearing in and adjacent to wetlands and at waterbody crossings will be consistent with FERC's Wetland and Waterbody Procedures.

#### 1.3.1.2.6 Temporary Erosion Control Structures

Temporary erosion controls will be installed immediately after vegetation clearing and will be properly maintained throughout construction and reinstalled as necessary until replaced by permanent erosion controls or until restoration is complete. Temporary erosion control structures and procedures are discussed in detail in the project-specific ECRP (see Appendix B.1).

#### 1.3.1.2.7 Topsoiling

FERC's Upland Plan (Section IV.B.1) requires topsoil segregation in: 1) all residential areas; 2) annually cultivated or rotated agricultural lands and pasture; 3) hayfields; and 4) other areas at the landowner's request. In these areas, FERC's Upland Plan requires either full work area or trench line and subsoil storage area stripping. FERC's Wetland and Waterbody Procedures (Section VI.B.2.h) address topsoiling in wetlands. In wetland areas, FERC generally requires the top 12 inches over the trench line to be salvaged, except in areas where standing water or saturated soils are present. Areas that will require topsoiling are provided in Resource Report 7 and are shown on the Environmental Alignment Sheets.

Along the Proposed Route where topsoil segregation is proposed, PCGP has requested 10 feet of TEWA in addition to the 95-foot construction right-of-way to segregate topsoil from the trench line and subsoil storage area. If landowners request topsoil salvage from the construction right-of-way, PCGP would utilize up to a 25-foot wide TEWA, as allowed under FERC's Upland Plan (Section IV.A.2). The purpose of this TEWA is to ensure that the topsoil is segregated and kept separate from the trench subsoil.

On BLM-managed and Forest Service lands, PCGP will segregate topsoil in all wetlands according to FERC's Wetland and Waterbody Procedures (Section VI.B.2.h). Further, PCGP conducted biological surveys for federal Survey and Manage species and Region 6 sensitive species including moss, lichen and fungi. Where these species are identified within the construction right-of-way, PCGP will consult with the BLM and Forest Service to determine if topsoil segregation in these areas is a feasible and appropriate mitigation or management measure to minimize impacts to these species. Resource Report 7 further describes the BMPs that will be utilized on BLM-managed and Forest Service lands to minimize potential impacts from compaction where topsoil segregation is not proposed.

#### 1.3.1.2.8 Blasting

Section 5.0 in the Geologic Hazards and Mineral Resources Report, Resource Report 6, provides the locations along the Proposed Route where blasting may be necessary. During grading and trenching activities, in areas where hard shallow bedrock is encountered, PCGP will utilize specialized methods to create a safe right-of-way grade and reach the required pipeline design burial depth. These methods may include ripping, hydraulic hammering, rock sawing, and blasting. PCGP's contractor(s) will determine the most efficient and effective methods.

Where blasting is necessary, mitigation measures have been incorporated into the blasting plan to minimize potential adverse impacts to the environment including nearby water sources, structures, and utilities. Where blasting is required, all necessary permits will be obtained and blasting-related operations (*i.e.*, obtaining, transporting, storing, handling, loading, detonating, and disposing of blasting material; drilling; and ground-motion monitoring) shall comply with applicable federal, state, and local regulations and permit conditions. PCGP developed a Blasting Plan in consultation with the BLM and Forest Service (see Appendix C to the POD, Appendix F.1) to provide guidelines for the safe use and storage of blasting materials during construction to ensure the safety of construction personnel, the public, nearby facilities, and sensitive resources.

All blasting activities will be conducted by licensed blasting contractors in accordance with all applicable regulatory requirements. Section 5.0 in the Geologic Hazards and Mineral Resources Report, Resource Report 6, and the Blasting Plan in the POD (Appendix F.1) provide additional protective measures that will be employed where blasting is required to minimize potential impacts. The Blasting Plan provided a sample blast plan specific to the Heppsie Mountain quarry and evaluated potential particle velocities expected at the Pipeline location. Although PCGP has developed and analyzed sample blast plans and determined quarry development could be completed without harm to the in-service pipeline, the BLM requires that the Heppsie Mountain Quarry be shot prior to the installation of the pipeline. The resultant blasted rock will have dimensions of 24 inches or less. Once shot, the blasted rock will remain in place for future use as determined by the BLM. The BLM is requiring the blasting because it will not assume unknown risk associated with complications, limitations, or liability associated with developing this quarry in the future.

#### 1.3.1.2.9 Trenching

The depth of the trench will be sufficient to provide a minimum depth of cover over the Pipeline of 30 inches in normal soil, 18 inches in consolidated rock, and 48-60 inches in agriculture lands. PCGP will strive to exceed these minimum DOT requirements provided in 49 CFR Part 192 where feasible and will achieve 36 inches of cover in Class I locations with normal soils and up to 24 inches of cover in consolidated rock areas.

For Class II, III, and IV locations, as well as drainage ditches of paved county, city, and state road and railroad crossings, DOT regulations provided in 49 CFR Part 192 require a minimum cover of 36 inches in normal soil and 24 inches in consolidated rock.

#### 1.3.1.2.10 Pipe Installation

After trenching is completed, the pipe sections will be strung along the trench, bent to fit the contour of the trench bottom, aligned, welded together, and placed on temporary supports along the edge of the trench. All welds will be visually inspected, non-



destructively tested (using radiographic or equivalent methods), and repaired, if necessary. Line pipe, normally mill-coated prior to stringing, will require field applied coating at the welded joints prior to final inspection. The entire pipeline coating will be inspected and tested to locate and repair any flaws or voids. The pipe assembly will then be lowered into the trench by side-boom tractors and excavators.

#### 1.3.1.2.11 Backfilling

The trench will be backfilled using a backfilling machine or bladed equipment. No foreign substance, including skids, welding rods, containers, brush, trees, or refuse of any kind, will be permitted in the backfill.

PCGP will install trench plugs (see Drawing 3430.34-X-0011 in the ERCP in Appendix B.1) consistent with the requirements of FERC's Upland Plan (see Section V.B.1). Trench plugs will be installed at the base of slopes adjacent to wetlands and waterbodies and where needed to avoid draining of wetlands (springs). Trench plugs may be constructed from sandbags, foam, or bentonite. Topsoil will not be used to fill the bags. Trench plugs will be installed on slopes to minimize water flow down the trenchline to prevent potential subsurface erosion and to maximize stability, according to slope gradient (see spacing indicated on Drawing 3430.34-X-0011 in Appendix B.1).

#### 1.3.1.2.12 Hydrostatic Testing

After backfilling, the Pipeline will be strength tested in accordance with DOT regulations to ensure that the system is capable of operating at the maximum operating pressure. Should a leak or break occur, the line would be repaired and retested until the specifications are achieved. Hydrostatic testing is one acceptable method for strength testing.

Water for hydrostatic testing will be obtained from commercial or municipal sources or from surface water right owners (see Table 1.3-2). If water for hydrostatic testing is acquired from surface water sources, PCGP will obtain all necessary appropriations and withdrawal permits (see Appendix C.1). As required by ODFW, pumps used to withdraw surface water will be screened according to National Marine Fisheries Service screening criteria to prevent entrainment of aquatic species.

The Pipeline will be tested in approximately 35 sections; each with varying lengths and water volume requirements (see Table 1.3-3). During the test, it may be necessary to release water at each of the section breaks; however, PCGP will conserve water as much as practical and minimize release where feasible by cascading water between test sections. Without cascading (not proposed), the maximum test volume for all individual test segments would be approximately 60,701,864 gallons. With the use of cascading, which is proposed, the minimum test water volume to be withdrawn would be 15,928,725 gallons. The actual volume will be within this range and is expected to be at the lower end of the range.

Permission to release the hydrostatic test water will be obtained through ODEQ. Release rates would range from several hundred gallons per minute to several thousand gallons per minute. The specific hydrostatic release rate at each dewater location cannot be estimated at this time because the rate is dependent on a number of factors specific to each location. These variables include: the volume of water to be released, topographic conditions of the location, elevation differences between test sections and

the direction of flow (uphill/downhill) between the test section, size of the test head piping, kind and size of the dewater structure to be utilized, infiltration properties of the surrounding soils, and location of any sensitive resources such as wetlands and waterbodies or facilities (e.g., roads, residences) in the vicinity of the dewater location. The rate would be controlled to prevent scour, erosion, and potential effects or sediment migration to sensitive resources or facilities (see ECRP in Appendix B.1).

PCGP developed a Hydrostatic Test Plan (see Appendix M to the POD, Appendix F.1) in consultation with the BLM and Forest Service as well as the Center for Lakes and Reservoirs and Aquatic Bioinvasion Research and Policy Institute (Portland State University) and ODEQ. This Plan outlines the general hydrostatic testing process and describes the BMPs to minimize or avoid potential effects that could result from hydrostatic testing. One of the purposes of the plan was to develop BMPs to prevent the potential transfer of invasive species and pathogens from one watershed to another. This plan describes the potential invasive species and pathogens that were of concern to the BLM, Forest Service, and Portland State University and the BMPs that will be implemented. The details and rationale for these BMPs are described in the plan and summarized below.

If determined to be feasible for hydrostatic testing requirements, water would be returned to its withdrawal source location after use; however, cascading water from one test section to another to minimize water withdrawal requirements may make it impractical to release water within the same watershed where the water was withdrawn. If it is impracticable to return hydrostatic test source water to the same water basin from which it was withdrawn, PCGP would employ an effective and practical water treatment method (chlorination, filtration, or other appropriate method) to disinfect the water that would be transferred across water basin boundaries. The hydrostatic test water would be treated after it is withdrawn and prior to hydrostatic testing.

PCGP would implement a three-step BMP treatment process to prevent the potential spread of invasive species and forest pathogens from non-municipal surface water sources used during hydrostatic testing. The hydrostatic test water treatment process would incorporate screening/filtration during water withdrawal, chlorine treatment, and upland discharge at least 150 feet from wetlands or waterbodies with no direct discharge to these features. All hydrostatic test water will be released through a dewatering device such as a straw bale structure or sediment bag, in a manner to promote infiltration. Further, all hydrostatic release locations would be monitored after construction to ensure noxious weeds have not established.

As explained in the Hydrostatic Test Plan, PCGP proposes to use a treatment of 2 ppm or 2 mg/L of free chlorine residual with a detention time of 30 minutes to treat all non-municipal surface waters that would be used as a water source for hydrostatic testing purposes. Chlorinated water would be released according to the Oregon Department of Environmental Quality criteria to prevent water quality impacts, potential effects to aquatic species, and to minimize potential impacts to sensitive areas.

Estimates for total water usage, both construction and operation, are provided in Table 1.3-4.

**Table 1.3-2  
Potential Hydrostatic Source Locations**

County	MP	Source		Owner	Estimated Withdrawal Requirement (Longest Test Segment Volume) <sup>1</sup>
South Coast Basin - Coos Bay Frontal Pacific Ocean (1710030403) - Fifth Field Watershed					
Coos	0.00	Coos Bay - North Bend Water Board		Coos Bay - North Bend Water Board	4,999,228
South Coast Basin - M. F. Coquille River (1710030501) - Fifth Field Watershed					
Douglas	50.20	Water Impoundment	Kinnan Lake	5-J Limited Partnership, Donald R. Johnson 29080601300	3,315,584
Umpqua Basin - Olalla Creek-Lookingglass Creek (1710030212) - Fifth Field Watershed					
Douglas	55.90	Water Impoundment	Ben Irving Reservoir	Douglas County Public Works/ Looking Glass Olalla Water District/ Winston-Dillard Water District	3,315,584
Douglas	58.75	Looking Glass Olalla Water District (Olalla Creek Crossing)		Looking Glass Olalla Water District	3,315,584
Umpqua Basin - Clark Branch-South Umpqua River (1710030211) - Fifth Field Watershed					
Douglas	71.30	S. Umpqua River Crossing #1		Oregon Department of Water Resources	2,037,230
Umpqua Basin - Days Creek-South Umpqua River (1710030205) - Fifth Field Watershed					
Jackson	94.73	S. Umpqua River Crossing #2		Oregon Department of Water Resources	2,525,177
Rogue Basin - Shady Cove-Rogue River (1710030707) - Fifth Field Watershed					
Jackson	122.5	Rogue River Crossing		Oregon Department of Water Resources	1,951,591
Rogue Basin - Little Butte Creek (1710030708) - Fifth Field Watershed					
Jackson	133.38	Medford Aqueduct		Eagle Point Irrigation	2,256,357
Jackson	146.70	N. Fork Little Butte Creek Crossing		Medford Irrigation District/ Rogue River Valley Irrigation District	2,847,495
Jackson	161.40	Water Impoundment	Fish Lake		2,847,495
Klamath Basin - Fourmile Creek (1801020302) - Fifth Field Watershed					
Klamath	168.90	Water Impoundment	Lake Of The Woods National Forest Lake	United States (Rogue River-Siskiyou NF)	5,565,825

County	MP	Source		Owner	Estimated Withdrawal Requirement (Longest Test Segment Volume) <sup>1</sup>
Klamath Basin -John C Boyle Reservoir-Klamath River (1801020602)					
Klamath	184.30	Water Impoundment	John C. Boyle Reservoir	Oregon Department of Water Resources	5,565,825
Klamath Basin -Lake Ewauna-Klamath River (1801020412)					
Klamath	189.00	Water Impoundment	Keno Reservoir	Oregon Department of Water Resources	5,565,825
Klamath	199.20	Klamath River			5,565,825
Klamath Basin -Mills Creek–Lost River (1801020409)					
Klamath	228.1	High Line Canal		Malin Irrigation District	4,560,666
Total					N/A <sup>2</sup>
<sup>1</sup> The volumes in the table represent the estimated withdrawal volume from a potential hydrostatic test source, and, in some cases, multiple sources are identified for the same test segment(s) because water withdrawals would be based on conditions at the time of construction (see Table 1.3-3 for potential water sources identified for each test segment).					
<sup>2</sup> Totalling the potential withdrawal volumes is not applicable because, as stated in footnote #1, multiple (alternate) sources have been identified for the same test segments. Without cascading (not proposed), the physical volume for all individual test segments would be 60.7 million gallons. With the use of cascading, which is proposed, the minimum test water volume to be withdrawn would be 15,928,725 gallons across all sources. The actual volume will be within this range and is expected to be at the lower end of the range.					

Table 1.3-3 Potential Hydrostatic Dewatering (Test Header) Locations within the Construction Right-of-Way												
Test Segment	Oregon Plan Watershed	HUC (10-digit) (Begin MP)	HUC (10-digit) (Ending MP)	Begin MP <sup>1</sup>	End MP	Section Length <sup>2</sup> (feet)	Volume <sup>3, 4</sup> (gallons) (acre feet)	Potential Water Source	Jurisdiction (ending MP)	Waterbodies Closest to Dewatering Locations <sup>5</sup> (LLID)	Distance to Waterbodies <sup>5</sup> (feet)	End Latitude End Longitude
Spread - Haynes Inlet												
1	South Coast	Coos Bay Frontal Pacific Ocean 1710030403	Coos Bay Frontal Pacific Ocean 1710030403	0.00 (Private)	6.63R	14,840	735,523 (2.26)	Coos Bay - North Bend Water Board	Private	Coos Bay /Coos River / Jordan Cove (1243397433543)	650	Beg. 43.432564
										Haynes Inlet (1242326434319)	1000	Beg. -124.240191
										Trib to Haynes Inlet (1242017434500)	550	
										Trib to Haynes Inlet (1242011434514)	377	End 43.449395
										Haynes Inlet (1242266434305)	355	End -124.198395
Spread 1												
2	South Coast	Coos Bay Frontal Pacific Ocean 1710030403	Coos Bay Frontal Pacific Ocean 1710030403	6.63R	10.13R	52,760	2,612,411 (8.02)	Coos Bay - North Bend Water Board	Private	Trib. to Stock Slough (1241467433377)	90	43.338261
										Trib. to Stock Slough – Monkey Gulch (1241504433368)	100	-124.147804
3	South Coast	Coos Bay Frontal Pacific Ocean 1710030403	Coos Bay Frontal Pacific Ocean 1710030403	10.13R	17.11B R	38,800	1,922,158 ( 5.90)	Coos Bay - North Bend Water Board	Private/BLM-Coos	Trib. to Catching Creek (1241615432585)	275	43.255887
										Catching Creek (1241452433077)	575	-124.160713
4	South Coast	Coos Bay Frontal Pacific Ocean 1710030403	E. F. Coquille River 1710030503	17.11B R	35.81	100,760	4,990,228 <sup>4</sup> (15.31)	Coos Bay - North Bend Water Board	BLM-Coos	Tribs. to South Fork Elk Creek (1239351431117 & 1239152431074)	415 650	43.105719
										Trib to Big Creek (1239061430967)	363	-123.912717
5	South Coast	E. F. Coquille River 1710030501	M. F. Coquille River 1710030501	35.81	37.20	7,280	360,166 (1.11)	Coos Bay - North Bend Water Board	BLM-Coos	Big Creek (1240115430262)	400	43.105499
										Tribs to Big Creek (1240115430262, 1238846431056, & 1238882431046)	395 105 375	-123.888347
6	South Coast	M. F. Coquille River 1710030501	E. F. Coquille River 1710030501	37.20	39.20	10,520	520,468 (1.60)	Coos Bay - North Bend Water Board, Kinnan Lake	Private	Tribs. To Camas Creek (1238306431319, 1238519431172 & 1238491431056 )	243 350 650	43.104265
										Trib to Sandy Creek (1238500430999)	675	-123.855397
Spreads 1 and 2												
7	South Coast	E. F. Coquille River 1710030501	M. F. Coquille River 1710030501	39.20	51.61	67,000	3,315,584 (10.18)	Coos Bay - North Bend Water Board, or Kinnan Lake, or Looking Glass Olalla Water District(Olalla Creek Crossing), or	Private	Trib to Belieu Creek (1236803430462)	1525	43.050453 -123.658493

Test Segment	Oregon Plan Watershed	HUC (10-digit) (Begin MP)	HUC (10-digit) (Ending MP)	Begin MP <sup>1</sup>	End MP	Section Length <sup>2</sup> (feet)	Volume <sup>3, 4</sup> (gallons) (acre feet)	Potential Water Source	Jurisdiction (ending MP)	Waterbodies Closest to Dewatering Locations <sup>5</sup> (LLID)	Distance to Waterbodies <sup>5</sup> (feet)	End Latitude End Longitude
								Ben Irving Reservoir				
8	South Coast Umpqua (MP 53.16)	M. F. Coquille River 1710030501	Olalla / Lookingglass Creek 1710030212	51.61	58.86	39,320	1,946,641 (5.97)	Looking Glass Olalla Water District(Olalla Creek Crossing)or Ben Irving Reservoir	Private	Olalla Creek (1234905431631)	228	43.073273 -123.531991
9	Umpqua	Olalla / Lookingglass Creek 1710030212	Clark Branch – South Umpqua 1710030211	58.86	66.48	40,320	1,997,530 (6.13)	Looking Glass Olalla Water District(Olalla Creek Crossing)or Ben Irving Reservoir	Private	Tribs. to Willis Creek (1234009430728 & 1233983430694)	420	43.072111 -123.40666
										Tribs. to Rice Creek (1234180430725 & 1234136430721)	652 1400	
10	Umpqua	Clark Branch – South Umpqua 1710030211	Clark Branch – South Umpqua 1710030211	66.48	71.38	26,320	1,302,297 (4.00)	Looking Glass Olalla Water District(Olalla Creek Crossing)or Ben Irving Reservoir, or S. Umpqua River Crossing #1	Private	Tribs to South Umpqua River (1233302430519, 1233289430525 & 1233303430545)	193 83 785	43.054403 -123.329152
10A	Umpqua	Clark Branch – South Umpqua 1710030211	South Umpqua 1710030211	71.38	72.68	6,920	342,765 (1.05)	S. Umpqua River Crossing #1	Private	Tribs to South Umpqua River (1233086430593 & 1233346430680)	345 657	43.062635 -123.309245
11	Umpqua	Clark Branch – South Umpqua 1710030211	Myrtle Creek 1710030210	72.68	75.72	19,800	980,638 (3.01)	S. Umpqua River Crossing #1	Private	Tribs to Biger Creek (1232543430838, 1232534430792, & 1232600430803)	342 512 485	43.08197 -123.257641
12	Umpqua	Myrtle Creek 1710030210	Myrtle Creek 1710030210	75.72	82.32	35,200	1,741,192 (5.34)	S. Umpqua River Crossing #1	Private	Tribs to South Myrtle Creek (1231803430263,1231848430210, 1231837430216, & 1231921430292)	385 545 485 800	43.023663 -123.18033
13	Umpqua	Myrtle Creek 1710030210	Days Creek-South Umpqua River 1710030205	82.32	89.50	41,160	2,037,230 (6.25)	S. Umpqua River Crossing #1	Private	Tribs to Days Creek (Doe Hollow) (1230858429848)	1145	42.979162 -123.090206
										Tribs to Days Creek (Bailey Gulch) (1230937429813 & 1231032429810)	1353 992	
Spreads 2 and 3												
14	Umpqua	Days Creek-South Umpqua River 1710030205	Days Creek-South Umpqua River 1710030205	89.50	94.71	27,720	1,372,593 (4.21)	S. Umpqua River Crossing #1, or S Umpqua River Crossing #2	Private	South Umpqua River (1234460432680)	140	42.932972 -123.039405
										Trib. to South Umpqua River (1230442429313)	308	
15	Umpqua	Days Creek-South Umpqua River 1710030205	Days Creek-South Umpqua River 1710030205	94.71	95.51	4,240	210,102 (0.64)	S. Umpqua River Crossing #2	BLM-Roseburg	Tribs. to South Umpqua (1230357429250 & 1230382429323)	252 775	42.922722 -123.034451
16	Umpqua	Days Creek-South Umpqua	Days Creek-South Umpqua	95.51	100.76	27,560	1,365,564 (4.19)	S. Umpqua River Crossing	Private	Trib to Hatchet Creek (1229971428706)	205	42.870433

Test Segment	Oregon Plan Watershed	HUC (10-digit) (Begin MP)	HUC (10-digit) (Ending MP)	Begin MP <sup>1</sup>	End MP	Section Length <sup>2</sup> (feet)	Volume <sup>3, 4</sup> (gallons) (acre feet)	Potential Water Source	Jurisdiction (ending MP)	Waterbodies Closest to Dewatering Locations <sup>5</sup> (LLID)	Distance to Waterbodies <sup>5</sup> (feet)	End Latitude End Longitude
		River 1710030205	River 1710030205					#2		Trib to East Fork Stouts Creek (1230111428734)	350	-123.003209
17	Umpqua	Days Creek-South Umpqua River 1710030205	Upper Cow Creek 1710030206	100.76	110.36	50,960	2,525,177 <sup>4</sup> (7.75)	S. Umpqua River Crossing #2	USFS-Umpqua	East Fork Cow Creek (1229918428021)	870	42.77114
										Tribs to East Fork Cow Creek (1229258427752 & 1229337427754)	810 830	-122.926565
18	Umpqua Rogue (MP 111.11)	Upper Cow Creek 1710030206	Trail Creek 1710030706	110.36	113.66	15,600	771,945 (2.37)	Rogue River Crossing	Private	Tribs to Dead Horse Creek (1228736427515 & 1228712427513)	2145 2075	42.74529
										Trib to West Fork Trail Creek (1228839427397)	1270	-122.885218
19	Rogue	Trail Creek 1710030706	Trail Creek 1710030706	113.67	117.84	22,000	1,088,400 (3.34)	Rogue River Crossing	Private	Trib to Trail Creek (1228449426932)	475	42.693386
										Trib to West Fork Trail Creek (1228571426840)	215	-122.885284
20	Rogue	Trail Creek 1710030706	Shady Cove - Rogue River 1710030707	117.84	122.23	23,080	1,141,707 (3.50)	Rogue River Crossing	Private	Trib to Cricket Creek (1228167426451 & 1228177426455)	55 450	42.645528
										Cricket Creek (1228054426435)	233	-122.817437
20A	Rogue	Trail Creek 1710030706	Shady Cove - Rogue River 1710030707	122.23	122.81	3,200	158,595 (0.49)	Rogue River Crossing	Private	Rogue River (1244292424210)	625	42.645567 -122.805571
20B	Rogue	Shady Cove - Rogue River 1710030707	Shady Cove - Rogue River 1710030707	122.81	124.97	11,280	559,100 (1.72)	Rogue River Crossing	BLM-Medford	Tribs. to Brush Creek (1227674426310 & 1227761426291)	387 400	42.628191
										Trib to Rogue River (1228061426243)	850	-122.780074
										Trib to Indian Creek (1227770426261)	590	
21	Rogue	Shady Cove - Rogue River 1710030707	Big Butte Creek 1710030704	124.97	132.47	39,440	1,951,591 (5.99)	Rogue River Crossing, or Medford Aqueduct, Eagle Point Irrigation	Private	Trib to Quartz Creek (1226768425794)	232	42.577736 -122.680439
Spread 4												
22	Rogue	Big Butte Creek 1710030704	Little Butte Creek 1710030708	132.47	141.11	45,520	2,256,357 (6.92)	Medford Aqueduct, Eagle Point Irrigation	BLM-Medford	Tribs to Salt Creek (1226086424700 & 1226075424805)	550 220	42.483863 -122.610407
23	Rogue	LittleButte Creek 1710030708	Little Butte Creek 1710030708	141.11	147.75	37,280	1,844,080 (5.66)	Medford Aqueduct, Eagle Point Irrigation, or North Fork Little Butte Creek	Private	Trib to North Fork Little Butte Creek (1225688424078)	490	42.403061
										Trib to South Fork Little Butte Creek (1225728424006)	840	-122.570909
24	Rogue	Little Butte Creek 1710030708	Little Butte Creek 1710030708	147.75	150.66	12,520	620,533 (1.90)	North Fork Little Butte Creek	BLM-Medford	Trib to North Fork Little Butte Creek (1225334423894, 1225327423928 & 1225339423878)	1204 1440 1369	42.383192
										Trib to South Fork	1123	-122.539368

Test Segment	Oregon Plan Watershed	HUC (10-digit) (Begin MP)	HUC (10-digit) (Ending MP)	Begin MP <sup>1</sup>	End MP	Section Length <sup>2</sup> (feet)	Volume <sup>3, 4</sup> (gallons) (acre feet)	Potential Water Source	Jurisdiction (ending MP)	Waterbodies Closest to Dewatering Locations <sup>5</sup> (LLID)	Distance to Waterbodies <sup>5</sup> (feet)	End Latitude End Longitude
										Little Butte Creek (1225408423780 &1225410423779)	1180	
25	Rogue	Little Butte Creek 1710030708	Little Butte Creek 1710030708	150.66	158.75	42,920	2,126,306 (6.53)	North Fork Little Butte Creek, or Fish Lake	USFS-Rogue River	Trib. to Grizzly Creek (1224112423587)	280	42.364171
										Trib to North Fork Little Butte Creek (1224135423837)	5340	-122.397398
26	Rogue Klamath (MP 168.00)	Little Butte Creek 1710030708	Spencer Creek 1801020601	158.75	169.51	57,480	2,847,495 <sup>4</sup> (8.74)	North Fork Little Butte Creek, or Fish Lake, or Lake of the Wooks	Private	Trib to Spencer Creek (1222399423006)	1275	42.29569 -122.237525
Spread 5												
27	Klamath	Spencer Creek 1801020601	Lake Ewauna / Upper Klamath River 1801020412	169.51	190.79	112,520	5,565,825 <sup>4</sup> (17.08)	Klamath River, or Lake of the Woods, or Keno Reservoir, or John C Boyle Reservoir	Private	Trib to Klamath River (1219079421383, 1219022421436 & 1218746421442)	2305 470 1750	42.144256 -121.90652
28	Klamath	Lake Ewauna / Upper Klamath River 1801020412	Lake Ewauna / Upper Klamath River 1801020412	190.79	197.51	29,480	1,459,243 (4.48)	Klamath River, or Keno Reservoir, or John C Boyle Reservoir	Private	Trib to Klamath River (1218411421604)	3740	42.170991 -121.833676
29	Klamath	Lake Ewauna / Upper Klamath River 1801020412	Mills Creek - Lower Lost River 1801020409	197.51	199.16	8,840	438,075 (1.34)	Klamath River, or Keno Reservoir, or John C Boyle Reservoir, or Lake of the Woods	Private	Klamath River (1221913420005)	750	42.171113 -121.805705
30	Klamath	Lake Ewauna / Upper Klamath River 1801020412	Mills Creek - Lower Lost River 1801020409	199.16	210.53	60,000	2,970,150 (9.12)	Klamath River, or High Line Canal	Private	Irrigation Canal – Trib to L Canal (1217128420861 & 1216541420747)	1415	42.067422 -121.660354
31	Klamath	Mills Creek - Lower Lost River 1801020409	Mills Creek - Lower Lost River 1801020409	210.53	210.77	1,280	63,519 (0.20)	Klamath River or High Line Canal	Private	Irrigation Canal – Trib to L Canal (1217128420861 & 1216541420747)	1265 390	42.064856 -121.657176
32	Klamath	Mills Creek - Lower Lost River 1801020409	Mills Creek - Lower Lost River 1801020409	210.77	228.81	92,080	4,560,666 (14.00)	Klamath River, or High Line Canal	Private	High Line Canal (1214066420153)	1785	42.032735 -121.374896
Total <sup>6</sup>							60,701,864 (186.29)					
<sup>1</sup> Mileposts were not calculated from engineering stationing and may not provide a direct correlation between milepost and engineering stationing. “R” represents a revised milepost location based on the incorporation of reroutes into the Proposed Route. <sup>2</sup> Section length reflects actual footage calculated directly from engineering stationing. <sup>3</sup> Section volumes were calculated using section length directly from engineering stationing. <sup>4</sup> Water will be cascaded between test sections, where practical, to minimize test water volume requirements, withdrawals, and potential water hauling. It is expected that the largest volume of water to be released would be associated with the longest test segment within a basin. <sup>5</sup> Waterbodies were determined from USGS National Hydrography Dataset water course data(http://nhd.usgs.gov/). Distances are between the test break/header location to the closest water course regardless of flow characteristics ( <i>i.e.</i> , perennial, intermittent, or ephemeral); dewatering structures for the test break/header locations will be located a minimum of 150 feet from waterbodies/wetlands. <sup>6</sup> Without cascading (not proposed), the maximum test volume for all individual test segments would be 60,701,864 gallons. With the use of cascading, which is proposed, the minimum test water volume to be withdrawn would be 15,928,725 gallons. The actual volume will be within this range and is expected to be at the lower end of the range.												



**Table 1.3-4**  
**Estimated Water Usage for Construction and Operation**

Component	Gallons	Additional Details	Water Source
<b>CONSTRUCTION</b>			
<b>Pipeline</b>			
Hydrostatic Test	60,701,864	Expected minimum usage is 15,928,715 gallons. Expected maximum usage is 60,701,864 gallons; depending if water is pushed (re-used) to other test sections.	Please refer to Table 1.3-2 in Resource Report 1
Dust control	11,610,000	Five 3,000-gallon water trucks per spread	Please refer to Table 2.2-14 Resource Report 2
Personnel	7,740,000		Approved commercial/municipal/surface water resources
Miscellaneous water usage	2,401,556		Approved commercial/municipal/surface water resources
<b>Total</b>	<b>82,453,420</b>		
<b>Klamath Compressor Station</b>			
Hydrostatic Test	2,019,270	Water usage could be less if any water is recycled.	
Personnel	84,450		Approved commercial/municipal/ surface water resources
Miscellaneous water usage	63,112		
<b>Total</b>	<b>2,166,832</b>		
<b>Meter Stations</b>			
Hydrostatic Test	1,136,480	Water usage could be less if any water is recycled.	Approved commercial/municipal/surface water resources
Personnel	45,408		Approved commercial/municipal/ surface water resources
Miscellaneous water usage	35,457		
<b>Total (per station)</b>	<b>1,217,345</b>		
<b>Total (3 stations)</b>	<b>3,652,035</b>		
<b>Grand Total</b>	<b>88,272,285</b>		
<b>OPERATIONS</b>			
<b>Pipeline (estimates based on annual usage)</b>			
Miscellaneous water usage	10,000	Pipeline system is a closed system for the transport of natural gas. Water is not consumed during the transportation of natural gas.	Approved commercial/municipal/surface water resources
Personnel	60,000		
Dust control	1,161,000	Miscellaneous dust control during right-of-way restoration. Minimal if any dust control after right-of-way restoration.	Approved commercial/municipal/surface water resources
<b>Total</b>	<b>1,231,000</b>		

Component	Gallons	Additional Details	Water Source
<b>Klamath Compressor Station (estimates based on annual usage)</b>			
Miscellaneous water usage - clean buildings, coolers	10,000		Approved commercial/municipal/surface water resources
Water usage for drinking, sanitation	60,000		Approved commercial/municipal/surface water resources
<b>Total</b>	<b>70,000</b>		
<b>Meter Stations (estimates based on annual usage)</b>			
Water usage for drinking, sanitation, and miscellaneous	10,000		Approved commercial/municipal/surface water resources
<b>Total (per station)</b>	<b>10,000</b>		
<b>Total (3 stations)</b>	<b>30,000</b>		
<b>Grand Total</b>	<b>1,331,000</b>		

#### 1.3.1.2.13 Cleanup and Permanent Erosion Control Devices

PCGP will make every effort to complete final cleanup of an area within 20 days after backfilling the trench. Final cleanup will include final grading and installation of permanent erosion control structures. In no case will PCGP delay final cleanup beyond the end of the next recommended seeding season. During final cleanup, PCGP will remove all construction debris and grade disturbed areas to approximate preconstruction grade to the extent practicable. PCGP anticipates completing final cleanup during summer and fall. However, if it appears that construction may continue into the winter because of unforeseen delays and cleanup and reseeding is delayed until spring, PCGP will implement the measures outlined in the winterization plan provided as Attachment E to the ECRP (see Appendix B.1). This plan will describe the procedures that will be implemented to minimize potential impacts associated with delayed cleanup (e.g., temporary erosion controls procedures, topsoil stabilization, reseeding).

**Travel Lane.** Because of the restricted nature of the construction right-of-way in several areas, PCGP anticipates that it will be necessary to leave a travel lane open over extended portions of the construction right-of-way. As soon as access is no longer required, the travel lane will be closed and the disturbed area reclaimed. To reduce erosion from the travel lane, PCGP will install appropriate temporary erosion controls in areas where the travel lane is temporarily left open. These are discussed in the project-specific ECRP provided in Appendix B.1.

**Excess Rock Removal.** FERC's Upland Plan (see Section V.A.3) requires the removal of excess rock from the top 12 inches of soil in cultivated or rotated croplands, hayfields, pastures, residential areas, and other areas at the landowner's request. PCGP will comply with FERC's Upland Plan. In these areas, PCGP will clean up excess rock to a condition (size, density, and distribution) similar to adjacent portions of the construction right-of-way. In rangeland, forestlands, or other non-agricultural or residential lands where shallow bedrock is encountered and rock excavation is required, excess rock will be buried in cuts during restoration to reestablish approximate original contours and scattered across the right-of-way and TEWAs according to landowner agreements. Where excess rock requires disposal, PCGP will consider this material construction debris. The disposal sites have been identified in Resource Report 8, and PCGP will obtain the appropriate approvals prior to use. As noted above, excess rock may be incorporated into habitat diversity structures and stacked or piled along the right-of-way to provide wildlife habitat diversity features to benefit mammals, birds, reptiles, amphibians, and the prey base they depend upon. These habitat features would be created within the Pipeline's certificated construction limits where approved by the EI or PCGP's authorized representative and the landowner or land management agency. These features are also included in Section 10.14 of the ECRP (see Appendix B.1).

**Permanent Erosion Control Devices.** PCGP will install permanent erosion control devices or BMPs consistent with the requirements of Section V.B. of FERC's Upland Plan and as described in the project-specific ECRP provided in Appendix B.1. These BMPs will consist predominantly of trench breakers, slope breakers or waterbars, and revegetation measures to permanently stabilize disturbed areas. PCGP will utilize the spacing for these structures as specified in FERC's Upland Plan (Section V.B.1.b, and V.B.2.b) or as recommended by the BLM, Forest Service, or NRCS. Because the recommendations from these agencies varied during consultations, PCGP developed specifications that are consistent across the project based on slope and soil

characteristics and which incorporated the agencies' recommendations as much as practical.

**Soil Compaction.** PCGP will test for soil compaction in the croplands, hayfields, and residential areas crossed by the Pipeline. The Forest Service and BLM requested that soil compaction tests be completed on BLM-managed and NFS lands and PCGP agreed. Tests will be conducted on the same soil type under similar moisture conditions as specified in Section V.C. of FERC's Upland Plan. Pursuant to Section II.B.8 of FERC's Upland Plan, the EI will be responsible for conducting soil compaction testing and for determining corrective measures. On BLM-managed and NFS lands, corrective measures will be determined in conjunction with BLM and Forest Service personnel. Resource Report 7 describes in more detail the potential for compaction and the measures that will be implemented to mitigate potential compaction.

**Rugged Topography.** A significant portion of the Proposed Route crosses rugged topography as it traverses the Coast and Cascade mountain ranges and foothills. Where the Pipeline passes through the dissected Coast Range and foothills between Coos Bay and Myrtle Creek, Oregon (MPs 6.53R to 69.00), most of the ridgelines run in the opposite direction of the Proposed Route (see Maps 1 through 11 in the Mapping Supplement, Appendix G.1). The orientation of the ridges requires the Pipeline, in numerous areas, to descend and ascend steep slopes to cross stream valleys so that the alignment can proceed in a southeasterly direction toward Myrtle Creek, Oregon and ultimately toward Malin, Oregon. This similar condition also occurs between MPs 70 and 127.00 where the Pipeline traverses the Cascade Range and foothills (see Maps 11 through 20 in the Mapping Supplement, Appendix G.1). During routing of the Pipeline, PCGP utilized ridgelines, where feasible, to minimize the amount of cut and fill slopes, crossing steep slopes, potential geologic hazards, and waterbodies as well as to reduce erosion hazards. Areas of steep side slopes were avoided as much as practical to minimize construction complications.

The Geologic Hazards and Mineral Resources Report, Resource Report 6, provides a geotechnical hazards review that was conducted during project routing and describes the avoidance mitigation measures that were implemented (*i.e.*, minor reroutes) to avoid potential high risk geological hazards areas. Resource Report 7 identifies the miles of soils crossed by the alignment which have steep slopes and high erosion hazards. Areas have been noted where the Proposed Route route traverses steep, narrow ridges and where it will be infeasible to return these ridges to their approximate preconstruction contours during final grading. Drawing 3430.34-X-0018 in the ECRP (see Appendix B.1) provides a typical construction right-of-way configuration for these sharp ridgeline areas; the drawing shows a typical cross section of the original topographic condition, the ridgeline areas during construction, and post construction. Stable alternate pipeline routes were not present in these areas, except for other similar ridgelines that would have created the same situation.

During construction across rugged topography, PCGP will utilize the following measures, as necessary, to minimize construction, geologic and erosion hazards as well as to ensure the integrity of the Pipeline:

- route the Pipeline to ensure safety and integrity of the Pipeline;
- identify adequate work areas to safely construct the Pipeline;

- utilize appropriate construction techniques to minimize disturbance and to provide a safe working grade during construction (*i.e.*, ridge top and two-tone construction, see Drawings 3430.34-X-0018 and 3430.34-X-0019 in the ECRP in Appendix B.1);
- optimize the construction window during the dry season, as much as practicable;
- utilize temporary erosion control measures during construction (*i.e.*, slope breakers/waterbars);
- install trench breakers in the Pipeline trench to minimize groundwater flow down the trench which can cause in-trench erosion;
- properly backfill the trench according to PCGP's construction specifications;
- promptly restore the right-of-way to approximate original contours or to a stable contour after pipe installation and backfilling;
- install properly designed and spaced permanent waterbars;
- revegetate the slope with appropriate and quickly germinating seed mixtures;
- mulch or install erosion control fabric on slopes, as necessary; and
- monitor and maintain the right-of-way as necessary to ensure stability.

The project-specific ECRP (see Appendix B.1) provides additional discussion regarding construction techniques in areas of rugged topography. The ECRP also describes the procedures that will be implemented to minimize erosion hazards and to facilitate successful revegetation of these areas.

#### 1.3.1.2.14 Revegetation

As required by FERC's Upland Plan, PCGP consulted with the NRCS, BLM, and Forest Service regarding specific seeding dates and recommended seed mixtures for the project area. These consultations are provided in Appendix B.7 to Resource Report 7 and the recommendations have been incorporated into the project-specific ECRP (see Appendix B.1). The ECRP describes the procedures that will be implemented to minimize erosion and enhance revegetation success for the entire project. The ECRP describes the procedures that will be utilized to minimize the spread of noxious weeds as a result of project construction. The ECRP describes the silvicultural prescriptions that will be implemented in forested areas that are outside the permanent easement to restore these areas to their forested land use.

#### 1.3.1.2.15 Off-Highway Vehicle Control

During restoration of the right-of-way, PCGP will consult with private landowners, the BLM, and the Forest Service to determine appropriate locations for installation of OHV controls to minimize impacts to the right-of-way as well as to adjacent lands, consistent with FERC's Upland Plan (Section VI). Some of the measures that might be used to control OHV traffic include: signage; slash and timber barriers; excess rock piles or barriers; and vegetation plantings or screens.

Measures to address OHV control on federally-managed lands are addressed in the Recreation Management Plan (see Appendix S to the POD, Appendix F.1), which was developed in consultation with the BLM and Forest Service. One of the goals of this plan is to prevent unauthorized OHV use where the right-of-way could create additional access points. This plan provides mitigation measures that could be implemented to control OHV access, depending on site-specific conditions at the area of concern and

the management agency/landowner preferences. The BMPs outlined in this plan to control OHV use are also applicable to private lands crossed by the Pipeline.

#### **1.3.1.3 Road Crossings**

For construction across roads, PCGP will comply with requirements of the BLM, the Forest Service, or the state or county agency responsible for permitting the road crossing. Roads will either be bored or open cut (see Table A.8-1 in Appendix A.8 to Resource Report 8). Typically, dirt, gravel surfaced and secondary paved roads will be open cut, the pipeline installed, the road repaired, and the crossing completed within one day. At paved county, city, and state road crossings, PCGP will maintain five feet of cover between the road surface and the top of the pipe where possible. During landowner negotiations, PCGP will consult with entities having jurisdictional control at crossing locations where loads may exceed Oregon Department of Transportation (ODOT) legal limits in order to determine if mitigation measures can be employed to handle higher load limits. Some timber harvesting equipment will require specialized road design for travel over the buried pipeline. The TMP (see Appendix Y to the POD, Appendix F.1) outlines the standards for road crossings specific to BLM-managed and NFS lands. Line pipe installed at road crossings will be designed to meet the specific requirements of the DOT and to accommodate the load capacity requirements of roadway jurisdictional entities.

#### **1.3.1.4 Waterbody Crossings**

The Pipeline will cross approximately 326 waterbodies as discussed further in Resource Report 2. It is expected that intermittent waterbodies and ditches would be dry during construction. The list of waterbodies crossed by the Pipeline is based on field investigations that were conducted between 2006 and 2017; review of USGS topographic maps; review of GIS data from the OR/WA Hydrography Framework Partnership (2012) providing geographic hydrology information; and review of low level and high resolution aerial photography and LiDAR data developed for the Pipeline. For each waterbody crossing, Resource Report 2 includes the name of the waterbody, milepost location along the Pipeline, and waterbody flow type (*i.e.*, intermittent or perennial). Additional information regarding the stream classification system is found in Resource Report 2. FERC's waterbody classification is also included in the table. PCGP will cross coldwater fisheries using conventional crossing techniques within the ODFW suggested in-water construction windows.

Pipeline crossings of perennial waterbodies will be made nearly perpendicular to the axis of the waterbody channel, where feasible. The Proposed Route avoids paralleling a waterbody within 15 feet or less, where feasible. Where possible, PCGP has located TEWAs so that they are no closer than 50 feet from waterbody boundaries. However, where topographic conditions or other constraints prevent the 50-foot waterbody setback, these areas have been noted and described in Table A.1-1 in Appendix A.1. Consistent with Section V.B.2.a. of FERC's Wetland and Waterbody Procedures, where the uplands adjacent to a waterbody consist of actively cultivated or rotated cropland or other disturbed land, the TEWAs have been located adjacent to the waterbody. Although allowed under FERC's Wetland and Waterbody Procedures, these areas have been included in Table A.1-1 in Appendix A.1. The Forest Service has recommended that TEWA setbacks at stream crossings be greater than 50 feet in Riparian Reserves. As explained above, in areas of rugged topography, a larger setback would render the

TEWA useless for the stream crossing. Therefore, PCGP will utilize the TEWA setback requirements in FERC's Wetland and Waterbody Procedures.

**Major Waterbodies.** Major waterbodies (*i.e.*, greater than 100 feet in width) that will be crossed by the Pipeline are identified in Resource Report 2. To develop the crossing methods, PCGP previously consulted with appropriate federal and state agencies during the interagency Waterbody Crossing Methodologies Subgroup meetings. PCGP has prepared detailed, site-specific construction drawings with construction details for each of these waterbody crossings which identify the areas that will be disturbed by the proposed construction method including the areas necessary to fabricate the Pipeline for the crossing, stage equipment, store spoil, and construct the crossing. These drawings are included in Resource Report 2. The waterbody crossing drawings address navigational issues, where appropriate, and mitigation measures that will be implemented to minimize potential impacts. Sediment control structures at the crossings are shown in the site-specific construction drawings and on the Environmental Alignment Sheets.

**Minor and Intermediate Waterbodies.** If water is present in the streambed at the time of construction, PCGP will utilize a dry-ditch crossing method (flume or dam and pump) to cross all minor and intermediate waterbodies consistent with the requirements of Section V.B.6 of FERC's Wetland and Waterbody Procedures (see Table A.2-2). Fluming and dam and pump procedures that will be utilized to cross these waterbodies are provided in Resource Report 2. Resource Report 3 notes the waterbody crossing method determined for each waterbody and provides the rationale for the crossing method that was developed during the interagency Waterbody Crossing Methodologies Subgroup meetings.

**Hazardous materials, chemicals, fuels, and lubricating oils.** These materials will be stored in upland areas at least 100 feet (150 feet on federally managed lands) from waterbodies and wetlands or in accordance with FERC's Wetland and Waterbody Procedures. Restricted areas for storage of these materials will be clearly marked in the field. Concrete coating, refueling, and equipment maintenance activities will be conducted according to FERC's Wetland and Waterbody Procedures. Concrete trucks will not be washed on the right-of-way. All hazardous materials will be handled in accordance with the SPCC Plan and applicable regulations. If any unanticipated spill occurs during construction, PCGP will implement the procedures outlined in the SPCC Plan.

**Temporary Construction Bridges.** If water is present in any streambeds at the time of construction, PCGP will utilize temporary construction bridges during all phases of construction to cross these waterbodies. Except as noted below for Forest Service crossings, equipment bridges will not be installed on intermittent waterbodies which are dry at the time of construction. If a storm occurs which results in water in the streambed of the otherwise intermittent waterbody, no equipment will cross the waterbody until the streambed dries up or until a bridge is installed. As directed by the Forest Service during the interagency Waterbody Crossing Methodologies Subgroup meetings, all stream crossings on NFS Lands (whether intermittent or perennial, wet or dry) will have: 1) a bridge; 2) a temporary culvert with temporary road fill to be removed after work is completed; or 3) a low water ford with a rock mat.

Although FERC's Wetland and Waterbody Procedures (see Section V.B.5.a.) allow clearing equipment and equipment necessary for installation of the temporary bridges to cross waterbodies prior to bridge installation, PCGP will not allow clearing equipment to cross waterbodies prior to bridge placement. Instead, where feasible, PCGP's contractors will attempt to lift, span, and set the bridges from the streambanks. However, where it is not feasible to install or safely set the temporary bridges from the streambanks, only the equipment necessary to install the bridge or temporary support pier will cross the waterbody. Resource Report 3 provides PCGP's estimate of whether a temporary equipment bridge would be required; whether one pass of equipment is expected to be necessary; and whether the one pass could occur within the ODFW-recommended in-water period at each of the waterbody crossings. These estimates were developed during the interagency Waterbody Crossing Methodologies Subgroup meetings.

The bridging structures will be designed according to FERC's Wetland and Waterbody Procedures (Section V.B.5.b) as well as according to the COE, ODSL, ODEQ, ODFW, BLM, and Forest Service permit requirements or approvals. To provide equipment and material access up and down the construction right-of-way, it will be necessary to install equipment bridges outside the ODFW-recommended in-water construction windows.

The temporary equipment bridges will be constructed to maintain unrestricted flow and to prevent soil from entering the waterbody. Soil will not be used to stabilize equipment bridges. Bridges will be designed and maintained to withstand and pass the highest flow expected to occur while the bridge is in place. The highest flow expected will be determined during the season of construction and will take into account an evaluation of regional climate and physical conditions as well as existing historic stream-flow data and peak discharge statistics from nearby USGS gauging stations.

Where feasible, bridges will be designed to span the entire Ordinary High Water Mark ("OHWM") of the waterbody. If it is not possible to span the OHWM with a bridge, a temporary culvert or pier may be required. These culverts/piers would be installed to minimize flow restrictions that may deflect stream flow to banks to prevent streambank erosion or scour. The ECRP in Appendix B.1 (see Drawing 3430.34-X-0010) and Resource Report 2 provide additional details for temporary bridges and culverts. Temporary bridge materials, such as equipment mats, will be inspected and cleaned prior to being brought to the right-of-way to ensure they are clean of potential noxious weed propagules.

Temporary bridges will be set during clearing operations as well as during mainline construction. The temporary bridges set during clearing operations would generally (depending on site-specific conditions and construction schedules) be temporarily removed after clearing is complete and would not be left in place across a waterbody over the winter. During mainline construction the temporary bridges will be reset and will be removed as soon as possible after permanent seeding. If there will be more than one month between final cleanup and the beginning of permanent seeding and reasonable alternate access to the right-of-way is available, equipment bridges will be removed as soon as possible after final cleanup as required by FERC Wetland and Waterbody Procedures (Section V.B.5.f.).

**Sediment barriers** will be installed immediately after initial disturbance of the waterbody or adjacent upland as shown on Drawings 3430.34-X-0005 and 3430.34-X-0007 in the



project-specific ECRP (see Appendix B.1). Sediment barriers will be properly maintained throughout construction and reinstalled as necessary (such as after backfilling of the trench) until replaced by permanent erosion controls or restoration of adjacent upland areas is complete.

**Waterbody trench backfill.** All waterbodies supporting coldwater fisheries will be backfilled with material removed from the trench with the upper 1-foot of the trench backfilled with clean gravel or native cobbles. PCGP proposes to modify Section V.C.1. of FERC's Wetland and Waterbody Procedures in fish-bearing streams that do not have gravel, cobble or other rock substrates (see Table A.1-1 in Appendix A.1) prior to construction. This modification is proposed because many of the streams crossed by the Pipeline are remote and are located in steep valley or ravine bottoms. Therefore, hauling rock to these streams is impractical especially where these streams do not have these substrate characteristics prior to construction. The bottom and banks will be returned to approximate preconstruction contours; banks will be stabilized; and temporary sediment barriers will be installed before returning flow to the waterbody channel.

**Maintenance.** During operation of the Pipeline, vegetation maintenance adjacent to waterbodies will be limited to allow for a riparian strip on private lands, as measured from the waterbody's mean high water mark, to permanently revegetate across the entire right-of-way for a width based on Oregon Department of Forestry's Riparian Management Area widths, which are based on stream size and type, with the exception of maintenance clearing requirements noted below. On BLM-managed and NFS lands where Riparian Reserves are affected, a 100-foot riparian strip (or less if the preconstruction riparian vegetation did not extend to 100 feet) will be planted perpendicular to the waterbody on both sides of the waterbody. However, to facilitate periodic Pipeline corrosion/leak surveys, a corridor centered on the Pipeline and up to 10 feet wide will be maintained in an herbaceous state. Trees that are located within 15 feet of the Pipeline will be cut and removed from the right-of-way. Drawings 3430.34-X-0016 and -0017 provided in the ECRP (see Appendix B.1) illustrate the maintenance corridor along streams described in this section. It should be noted that PCGP will only maintain 30 feet of the permanent Pipeline easement (15 feet either side of the Pipeline centerline) which will significantly minimize the impacts to forested riparian areas (see Drawings 3430.34-X-0016 and -0017 in the ECRP, Appendix B.1). Herbicides will not be used in or within 100 feet of a waterbody's mean high water mark.

### 1.3.1.5 Wetland Crossings

Wetland surveys have been completed for approximately 89.0% of the Proposed Route. The Wetland Delineation Report is included as an appendix to Resource Report 2. Including all of the waterbodies, the Proposed Route will cross approximately 6.4 miles of wetlands (see Resource Report 2 for a complete description of the waterbody and wetlands crossed by the Pipeline).

Consistent with FERC's Wetland and Waterbody Procedures, PCGP has, where feasible, limited the width of the construction right-of-way through jurisdictional wetlands to 75 feet or less. Where topographic conditions or other features or constraints require additional construction right-of-way widths, PCGP has requested proposed modifications (see Table A.1-1 in Appendix A.1). The wetlands crossed by the Pipeline are shown on the Environmental Alignment Sheets, Appendix H.1.

All TEWAs have been located at least 50 feet away from wetland boundaries according to FERC's Wetland and Waterbody Procedures, except where site-specific conditions prevent the setback. Where the TEWAs could not be set back 50 feet, they have been identified as site-specific proposed modifications and described in Table A.1-1 in Appendix A.1.

During construction, all vegetation clearing will be restricted to the certificated construction right-of-way. Where feasible, the only access roads that will be used in wetlands are those existing roads that can be used with no modifications and without impacting the wetlands. To minimize impacts associated with the Pipeline, PCGP will utilize the measures addressed in FERC's Wetland and Waterbody Procedures as specified in Resource Report 2.

During Pipeline operations, PCGP will control vegetative growth in wetlands in accordance with the post-construction maintenance measures addressed in FERC's Wetland and Waterbody Procedures, Section VI.D.

### **1.3.2 Aboveground Facility Construction**

Typical construction activities associated with meter stations and the compressor station are summarized below. Construction of the mainline block valves will be the same as those described for the Pipeline facilities, except that these valve sites will be graveled and fenced.

#### **1.3.2.1 General**

Construction activities and storage of construction materials and equipment will be confined to areas within the meter station and compressor station sites and designated TEWAs, if any. Debris and waste generated from construction will be disposed of in accordance with federal, state, and local regulations. All surface areas disturbed will be restored or graveled in a timely manner or within 20 days of final site work.

#### **1.3.2.2 Foundations**

Excavation will be performed as necessary to accommodate the new reinforced concrete foundations for meter and compressor station equipment. Forms will be set, rebar installed, and the concrete poured, finished, and cured in accordance with applicable standards. Concrete pours will be randomly sampled to verify compliance with minimum strength requirements. Backfill will be compacted in place, and excess soil will be used elsewhere or distributed around the site.

#### **1.3.2.3 Equipment**

The meter and compressor station equipment will be shipped to the site by truck. The equipment will be off-loaded using booms, lifts, or cranes. The equipment will then be positioned on the foundation, leveled, grouted (if necessary), and secured with anchor bolts.

#### **1.3.2.4 Piping**

All non-screwed piping associated with the meter and compressor stations will be welded, except where connected to flanged components. All welders and welding procedures will be qualified in accordance with American Petroleum Institute (API) standards. All welds in high-pressure gas piping systems will be visually inspected and radiographically tested (or other non-destructive testing method) to ensure compliance with code requirements.

### 1.3.2.5 Testing

All components in high-pressure natural gas service will be strength tested prior to placing in service. Before being placed in service, all controls and safety equipment and systems will be checked and tested.

### 1.3.2.6 Mainline Block Valve Assemblies

In all cases, mainline block valves will be installed within PCGP's permanent easement. The installation of the mainline block valves will meet the same standards and requirements established for Pipeline construction.

### 1.3.3 Proposed Modifications from FERC's Plan and Procedures

PCGP has made every effort to comply with FERC's Upland Plan and Wetland and Waterbody Procedures over the majority of the Proposed Route; however, there are several locations where modifications are necessary. The locations for which PCGP is requesting FERC to approve proposed modifications are provided in Table A.1-1 in Appendix A.1. They are listed in milepost order from west to east. Consistent with Section V.B.2.a. of FERC's Wetland and Waterbody Procedures, where the uplands adjacent to a waterbody consist of actively cultivated or rotated cropland or other disturbed land, the TEWAs may be located adjacent to the waterbody. Although a modification is not required in these locations, they have been included in Table A.1-1 for documentation purposes.

### 1.3.4 Schedule

PCGP anticipates starting construction in fourth quarter 2019 when civil surveys and access road improvements will be initiated. PCGP plans to conduct clearing in some forested areas starting in 2020 prior to mainline construction in 2021. Horizontal directional drills of five waterbodies (Coos Bay Estuary/2 crossings; Coos River; Rogue River; and Klamath River) and Direct Pipe® installation technology for a sixth waterbody (South Umpqua River) are scheduled for 2021. A sixth HDD to avoid severe steep side-slope on a narrow ridgeline parallel to an existing powerline easement containing two large power transmission lines and the Coos County gas transmission pipeline between them is proposed at MP 25. Figure 1.3-2 provides a general schedule for the Pipeline.

Mainline and facility construction is planned to begin spring 2021 with the in-service date scheduled for fourth quarter 2022. Restoration of construction disturbance in each given area is expected to begin once construction is completed in that area; restoration would be completed by the end of the winter season when forest, wetland, and riparian plantings would be installed. Depending on site-specific conditions, it may be necessary to continue restoration through the spring. Timber clearing in areas of NSO and MAMU would be conducted outside the critical breeding seasons<sup>5</sup>. Construction activities are scheduled to take advantage of the drier periods of the year to minimize winter construction, to reduce potential environmental impacts and construction safety risks.

PCGP plans to conduct forest clearing starting fourth quarter 2020 prior to mainline construction, to minimize overall work space and temporary extra work area (TEWA) requirements. TEWA requirements have been minimized by proposing a two-year

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<sup>5</sup> Timber clearing in areas of active NSO sites would occur between 10/1 and 2/28 and in areas of known MAMU between 9/16 and 3/31.

construction window because the same work areas used to stage right-of-way logging timber clearing activities and provide log storage and decking space would then be utilized for pipeline construction activities. Logging concurrently with pipeline construction would require additional space to work safely and efficiently. Scheduling clearing and mainline pipeline construction activities over a two-year period will minimize winter construction requirements resulting from seasonal and biological construction windows. The detailed schedule for clearing activities will include areas of known seasonal restrictions along the route. Temporary erosion control and stabilization measures will be installed where necessary in areas of disturbance. These measures will be maintained throughout construction until the Pipeline is in-service and disturbed areas are stable.

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## 1.4 OPERATION AND MAINTENANCE

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PCGP will test, operate, and maintain the Pipeline facilities in accordance with PHMSA regulations, including those provided in 49 CFR Part 192; FERC's regulations at 18 CFR 380.15; and maintenance provisions of FERC's Upland Plan and Wetland and Waterbody Procedures. The Pipeline right-of-way will be clearly marked where it crosses public roads, waterbodies, fenced property lines, and other locations as necessary. All Pipeline facilities will be marked and identified in accordance with applicable regulations (see Resource Report 11).

Pursuant to 49 CFR § 192.625(b)(1), PCGP is not required to add odorant to the gas it receives from the two gas transmission pipelines delivering gas to PCGP for transportation and delivery to Jordan Cove. In the event a local distribution system acquires gas service from the Pipeline in the future, the local distribution company would be responsible for odorization of their system if required.

The Pipeline will be protected from corrosion using a cathodic protection ("CP") system, which will be installed following construction. The CP system will generally consist of a number of sites where a rectifier/anode bed is installed and electrically connected by a conductor to the Pipeline. Each site will use power from the local electrical utility to impress current on the Pipeline. These sites will typically be installed along the Pipeline at intervals of approximately 30-40 miles and usually in previously disturbed areas near the permanent right of way. The Corrosion Control Plan, included as Appendix F to the POD (Appendix F.1), contains additional information on PCGP's corrosion control methods and cathodic protection system. Monitoring and maintenance of the cathodic protection system will be accomplished in compliance with the appropriate regulations at least once per calendar year but with intervals not to exceed 15 months. Problems detected through the monitoring program will be corrected promptly and checked in a follow-up survey no later than 12 months after the initial discovery. Recording and transmitting pressure and temperature data will be controlled and/or monitored by the gas control monitoring system.

No herbicides will be used for brush control to maintain the permanent Pipeline easement. Vegetation at aboveground facilities will be periodically maintained using mowing, cutting, trimming, and herbicides (selectively). Vegetation within the permanent easement will be periodically maintained by mowing, cutting, and trimming (either by mechanical or hand methods). The permanent easement will be maintained in a condition where trees or shrubs greater will be controlled (cut or trimmed) within 15 feet either side of the centerline (for a total of 30 cleared feet). Maintenance activities are

expected to occur approximately every 3 to 5 years depending on the growth rate. During maintenance, vegetation will be cut/trimmed in 4 to 6-foot lengths and scattered across the permanent easement to naturally decompose and to discourage OHV traffic. Occasionally where site conditions allow, chipping of this material may also occur. PCGP believes that the slash materials generated and scattered across the permanent easement during maintenance activities would not exceed the fuel loading specifications provided in Section 1.3.1.1.9.

If noxious weed infestation occurs on the permanent easement, selective use of herbicides would be used to control these species. All use of herbicides at aboveground facilities or on the permanent easement will be in accordance with federal, state, and local regulations and land managing agency requirements as well as landowner approval and will be consistent with FERC's Upland Plan and Wetland and Waterbody Procedures. The Noxious Weed Control Plan, provided in Section 12 of the ECRP (see Appendix B.1), and the Integrated Pest Management Plan (see Appendix N to the POD, Appendix F.1) provide additional details regarding noxious weed control on the permanent easement.

If OHV use on the permanent easement causes damage and erosion, PCGP will install or maintain OHV barriers or controls where necessary as specified in Section 1.3.1.2.15. PCGP will allow timber removal from the permanent easement; however, to ensure safety, PCGP will require a work plan including notification and information regarding the location, proposed activities, type of equipment, and weight-loading to ensure the Pipeline is not adversely affected. PCGP discourages digging, blading, grading, or similar activities over the permanent easement. Excavation of any type by a landowner or third party must utilize the One-Call System to notify PCGP prior to the activity.

Generally, repair of erosion control structures, drain tiles, and the need for additional fill may be required in the first year or two following construction in areas where the trench may have settled. Depending on the location of the trench settlement, minor repairs of waterbars or drain tiles may be necessary because the settlement could affect the drainage or proper function of these features and regrading and/or addition of fill material may be necessary. Erosion control structures, drain tiles, and the need for additional fill will be assessed by operations personnel along the right-of-way during routine inspections. Areas susceptible to damage from large storm events will be inspected and repaired as appropriate depending on the nature of damage. In addition, any areas of concern that are brought to the attention of the pipeline operator will be assessed and repaired as necessary. Waterbody crossings will be inspected periodically. A supply of emergency replacement pipe, leak repair clamps, sleeves, and related materials will be stored at the local district office locally for repair activities.

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## **1.5 FUTURE PLANS AND ABANDONMENT**

At this time, PCGP has no plans for future expansion or abandonment of the facilities.

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## **1.6 PERMITS, APPROVALS AND REGULATORY REQUIREMENTS**

Table 1.6-1 provides a list of permits, approvals, and consultations required for construction and operation of the project. Anticipated application dates and agency contacts are provided in the table.

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## 1.7 AFFECTED LANDOWNERS

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Names and addresses of all affected landowners, towns, communities, and local, state, and federal governments and agencies involved with the Project are included in Appendix D.1. Affected landowners as defined in 18 CFR § 157.6(d)(2) include property owners directly affected (*i.e.*, property crossed or used) by the proposed activity, adjacent landowners (landowners not directly affected but whose properties abut the edge of a proposed facility site or right-of-way that runs along a property line in the area in which the proposed facilities are to be constructed, or contains a residence within 50 feet of the proposed construction work area), landowners with property within 0.5 mile of proposed compressor stations or LNG terminals, tanks, and other facilities, and property owners within the area of proposed storage fields.

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## 1.8 NONJURISDICTIONAL FACILITIES

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Non-jurisdictional facilities associated with the Pipeline are limited to utilities required for the meter stations, the compressor station, and gas control communications.

Under certain circumstances, non-jurisdictional facilities may be subject to FERC's environmental review. In making this determination, FERC requires applicants to address four factors that indicate the need for FERC to do an environmental review of project-related non-jurisdictional facilities. These factors include:

1. Whether or not the regulated activity comprises "merely a link" in a corridor-type project (such as a transportation or utility transmission project);
2. Whether there are aspects of the non-jurisdictional facility in the immediate vicinity of the regulated activity that affect the location and configuration of the regulated activity;
3. The extent to which the entire project will be within FERC's jurisdiction; and
4. The extent of cumulative federal control and responsibility.

Analysis of the factors listed above weighs against the FERC treating the utilities as a jurisdictional component of the Pipeline.

The Pipeline scope currently includes interconnections with two interstate gas transmission pipeline systems. Consequently all facilities and actions necessary to effectuate these interconnections are jurisdictional.

Utilities for the Klamath Compressor Station include electricity, water, and telecommunications. Electricity will be supplied by Pacific Power. Although Pacific Power has a distribution line immediately adjacent to the compressor station, upgrades are required to both the Pacific Power distribution system and substation in order to provide the required power to the compressor station. However, other than the extension of three phase distribution onto the compressor station property, Pacific Power does not anticipate disturbance will be required in new areas outside of the existing road right-of-way or existing Pacific Power right-of-way or fenced facilities. Water will be provided from water wells located on property owned by PCGP, immediately adjacent to the compressor station. Telecommunications will be provided by Cal-Ore Telecommunications and will require a short tie-in from the service available immediately

adjacent to the compressor station. PCGP is currently investigating the possibility of another provider of telecommunications services to provide redundancy.

The Jordan Cove Meter Station utilities include electricity and telecommunications. Electricity will be supplied by Pacific Power through a connection to an existing powerline located adjacent to the Trans Pacific Lane southwest of Ingram Yard. Telecommunications will be supplied from three existing networks: one fiber optic connection will be provided by ORCA Communications; one fiber optic connection will be provided by LS Networks; and one telecommunications connection will be provided by Frontier Communications through extensions of fiber optic and cable that will provide voice and data services to the Southwest Oregon Regional Safety Center, which is being constructed by JCEP.

Electrical power will be required at the automated mainline valve facilities. These facilities have been located near available electrical power facilities that would require a simple tie-in. If it were to become necessary, in lieu of purchased power, thermal power generation equipment would be installed to provide electricity for the minimal power requirement at these sites. Electrical power will also be required at the communication tower sites not located on the pipeline right-of-way. As these will be located at existing communication tower sites, short tie-ins will be required from the existing power available at these sites

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## **1.9 CUMULATIVE IMPACTS**

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The Cumulative Impact Analysis for the Project (LNG Terminal and Pipeline) is provided in JCEP Resource Report Appendix B.1.

**Table 1.6-1**  
**Permits and Approvals Necessary for Construction and Operation**

Agency	Permit/Approval	Contact	Filing Date	Approval/ Anticipated Approval
<b>Federal</b>				
U.S. Department of Energy (DOE)	Order Granting Long Term, Multi-Contract Authorization to Export Natural Gas to Free Trade Agreement Nations under Section 3 of the Natural Gas Act	Amy Sweeney (202) 586-2627 1000 Independence Ave., SW Room 3E-052 Washington, D.C. 20585	September 2011	Received December 7, 2011 <sup>6</sup>
	Order Conditionally Granting Long-Term Multi-Contract Authorization To Export Liquefied Natural Gas To Non-Free Trade Agreement Nations under Section 3 of the Natural Gas Act.	Amy Sweeney (202) 586-2627 1000 Independence Ave., SW Room 3E-052 Washington, D.C. 20585	March 2012	Conditionally received March 24, 2014 <sup>1</sup>
Federal Energy Regulatory Commission	Section 7 of the Natural Gas Act – issuance of Certificate of Public Convenience and Necessity	John Peconom (202) 502-6352 888 First St., NE Washington, D.C. 20426	September 2017	November 2018
	Section 3 of the Natural Gas Act – order granting Section 3 authorization		September 2017	November 2018
FERC (as lead agency)	National Historic Preservation Act § 106 Review/Memorandum of Agreement among federal agencies, consulting parties, and SHPO	Paul Friedman (202) 502-8059 888 First St., NE Washington, D.C. 20426	September 2017	November 2018
FERC (as lead agency)	National Environmental Policy Act Review - EIS	John Peconom (202) 502-6352 888 First St., NE Washington, D.C. 20426	September 2017	August 2018

<sup>6</sup> JCEP will submit an amendment to the FTA authorization and pending non-FTA authorization to reflect the new export capacity of the LNG Terminal and will confirm receipt of such authorizations prior to construction.



Agency	Permit/Approval	Contact	Filing Date	Approval/ Anticipated Approval
U.S. Army Corps of Engineers	Clean Water Act – issuance of permit under Section 404 to allow placement of dredge or fill material into waters of the United States	Tyler Krug Regulatory Project Manager 541-756-2097 tyler.j.krug@usace.army.mil North Bend Field Office 2201 N. Broadway, Suite C North Bend, OR 97459	October 2017	November 2018
	Section 10 of the Rivers and Harbors Act – permit issued to allow structures or work in or affecting navigable waters of the United States			
	Section 408 of the Clean Water Act – issuance of permit allowing the occupation or alteration of Army Corps of Engineers civil works projects	Marci Johnson U.S. Army Corps of Engineers P.O. Box 2946 Portland, OR 97285 (503) 808-4765	September 2017	November 2018
U.S. Coast Guard (USCG)	Letter of Recommendation and Letter of Recommendation Analysis under the Ports and Waterway Safety Act	Captain Timmons USGS Sector Columbia River 2185 SE 12 <sup>th</sup> Place Warrenton, Oregon 97146	April 2006	December 2017
U.S. Fish and Wildlife Service	Endangered Species Act – consultation under Section 7 and issuance of biological opinion	Joe Zisa 503-231-6179 joe_zisa@fws.gov Oregon Fish and Wildlife Office 2600 SE 98 <sup>th</sup> Ave., Ste. 100 Portland, OR 97266	September 2017	November 2018
	Fish and Wildlife Coordination Act – consultation with federal agencies to prevent loss or damage to wildlife resources		September 2017	November 2018
	Migratory Bird Treaty Act Review		September 2017	

Agency	Permit/Approval	Contact	Filing Date	Approval/ Anticipated Approval
National Marine Fisheries Service	ESA Section 7 Consultation – issuance of biological opinion	Chuck Wheeler Fisheries Biologist 541-957-3379 chuck.wheeler@noaa.gov 2900 Stewart Parkway Roseburg, OR 97471	September 2017	November 2018
	Magnuson-Stevens Fishery Conservation and Management Act consultation on Essential Fish Habitat		September 2017	November 2018
	Marine Mammal Protection Act – Issuance of Incidental Harassment Authorization	Jordan Carduner 1315 East West Highway Silver Spring, MD 20910	October 2017	November 2018
Federal Aviation Administration (FAA)	Determination of No Hazard to Air Navigation pursuant to 14 CFR Part 77.	Dan Shoemaker 1601 Lind Ave SW Renton, WA 98055 (425) 227-2791	October 2017	Prior to Construction
USDOI Bureau of Land Management	Mineral Leasing Act – issuance of Right-of-Way Grant	Miriam Liberatore Planning and Environmental Coordinator 541-618-2412 mliberat@blm.gov 3040 Biddle Road Medford, OR 97504	October 2017	November 2018
	Mineral Leasing Act – issuance of Temporary Use Permit			
	Federal Land Policy and Management Act - Amendments to Resource Management Plans			
USDA Forest Service	Mineral Leasing Act - Right-of-Way Grant Letter of Concurrence	David Krantz PCGP Project Manager 541-618-2082 dkrantz@fs.fed.us 3040 Biddle Road Medford, OR 97525	October 2017	November 2018
	Federal Land Policy and Management Act - Amendments to Existing Forest Plans			

Agency	Permit/Approval	Contact	Filing Date	Approval/ Anticipated Approval
USDI Bureau of Reclamation	Right-of-Way Grant Letter of Concurrence	Lila Black 541-880-7510 lblack@usbr.gov Klamath Basin Area Office 6600 Washburn Way Klamath Falls, OR 97603	October 2017	November 2018
	Letter of Consent covering lands on which BOR has reserved rights or acquired easements			
Tribal				
Confederated Tribes of Coos, Lower Umpqua, and Siuslaw Indians	FERC to consult with the Tribes under NHPA Section 106	Ms. Stacy Scott 541-888-9577x7513 sscott@ctclusi.org 1245 Fulton Avenue Coos Bay, OR 97420	FERC to initiate after receipt of applications	November 2018
Coquille Indian Tribe		Kassandra Rippee 541-756-0904x10216 kassandraripee@coquilletribe.org 3050 Tremont Street North Bend, OR 97459		
Cow Creek Band of Umpqua Indians		Mr Dan Courtney (541) 672-9405 dlcourtney5431@msn.com 2371 Stephens Street, Suite 500 Roseburg, OR 97470		
The Klamath Tribes		Mr. Perry Chocktoot Culture & Heritage Director 541-783-2219x159 Perry.Chocktoot@klamathtribes.com P.O. Box 436 Chiloquin, OR 97624		
Confederated Tribes of the Siletz Indians		Mr. Robert Kentta Cultural Resources Director 541-444-2532 rkentta@ctsi.nsn.us P.O. Box 549 Siletz, OR 97380		

Agency	Permit/Approval	Contact	Filing Date	Approval/ Anticipated Approval
Confederated Tribes of the Grand Ronde Community		David Harrelson 503-879-1630 david.harrelson@grandronde.org 9615 Grand Ronde Road Grand Ronde, OR 97347		
<b>State</b>				
Oregon Division of State Parks Office of Historic Preservation	National Historic Preservation Act – Section 106 Consultation	John Pouley Assistant State Archaeologist 503-986-0675 john.pouley@oregon.gov 725 Summer St. NE, #C Salem, OR 97301	Initiated by FERC upon receipt of application	November 2018
Oregon Department of Environmental Quality	CWA 401 Water Quality Certification	Mary Camarata 541-687-7435 camarata.mary@deq.state.or.us 165 East 7 <sup>th</sup> Ave., Ste. 100 Eugene, OR 97401	October 2017	October 2018
	Clean Air Act – issuance of Title V Operating Air Permit		To be filed one year after operation.	Within 1 year of filing
	Clean Water Act – issuance of permit under the National Pollutant Discharge Elimination System (“NPDES”) - 1200A General Permit for Concrete Batch Plant		Prior to construction	Prior to construction
	Clean Water Act – issuance of NPDES - 1200-C General Permit for any Contiguous Sites		Prior to construction	October 2018
	Clean Water Act – issuance of NPDES Wastewater Permit for current site conditions – allows discharge of treatment of leachate from landfill through the ocean outfall		Renewed July 26, 2015. Expires June 30, 2020	Issued

Agency	Permit/Approval	Contact	Filing Date	Approval/ Anticipated Approval
	CWA 402 NPDES Construction Stormwater Permit		Prior to construction	Prior to construction
	CWA 402 NPDES Operating Stormwater Permit		Prior to operation	Prior to operation
	CWA 402 NPDES Water Pollution Control Facility (WPCF) – Hydrostatic Test Water		Prior to operation	Prior to operation
	Type B NSR Air Permit for LNG Terminal		Updated filed September 2017	Approved June 2015/October 2018
	Air Contaminant Discharge Permit for Compression Facilities		Modifying pending application October 2017	October 2018
Oregon Department of Water Resources	Permit to Appropriate Water	Jerry K. Sauter Water Rights Program Analyst 503-986-0817 jerry.k.sauter@state.or.us Water Right Services Division 725 Summer Street NE, Ste. A Salem, OR 97301	Prior to operation	Prior to operation
Oregon Department of Fish and Wildlife	In-Water Blasting Permit Fish Passage	Sarah Reif Energy Coordinator, Wildlife Division 503-947-6082 sarah.j.reif@state.or.us 4034 Fairview Industrial Drive SE Salem, OR 97302	October 2017	October 2018
	Fish Passage Approval	Greg Apke 4034 Fairview Industrial Dr. SE Salem, OR 97302 503-947-6228 Greg.d.apke@state.or.us	December 2017	October 2018
Oregon Department of Transportation	State Highway Crossing Permit	Roger B. Allemand Permit Specialist – District 8	Prior to construction	Prior to construction

Agency	Permit/Approval	Contact	Filing Date	Approval/ Anticipated Approval
	Railroad Flagging Permit	541-774-6360 roger.b.allemant@odot.state.or.us	Prior to Construction	Prior to construction
	Oversize Load Permit	Dave Wells Permit Specialist – District 7 541-957-3588 david.wells@odot.state.or.us	Prior to Construction	Prior to construction
	Overweight Load Permit		Prior to Construction	Prior to construction
	Street Use Permit		Prior to Construction	Prior to construction
Oregon Department of State Lands	Joint Permit with the USACE Removal/Fill Permit	Bob Lobdell  503-986-5282 bob.lobdell@state.or.us 775 Summer Street NE, Ste. 100 Salem, OR 97301	October 2017	October 2018
	Proprietary easements and licenses for land access and gravel use		October 2017	October 2018
	Wetland Report Concurrence	Lynne McAllister Jurisdiction Coordinator 503-986-5300 lynne.mcallister@state.or.us 775 Summer Street NE, Ste. 100 Salem, OR 97301	October 2017	October 2018
Oregon Department of Land Conservation and Development	Coastal Zone Management Consistency Determination	Elizabeth Ruther 503-934-0029 elizabeth.j.ruther@state.or.us 635 Capitol Street, Suite 150 Salem, Oregon 97301-2540	November 2017	October 2018
Oregon Department of Forestry	Operate Mechanical Equipment	Josh Barnard Field Support Unit Manager 503-945-7493 josh.w.barnard@oregon.gov 2600 State Street, Bldg. A Salem, OR 97310	Prior to Construction	Prior to Construction
	Written Plan & Alternate Plan			
Oregon State Building Codes Division (BCD)	Building Permits – for various permanent structures.	Mark Long (503) 373-7235	Prior to Construction	Prior to Construction
BCD	Temporary Building Permit – for any temporary structures.	Mark Long (503) 373-7235	Prior to Construction	Prior to Construction

Agency	Permit/Approval	Contact	Filing Date	Approval/ Anticipated Approval
Oregon State Historic Preservation Office (SHPO)	Section 106 Consultation	John O. Pouley 503-986-0675	September 2017	November 2018
<b>County</b>				
City of North Bend Planning Department	Conditional Use Permit (for pipeline in City of North Bend)	Chelsea Schnabel City Planner City of North Bend (541) 756-8535 cschnabel@northbendcity.org 835 California Avenue North Bend, OR 97459	October 2017	May 2018
Coos County Planning Department	Conditional Use Permit	Jill Rolfe 541-396-7770 jrolfe@co.coos.or.us Coos County Planning Department 225 N. Adams Coquille, OR 97423		Approved 2016
Douglas County Planning Department	Conditional Use Permit	Cheryl Goodhue Planning Department 541-440-4289 cagoodhu@co.douglas.or.us Douglas County Courthouse Justice Building – Room 106 Roseburg, OR 97470		Approved 2010 and 2014
Klamath County Planning Department	Conditional Use Permit – Compressor Station	Mark Gallagher Planning Director 541-883-5121x3064 mgallagher@co.klamath.or.us 305 Main Street Klamath Falls, OR 97601		Approved 2015

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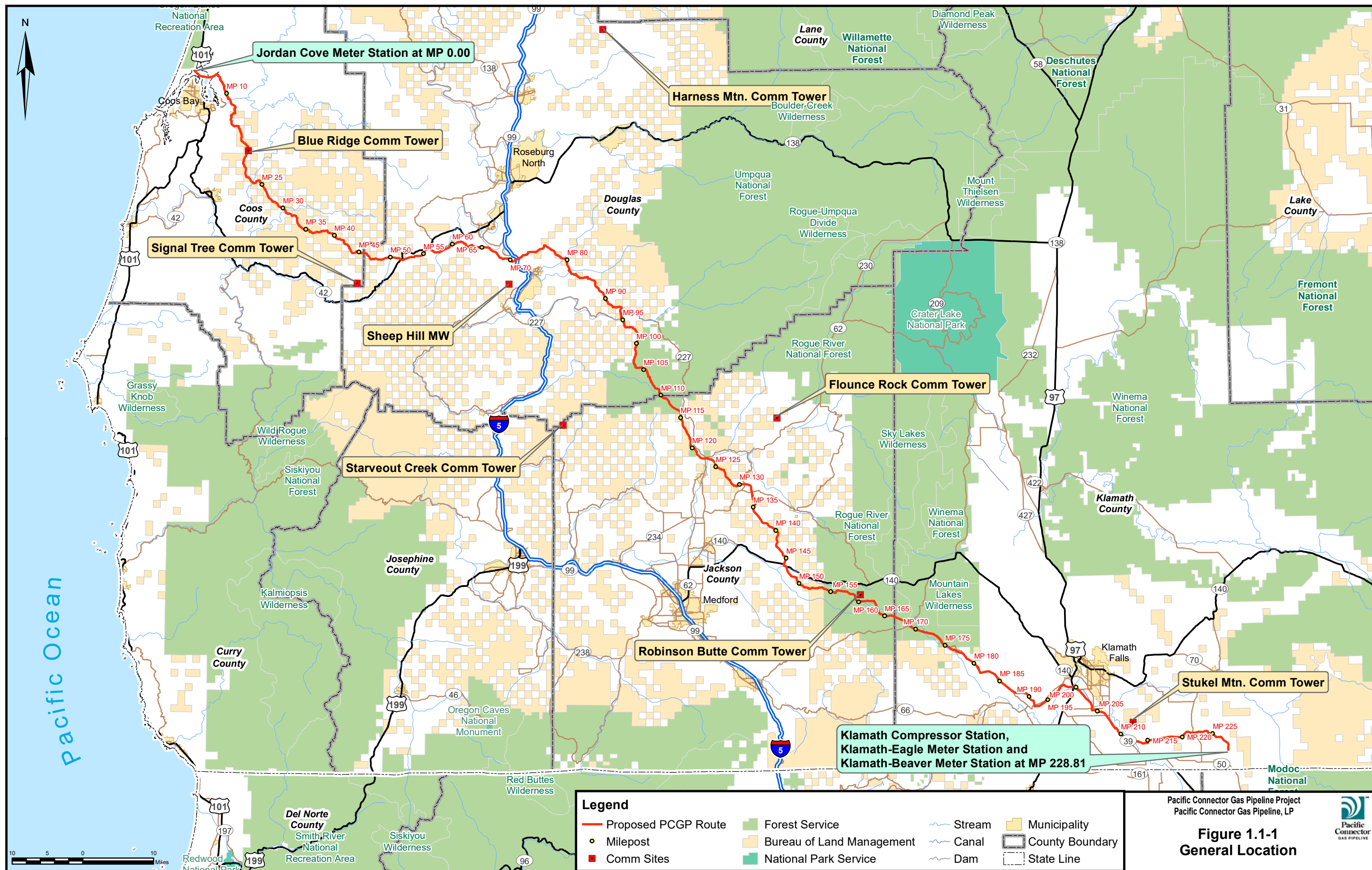
## 1.10 REFERENCES

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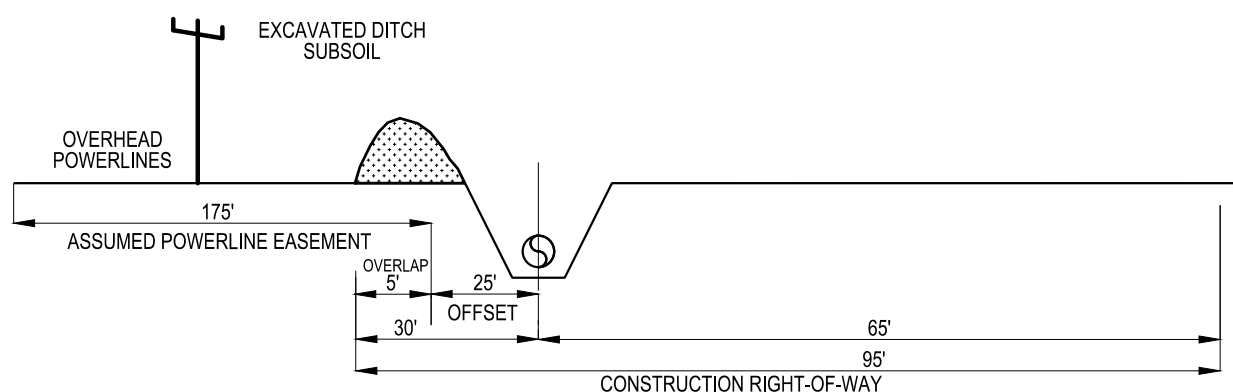
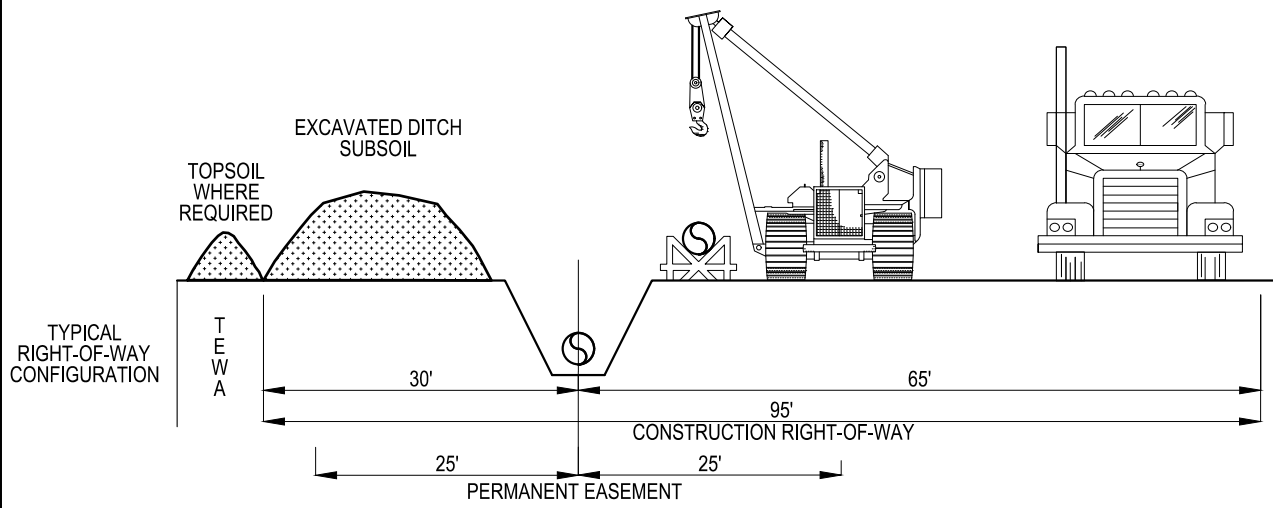
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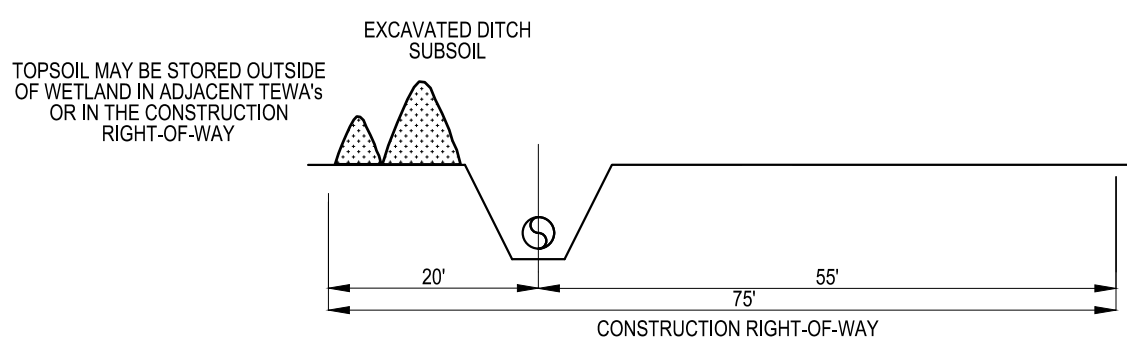
**Figure 1.1-1  
General Location**



**Figure 1.2-1**  
**Typical Construction Right-of-Way Configuration**



TYPICAL RIGHT-OF-WAY CONFIGURATION (SHARED FOREIGN UTILITIES)



TYPICAL RIGHT-OF-WAY CONFIGURATION (THROUGH WETLANDS)

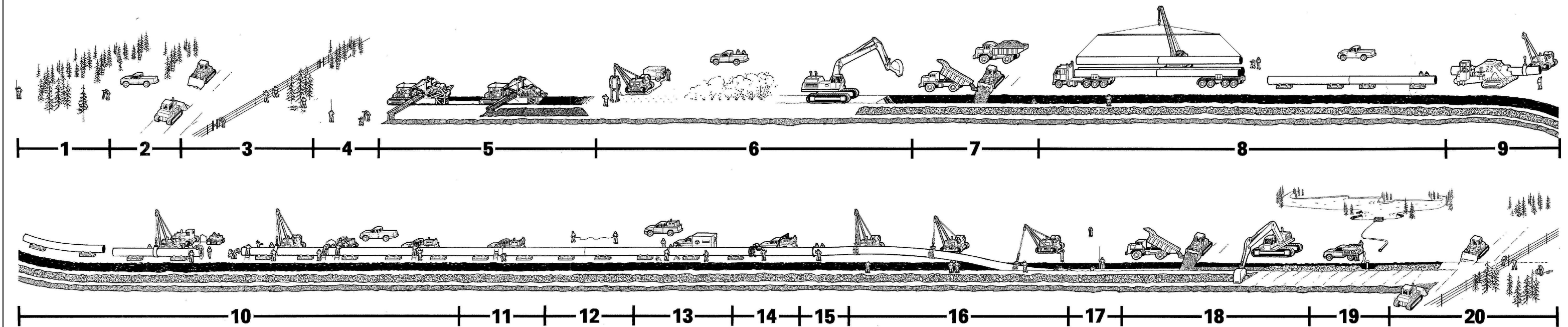
FIGURE 1.2-1  
PACIFIC CONNECTOR GAS PIPELINE  
TYPICAL RIGHT-OF-WAY  
CROSS SECTIONS



NO.	DATE	BY	REVISION DESCRIPTION	W.O. NO.	CHK.	APP.	DRAWN BY: KJL	DATE: 2-13-2017	ISSUED FOR BID:	SCALE: NONE
							CHECKED BY:	DATE:	ISSUED FOR CONSTRUCTION:	
							APPROVED BY: RA274	DATE:	DRAWING NUMBER: 3430.34-X-9001	SHEET OF
									%TIME% %PATH%	

**Figure 1.3-1**  
**Typical Construction Sequence**

# GENERAL PIPELINE CONSTRUCTION SEQUENCE



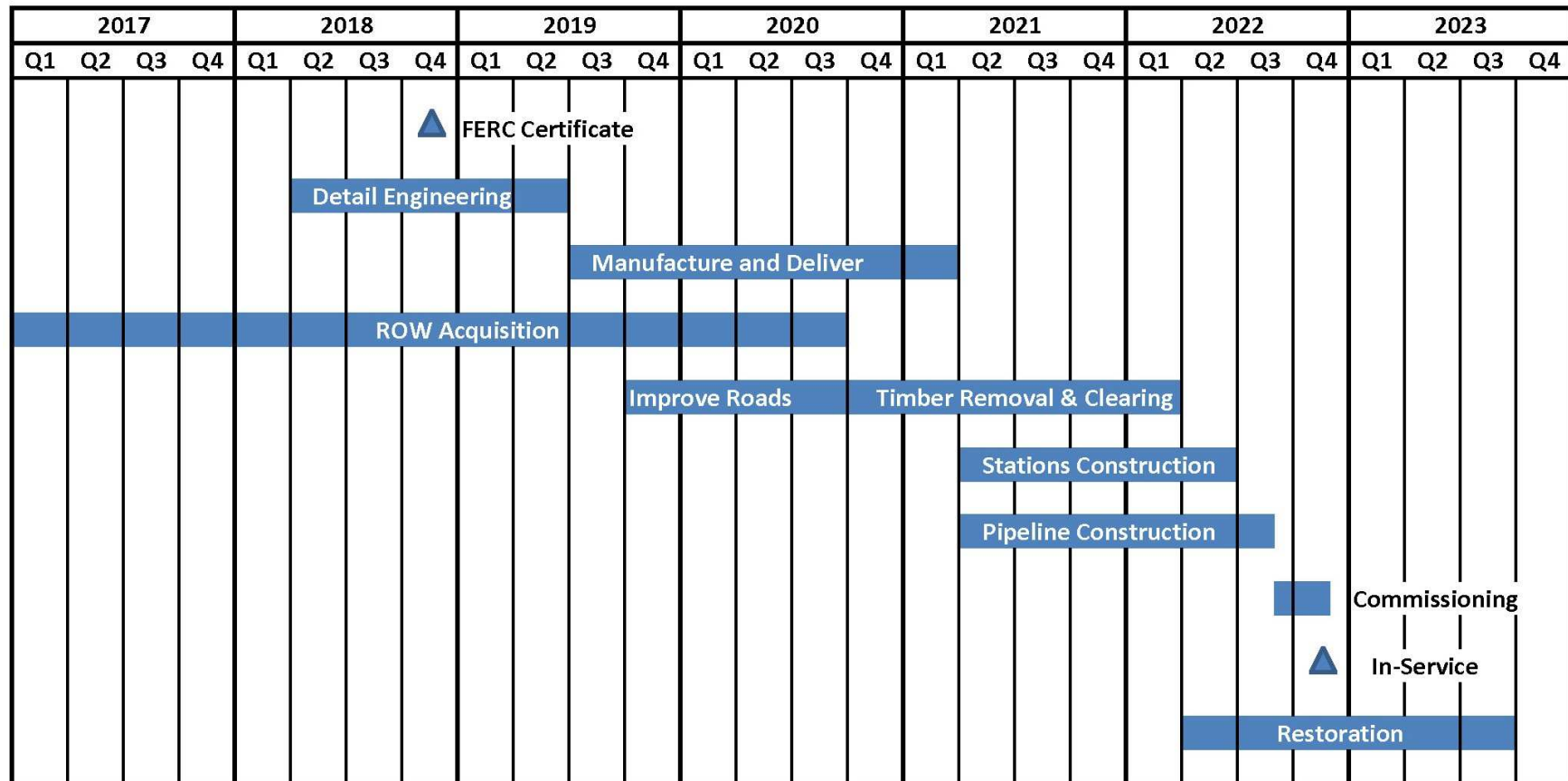
1. Right-of-Way Survey
2. Clearing, Erosion Control Installation and Grading
3. Fencing
4. Centerline Survey of Ditch
5. Ditching (Rock-Free)
6. Ditching (Rock)

7. Padding Ditch Bottom
8. Stringing
9. Bending
10. Line Up, Stringer Bead and Hot Pass
11. Fill and Cap Weld
12. As-Built Footage

13. X-Ray and Weld Repair
14. Coating Field and Factory Welds
15. Inspection (Jeeping) and Repair of Coatings
16. Lowering and Tie-Ins
17. As-Built Survey
18. Pad and Backfill
19. Test and Final Tie-In
20. Replace Topsoil, Clean-Up and Revegetation



## PCGP Schedule



**Figure 1.3-2**  
**Pipeline Construction Schedule**

**CERTIFICATE OF SERVICE**

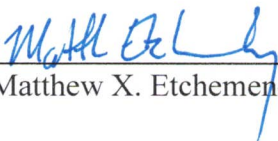
I, Matthew X. Etchemendy, certify and declare:

On June 5, 2020, pursuant to the scheduling order of April 8, 2020 and the agreement of the parties, I served a true and correct copy of the document to which this certificate is attached on the following via electronic mail:

Steven Shipsey  
Assistant Attorney General  
State of Oregon  
Department of Justice  
100 SW Market St.  
Portland, OR 97201  
steve.shipsey@state.or.us

I certify under penalty of perjury that the foregoing is true and correct.

SIGNED on June 5, 2020 at Washington, D.C.

  
\_\_\_\_\_  
Matthew X. Etchemendy