UNITED STATES OF AMERICA
DEPARTMENT OF ENERGY
OFFICE OF FOSSIL ENERGY

Jordan Cove Energy Project L.P.	**)**	**FE Docket No. 12-32-LNG**

ANSWER OF JORDAN COVE ENERGY PROJECT L.P. TO PROTESTS

Pursuant to Section 590.304(f) of the Department of Energy's ("DOE") regulations,[1] Jordan Cove Energy Project L.P. ("JCEP") hereby answers the protests filed in response to JCEP's February 6, 2018 Application to Amend Long-Term Authorizations to Export Liquefied Natural Gas ("LNG") to Free Trade Agreement ("FTA") Countries and Non-FTA Countries and Amendment to Application for Long-Term Authorization to Export LNG to Non-FTA Countries ("Amendment Application") in the above-captioned proceeding. The DOE Office of Fossil Energy ("DOE/FE") should reject the arguments raised in the protests. In support of this Answer, JCEP states the following:

I. PROCEDURAL BACKGROUND

DOE/FE granted JCEP's application for long-term authorizations to export LNG to FTA countries pursuant to Order No. 3041, dated December 7, 2011 ("FTA Authorization"),[2] and conditionally granted JCEP's application for long-term authorizations to export LNG to non-FTA countries pursuant to Order No. 3413, dated March 24, 2014 ("Non-FTA Authorization" and, collectively with the FTA Authorization, the "Authorizations").[3] In the FTA Authorization and Non-FTA Authorization proceedings, JCEP sought authorization to export the equivalent of 438 billion cubic feet of natural gas per year ("Bcf/yr") (FTA) and 292 Bcf/yr of natural gas (Non-

[1] 10 C.F.R. § 590.304(f) (2018).
[2] *Jordan Cove Energy Project L.P.*, DOE/FE Order No. 3041 (Dec. 7, 2011).
[3] *Jordan Cove Energy Project L.P.*, DOE/FE Order No. 3413 (Mar. 24, 2014).

FTA). On October 5, 2015, JCEP filed an amendment requesting DOE/FE to amend the Non-FTA Authorization to permit exports of up to 350 Bcf/yr of natural gas, and this amendment remains pending before DOE/FE.

On September 21, 2017, JCEP submitted an application to the Federal Energy Regulatory Commission ("FERC") seeking authorization under Section 3(a) of the Natural Gas Act ("NGA")[4] to site, construct, and operate certain LNG facilities in Coos Bay, Oregon ("LNG Terminal"). On the same day, Pacific Connector Gas Pipeline, LP ("PCGP") submitted an application pursuant to Section 7(c) of the NGA,[5] seeking a certificate of public convenience and necessity authorizing PCGP to construct, install, own, and operate a new natural gas pipeline ("Pipeline" and, together with the LNG Terminal, the "Project"). As the lead agency under the National Environmental Policy Act ("NEPA")[6] for purposes of NGA Sections 3 and 7, FERC published a Notice of Intent to Prepare an Environmental Impact Statement ("EIS"), with DOE/FE serving as a cooperating agency.[7]

On February 6, 2018, JCEP filed the Amendment Application to modify JCEP's authorized export quantity under the FTA Authorization and Non-FTA Authorization. Specifically, JCEP seeks authorization to export 395 Bcf/yr of natural gas from the LNG Terminal. JCEP also requested DOE reset the date by which JCEP must commence exports to seven years from the final order granting the authorization. DOE/FE published a notice of the Amendment Application on April 19, 2018, and established a deadline for the submission of motions to intervene, notices of intervention, requests for additional procedures, and written comments of May 9, 2018, at 4:30 pm

[4] 15 U.S.C. § 717b(a) (2012).
[5] 15 U.S.C. § 717f.
[6] 40 C.F.R. Pt. 1500 *et seq.*
[7] Notice of Intent to Prepare and Environmental Impact Statement, Docket No. PF17-4-000 (issued June 9, 2017) ("NOI").

Eastern time. A number of parties filed interventions, comments, or protests to the Amendment Application.[8]

II. ANSWER

A. JCEP's proposed exports are not inconsistent with the public interest.

Exports of natural gas through the LNG Terminal will provide public benefits regardless of where the gas is produced. Contrary to the assertions of some protestors,[9] JCEP has been clear throughout this proceeding that gas exported through the LNG Terminal could come from production in either the U.S. or Canada. JCEP expects that its customers, who will likely source their own feed gas, will export a mixture of gas from various supply sources in both nations. Regardless of the source of the gas, the U.S. will experience benefits from LNG exports in the form of jobs and infrastructure investment. In fact, Canadian production benefits the U.S. by increasing potential gas supplies available for U.S. markets, thereby reducing prices for all gas consumers.

JCEP has long contemplated that feed gas from both the U.S. and Canada could supply the LNG Terminal. The LNG Terminal's location in southwestern Oregon and the origin of the Pipeline near Malin, Oregon are intended to provide customers with access to multiple gas producing areas. In its original application to DOE/FE in 2012, JCEP stated that it would "provide customers the opportunity . . . to export natural gas from Canada and the U.S. Rocky Mountain states." The Pipeline will originate (and has always been proposed to originate) near the intersection of the Gas Transmission Northwest ("GTN") and Ruby Pipeline systems. GTN

[8] JCEP hereby answers the comments and protests that were posted in DOE/FE's electronic docket room under FE Docket No. 12-32-LNG on May 14, 2018, and reserves the right to answer any comment or protest that is posted thereafter.

[9] *See, e.g.*, Protest and Comment of Evans Schaaf Family, LLC, Ronald Schaaf and Deborah Evans at 6, DOE/FE Docket No. 12-32-LNG (submitted May 9, 2017) ("Schaaf Protest"); Comment and Protest of Jody McCaffree at 9-10, DOE/FE Docket No. 12-32-LNG (submitted May 9, 2018) ("McCaffree Protest"); Intervention of Citizens for Renewables, Inc. at 2, DOE/FE Docket No. 12-32-LNG (submitted May 9, 2018).

connects to facilities at the Canadian border, allowing gas from Canada to easily reach the LNG Terminal. Ruby extends from Wyoming to Oregon, providing access to Rocky Mountain gas production basins. PCGP will be able to receive its entire capacity of gas (and the entire feed gas supply for the LNG Terminal) at both the GTN and Ruby interconnects. An affiliate, Jordan Cove LNG L.P., filed a separate application to import natural gas from Canada on October 21, 2013, which was approved before the Non-FTA Authorization was issued.[10]

Because potential exports of Canadian gas have always been possible, DOE/FE's conditional order considered whether exports from the LNG Terminal that include Canadian gas are consistent with the public interest. In issuing the Non-FTA Authorization, DOE/FE concluded that no one had shown JCEP's proposed exports to be inconsistent with the public interest.[11] DOE/FE was in a position to make such a conclusion, in part, because its study of the macroeconomic effects of LNG exports "accounts for imports of Canadian pipeline gas."[12] Moreover, for reasons discussed below, exports of Canadian gas can provide benefits to the U.S. in a similar fashion to exports of U.S.-produced gas. Accordingly, DOE/FE was right to grant JCEP's Non-FTA Application.

Although JCEP will hold the export authorization, it is likely to have a minimal role in determining the source of feed gas that reaches the LNG Terminal. None of JCEP, its ultimate parent Pembina Pipeline Corporation ("Pembina"), or any of Pembina's subsidiaries owns any gas reserves. Pembina is not a natural gas producer and therefore will not use the LNG Terminal to export its own production. Claims by protestors such as Landowners United are incorrect when

[10] Jordan Cove LNG L.P., DOE/FE Order No. 3412, Order Granting Long-Term Multi-Contract Authorization To Import Natural Gas From Canada To The Proposed Jordan Cove LNG Terminal In The Port Of Coos Bay, Oregon (Mar. 18, 2014).
[11] Non-FTA Authorization at 5.
[12] Non-FTA Authorization at 44.

they state that "Pembina controls large quantities of Canadian gas."[13] Similarly, JCEP will not exert any control over where its customers source feed gas.[14] While JCEP remains willing to serve as an aggregator and gas supplier, JCEP expects that most, if not all, of its customers will obtain their own gas supplies and move that gas, using their own transportation capacity on PCGP and upstream pipelines, to the LNG Terminal. JCEP will then perform the service of transforming that gas into LNG and loading it onto ships. This "tolling" model for LNG exports is common throughout the industry, including at the Freeport, Cameron, and Cove Point liquefaction facilities. JCEP expects to retain a small amount of liquefaction capacity for its own use, for which JCEP will need to source its own feed gas.

Customers seeking sources of feed gas for delivery to the LNG Terminal may seek out Canadian or U.S. supply, or a combination of both. At different times over the life of a 20-year export authorization, Canadian or U.S. supply may be less or more expensive. Customers may also choose to obtain supply from multiple sources to be sure that disruptions in production or upstream transportation do not cause liquefaction capacity to be idle. These broader market factors will be the driving influences on the source of feed gas delivered to the LNG Terminal, not JCEP's ownership of its affiliates' operations in Canada.

Even if most of the LNG exports from the LNG Terminal are Canadian gas, the U.S. will still realize benefits. JCEP and PCGP together will invest $9.8 billion to construct the LNG Terminal and Pipeline, of which approximately $2.88 billion will be spent directly with Oregon businesses. The Project will pay Oregon resident workers about $1.5 billion in compensation, and non-residents working on construction and paying taxes to Oregon will earn about $650 million in

[13] Notice of Intervention and Protest of Landowners United and Clarence Adams, DOE/FE Docket No. 12-32-LNG at 2 (submitted May 9, 2018) ("Landowners United Protest").
[14] The Schaaf Protest falsely claims that "Pembina Pipeline [] will control the strings on who gets in . . . and has every reason to ensure the advantage goes to Canadian gas." Schaaf Protest at p. 16.

labor compensation. The combination of the direct, indirect, and induced impacts in Oregon will equal approximately 43,333 full-year equivalents. JCEP and PCGP will employ 200 workers in Oregon for operations, with labor compensation of about $44.8 million. The LNG Terminal, supporting marine operations, and the Portland office will spend around $99.1 million annually for goods and services. These annual purchases and household spending by employees will support an additional 1,567 jobs in Oregon, $95.8 million in additional labor income, and $235.2 million in additional output for Oregon businesses. If Canadian gas is likely to be exported in some fashion, it is better for the U.S. to capture some of the associated benefits of the exports, through infrastructure investment and jobs, then for Canadian export facilities to retain all of those benefits.

DOE/FE's studies concluded that the biggest costs of LNG exports to the U.S. economy would be as a result of higher energy prices and lower consumption, plus higher costs to supply the natural gas for export.[15] For gas produced in Canada, the impact on natural gas prices for U.S. consumers is likely to be limited. Using Canadian supplies would potentially allow U.S. gas prices to remain lower and would allow U.S. gas consumers to have the benefits of those lower prices, while also realizing the benefits of LNG exports. Any higher production costs for Canadian natural gas would be borne by the Canadian producers, in part to U.S. companies supplying production equipment.

JCEP's proposed exports will continue to provide benefits to the U.S., even if some of the feed gas comes from Canadian supplies. DOE/FE recognized these benefits in the Non-FTA Authorization, even after recognizing that Canadian supply would constitute some of the feed gas for the LNG Terminal. None of the protests have disproven the presumption that exports from the LNG Terminal are not inconsistent with the public interest.

[15] Non-FTA Authorization at p. 47 (discussing NERA study).

B. LNG exports above 20 bcf/d will continue to benefit the U.S. economy.

The LNG quantities proposed in the Amendment Application are not inconsistent with the public interest. DOE/FE-commissioned studies have found that LNG exports would produce "net economic benefits" for the United States.[16] Analyzing recent data, DOE/FE concluded that 2017 data reflects "market conditions that would be even more supportive of LNG exports" than 2014 data.[17] There is reason to believe LNG export volumes above 20 Bcf/d will continue to result in "positive impacts of higher U.S. gas production, greater investment in the U.S. natural gas sector, and increased profitability of U.S. gas producers typically exceed[ing] the negative impacts of higher domestic natural gas prices associated with increased LNG exports."[18]

Commenters allege prior DOE/FE studies are inapplicable to the proposed volumes.[19] The two sets of studies—one evaluating up to 12 Bcf/d of LNG export volumes and the second evaluating up to 20 Bcf/d of LNG export volumes—concluded LNG exports benefit the economy and that more exports provide more benefits. In 2011, DOE/FE contracted with the U.S. Energy Information Administration ("EIA") and NERA Economic Consulting ("NERA") to conduct a two-part study of the economic impacts of U.S. LNG exports (together, the "2012 LNG Export Study"). In relevant part, the NERA Study concluded that, up to 12 Bcf/d of LNG export volumes, the United States would experience net economic benefits from allowing LNG exports.[20]

By May 2014, DOE/FE determined an updated study was warranted and commissioned two new macroeconomic studies. EIA published the first study in October 2014 ("2014 Study"), which updated EIA's January 2012 study of LNG export scenarios and used baseline cases from

[16] 2014 Study; 2015 Study.
[17] *See, e.g.*, *Lake Charles LNG Export Company, LLC*, Order No. 4010 at 29 (June 29, 2017).
[18] 2015 Study at 16.
[19] Schaaf Protest at 7-8; 23.
[20] NERA Study at 1, 6.

EIA's 2014 Annual Energy Outlook ("AEO 2014").[21] The 2014 Study assessed how specified scenarios of increased natural gas exports could affect domestic energy markets. The second study, issued by the Center for Energy Studies at Rice University's Baker Institute and Oxford Economics under contract to DOE/FE, was published in October 2015 ("2015 Study").[22] The 2015 Study considered export volumes ranging from 12 to 20 Bcf/d of natural gas from 2015 to 2040.

More recent data, including EIA's 2018 Annual Energy Outlook ("AEO 2018") continues to support the conclusions of the 2012 Study, 2014 Study, and 2015 Study. A comparison of AEO 2018 to the AEO 2014 data used in the 2014 Study confirms that LNG exports will benefit the United States and demonstrates that the projected impact of LNG exports on U.S. natural gas prices is lower than originally believed. Contrary to commenters' assertions,[23] as U.S. natural gas production through 2040 continues to outpace U.S. natural gas consumption, EIA's estimated impact of LNG exports on U.S. natural gas prices will be lower than originally believed. The AEO 2018 reference case shows Henry Hub prices 41 percent lower on average through 2040 than the reference case in AEO 2014.[24] This decline in natural gas prices continues, despite an increase of 52 percent in expected quantities of LNG exports in 2040 between AEO 2014 and AEO 2018.[25] This data bolsters DOE's prior findings and suggests that additional exports could occur without triggering the primary cost of LNG exports – increased gas costs for U.S. consumers. According to the EIA, the U.S. has sufficient quantities of natural gas to meet future U.S. domestic needs as well as expanded U.S. export opportunities.

[21] U.S. Energy Information Administration, Effect of Increased Levels of Liquefied Natural Gas Exports on U.S. Energy Markets (Oct. 2014), available at: https://www.eia.gov/analysis/requests/fe/pdf/lng.pdf.
[22] Center for Energy Studies at Rice University Baker Institute and Oxford Economics, The Macroeconomic Impact of Increasing U.S. LNG Exports (Oct. 29, 2015), available at: http://energy.gov/sites/prod/files/2015/12/f27/20151113_macro_impact_of_lng_exports_0.pdf.
[23] Landowners United Protest at 2-3; Schaaf Protest at 4.
[24] The AEO 2014 reference case shows Henry Hub spot prices in 2040 to be $7.65 per MMBtu in 2012 dollars, and the AEO 2018 reference case shows Henry Hub spot prices in 2040 to be $4.50 in 2017 dollars.
[25] AEO 2014; AEO 2018.

Even if 20 Bcf/d of exports do not occur in fact, as Sierra Club asserts,[26] the proposed LNG Terminal has significant competitive advantages that may lead it to be successful in the marketplace. By virtue of its West Coast location, the LNG Terminal has the advantage of a shorter shipping distance to major Asian markets relative to other proposed U.S. export projects that utilize the Panama Canal. The Project has access to multiple-low-cost supply basins – one in the U.S. Rocky Mountains and the second in western Canada – and will provide producers in these regions with access to new markets. DOE has for many years followed the correct policy of not choosing economic winners and losers.[27] It should not do so in this proceeding either.

C. Commenters' reliance on the Oil Change International report is misplaced.

The McCaffree and Schaff comments cite to a report by Oil Change International ("OCI") to support arguments that are inaccurate and misleading.[28] First, both comments cite to the OCI Report to state that the Project's annual lifecycle greenhouse gas ("GHG") emissions will be 36.8 million metric tons per annum ("mtpa"). But this estimate is unreasonably high because it ignores net reductions in GHGs attributable to displacing other sources of energy to meet the same needs, and relies on several biased assumptions that conflict with customary practices adopted by U.S. Environmental Protection Agency ("EPA") and other agencies to estimate GHG emissions.

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[26] Protest of Sierra Club, DOE/FE Docket No. 12-32-LNG at 5 (submitted May 9, 2018) ("Sierra Club Protest").

[27] *New Policy Guidelines and Delegations Order Relating to Regulation of Imported Natural Gas*, 49 Fed. Reg. 6684 (Feb. 22, 1984) ("1984 Policy Guidelines"). DOE/FE subsequently held the 1984 Policy Guidelines apply to natural gas export applications as well. *Phillips Alaska Natural Gas Corp. & Marathon Oil Co*., DOE/FE Order No. 1473, Order Extending Authorization to Export Liquefied Natural Gas from Alaska, at 14 (April 2, 1999), (citing Yukon Pacific Corp., DOE/FE Order No. 350, Order Granting Authorization to Export Liquefied Natural Gas from Alaska, 1 FE ¶ 70,259, at 71,128 (1989)); *see also Eagle LNG Partners Jacksonville II LLC*, DOE/FE Order No. 4078, Order Granting Long-Term, Multi-Contract Authorization To Export Liquefied Natural Gas to Free Trade Agreement and Non-Free Trade Agreement Nations at 9, 33 (Sept. 15, 2017) ("DOE/FE continues to subscribe to the principal set forth in our 1984 Policy Guidelines that, under most circumstances, the market is the most efficient means of allocating natural gas supplies.").

[28] McCaffree Protest at 10; Schaaf Protest at 19; *see also Jordan Cove LNG and Pacific Connector Gas Pipeline Greenhouse Gas Emissions Briefing*, Oil Change International (Jan. 2018), *available at* http://priceofoil.org/content/uploads/2018/01/JCEP_GHG_Final-Screen.pdf ("OCI Report").

For example, 10.9 of the estimated 36.8 mtpa is attributed to anticipated methane leaks from gas production.[29] But the OCI Report maximizes this component of the estimate by using a series of unrealistically conservative assumptions. First, OCI uses a 20-year, as opposed to the customary 100-year, global warming potential ("GWP") timeframe for methane to convert methane emissions into carbon dioxide ("CO_2") equivalents.[30] This choice of parameters yields a dramatically different result. Under the 20-year GWP, one unit of methane has the same warming potential as 86 units of CO_2.[31] In contrast, under the 100-year GWP, one methane unit has the warming potential of 25 units of CO_2.[32] In other words, OCI's use of the 20-year GWP greatly increased the GHG emissions estimate it attributes to methane leaks in its lifecycle analysis of the Project, including from gas production. By contrast, EPA and other federal agencies customarily use the 100-year GWP for official GHG inventories, as well as EPA's mandatory GHG emission reporting program.[33] As the EPA has explained in its rulemakings, the 100-year timeframe is the internationally accepted standard for reporting GHG emissions.[34] It is therefore "beneficial for both regulatory agencies and industry to use the same GWP values" in part because it "reduces potential errors . . . when comparing multiple data sets."[35] For this reason, any rational attempt to estimate the Project's lifecycle emissions would use a 100-year GWP timeframe for methane. Indeed, in recent orders involving other natural gas projects, FERC has correctly rejected requests

[29] OCI Report, Table 1 at 5.
[30] As background, different greenhouse gases have different effects on the Earth's warming depending on their ability to absorb energy and the amount of time they stay in the atmosphere. To compare the global warming impacts of different gases, the 'global warming potential' has been established for each greenhouse gas by measuring how much energy the emissions of 1 ton of the gas will absorb over a given period of time, relative to 1 ton of CO2. EPA, Understanding Global Warming Potential, www.epa.gov (last updated on February 14, 2017), https://www.epa.gov/ghgemissions/understanding-global-warming-potentials.
[31] *PennEast Pipeline Co.*, 162 FERC ¶ 61,053 at P 206 (2018).
[32] *Id.*
[33] *Id.*
[34] EPA, 2013 Revisions to the Greenhouse Gas Reporting Rule and Final Confidentiality Determinations for New or Substantially Revised Data Elements – Final Rule, 78 Fed. Reg. 71903, 71914 (Jan. 1, 2014).
[35] *Id.*

by OCI to use the 20-year GWP.[36] In addition, OCI maximizes its overall estimate by assuming that gas produced and shipped via the LNG Terminal will leak at a rate that is nearly twice the national average reported by EPA.[37]

Finally, OCI further maximizes its estimate of the Project's annual lifecycle emissions by using two unrealistic assumptions underlying the calculation for combustion emissions, which account for 20.2 of the overall 36.8 mtpa.

First, and most significantly, OCI assumes that the natural gas that is combusted for energy will not result in *any* emissions reductions as a result of displacing other sources of energy, such as coal, in Asia.[38] This is patently unrealistic. Electricity generation responds to and matches demand at all times, and if the natural gas exported from the LNG Terminal is burned to generate energy, some other generation sources will be displaced. By failing to take into account emissions reductions that will be achieved from such displacement, the OCI Report essentially assumes that all displaced electricity will come from zero-emission sources. This is an indefensible assumption. According to the EIA, natural gas is currently replacing, and will continue to replace, coal and other energy sources in various countries in Asia. For example, China, which relied on coal for 72% of its electricity generation in 2015, is expected to "replace coal with natural gas," along with other forms of energy, in the coming decades.[39] The McCaffree comment contends that "new gas often displaces new wind and new solar rather than old coal," asserting without any support that wind and solar are now cheaper than coal and gas.[40] But this argument is incorrect. As the EIA has explained, while renewables are expected to rise in some countries such as China, they will do

[36] *See, e.g.*, *PennEast Pipeline Co.*, 162 FERC ¶ 61,053 at P 206 (2018).
[37] OCI Report at 12 (assuming a field production leakage of 1.36% for Jordan Cove and noting that EPA's national average for field production leakage is 0.79%).
[38] *See id.*
[39] EIA, Chinese Coal-Fired Electricity Generation Expected to Flatten As Mix Shifts to Renewables (Sep. 27, 2017), https://www.eia.gov/todayinenergy/detail.php?id=33092.
[40] McCaffree Protest at 10; OCI Report at 4.

so alongside a concurrent rise in natural gas as both sources of energy displace *coal*.[41] In other words, natural gas is not expected to displace renewables in these markets, but both natural gas and renewables will replace coal. In fact, natural gas generation can be crucial to supporting new wind and solar development since natural gas can serve as the supply when wind and solar are not available, or to react to variable and sometimes rapidly changing demands.[42] OCI offers no evidence to the contrary.

Second, OCI assumes that all of the LNG exported by the Project will be combusted for energy production.[43] This is incorrect. Natural gas is used for many purposes, including as fuel for process heating and for combined heat and power systems in the industrial sector; as a raw material to produce chemicals, fertilizer, and hydrogen in the agricultural sector; as fuel for heat, cooking, and other household activities in the residential sector; as fuel for heating and cooling, cooking, lighting, and as a fuel in combined heat and power systems in the commercial sector; and as a fuel to operate compressors that move natural gas through pipelines and as a vehicle fuel in the transportation sector.[44] OCI does not offer any support for the assumption that all of the natural gas will be combusted to produce energy.[45]

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[41] EIA, Chinese Coal-Fired Electricity Generation Expected to Flatten As Mix Shifts to Renewables (Sep. 27, 2017), https://www.eia.gov/todayinenergy/detail.php?id=33092.

[42] Elena Verdolini et al., *Bridging the Gap: Do Fast Reacting Fossil Technologies Facilitate Renewable Energy Diffusion?* 26 (2016), https://www.econstor.eu/bitstream/10419/145377/1/NDL2016-051.pdf (finding that fast reacting fossil fuel technologies, such as natural gas, "have enabled [renewable energy] diffusion by providing reliable and dispatchable back-up capacity to hedge against variability of supply"); Wayne Barber, *Study Says Renewable Power Still Reliant on Backup from Natural Gas*, Power Engineering (Aug 17, 2016), https://www.power-eng.com/articles/2016/08/study-says-renewable-power-still-reliant-on-backup-from-natural-gas.html ("Expansion of intermittent wind and solar power still needs backup from electricity generated by natural gas."); *see also* White House, *U.S. Mid Century Strategy for Deep Decarbonization* 50 (November 2016) (noting that grid operators match supply with demand instantaneously "by ramping up and down the output of dispatchable generation sources like natural gas.").

[43] *See* OCI Report at 9-11.

[44] U.S. Energy Information Agency, Natural Gas Explained – Use of Natural Gas, www.eia.gov (last updated Oct. 26, 2017), https://www.eia.gov/energyexplained/index.php?page=natural_gas_use.

[45] *See* OCI Report at 9-11.

Commenters rely on the OCI Report in other misleading ways. For example, the McCaffree comment cites to the OCI Report to argue that the Project's emissions are "15.4 times the emissions from . . . the Boardman Coal Plant," a coal-fired power plant located in Oregon.[46] But this is an apples-to-oranges comparison that is fundamentally misleading. OCI estimated emissions for the Project using different criteria and methodology than for the Boardman Coal Plant. First, the LNG Terminal estimate purports to account for emissions generated over the entire "lifecycle" of the project, including gas production at hypothetical wellheads, gas processing and transportation to PCGP/JCEP, ocean transport, and use of the gas overseas.[47] In contrast, the stated emissions rate for the Boardman Coal plant accounts only for the *actual* emissions from the power plant itself, without any matching consideration for the upstream and other lifecycle emissions relating to the coal used at that plant.[48] For any comparison to be rational, the Boardman Coal Plant emissions rate would also need to take into account all lifecycle emissions, such as the upstream emissions from coal-mining, which releases significant quantities of methane. Second, the LNG Terminal emissions estimate assumes that the LNG Terminal will run at full capacity,[49] while the Boardman Power Plant emissions rate reflects actual emissions numbers for the plant, which generally runs at less than full capacity.

[46] McCaffree Protest at 10; OCI Report at 5.

[47] OCI Report at 5, 11. These non-facility emissions constitute the bulk of the 38.6 million metric tons that OCI estimates will be attributable to the Project's lifecycle. In fact, according to OCI's biased estimates, the Project's facilities (*i.e.*, the export terminal and pipeline) will generate only 2.58 of the 38.6 million metric tons. OCI Report at 5.

[48] OCI does not provide an actual emissions number for Boardman Power Plant, nor does it cite to any authority for the emissions generated by the plant. *See* OCI Report at 5. However, based on its claim that Jordan Cove's 36.8 million metric tons of emissions is "15.4 times the emissions" of the Boardman plant, we infer that OCI estimates the plant's emissions to be approximately 2.3 million metric tons. *See id.* According to EPA's Greenhouse Gas Reporting Program, this number is consistent with Boardman's reported emissions in 2015 for the facility *alone*, and does not include all lifecycle emissions. *See* EPA Greenhouse Gas Reporting Program, www.epa.gov (last updated February 27, 2017), https://www.epa.gov/ghgreporting (providing facility level emissions data through the Facility Level Information Greenhouse Gas Tool).

[49] OCI Report at 5.

D. Commenters' interpretation of the DOE's Life Cycle Report is incorrect.

Commenters incorrectly read the DOE's 2014 Life Cycle Report as concluding that exporting natural gas is worse, from a greenhouse gas perspective, than China's building new coal-fired power plants and burning its own coal.[50] In so doing, commenters ignore the actual conclusions reached in the Life Cycle Report. While conceding that its methodology has certain limitations, the Life Cycle Report concludes "that the use of U.S. LNG exports for power production in European and Asian markets will not increase GHG emissions, on a life cycle perspective, when compared to regional coal extraction and consumption for power production."[51] Further, it notes that "no significant increase or decrease in net climate impact is anticipated from any of [the scenarios described in the report]."[52]

Moreover, commenters also ignore that the D.C. Circuit has uniformly rejected challenges to DOE export authorizations and has carefully considered the same Life Cycle Report in upholding DOE's prior environmental and public interest reviews. The Court specifically noted the Life Cycle Report's ultimate finding that greenhouse gas emissions will not increase as a result of LNG exports to Europe or Asia, "and that potential differences in greenhouse-gas emissions relating to the use of U.S. LNG as opposed to alternate sources of gas are largely dependent on transport distance but are 'indeterminate' due to 'uncertainty in the underlying modeled data.'"[53] The court further found "nothing arbitrary" about DOE's environmental review and ultimate authorization of past LNG exports, emphasizing the "speculative" nature of attempts to model how LNG might compete with other fuel sources "in each potential LNG-importing nation," as well as "practical considerations of feasibility" that might "necessitate restricting the scope" of DOE's

[50] McCaffree Protest at 10.
[51] *Life Cycle Greenhouse Gas Perspective on Exporting Liquefied Natural Gas from the United States* (May 2014) at 18.
[52] *Id.*
[53] *Sierra Club v. U.S. Dep't of Energy*, 867 F.3d 189, 195-96 (D.C. Cir. 2017).

analysis.[54] Understood in this way, the 2014 Life Cycle study supports DOE's approving JCEP's application and commenters' concerns are unsupported by any valid studies.

E. Other articles and white papers do not support commenters' conclusions.

Commenters also read a December 2017 study in the academic journal *Energy* as concluding that LNG exports could trigger "additional energy demand" and will divert capital from renewable energy development.[55] These comments, however, ignore the article's observation that additional energy demand is only one among several possible outcomes, dependent on a series of assumptions made by the study's authors, including about the end uses of LNG in importing countries. Indeed, the study's authors note that "the emissions impacts of expanded LNG exports can be difficult to determine" because the analysis "depends on what the LNG is replacing and what second order international market effects are."[56] The end result is that the article concludes that "[a]nnual global lifecycle emissions range from -32 to +63 million metric tons CO_2e per billion cubic feet (BcF) per day of exports."[57] In other words, even accepting all of the authors' assumptions and methodologies, the study produces an extremely wide range of potential outcomes spanning almost 100 million metric tons, ranging from a significant net increase in greenhouse gas emissions to a significant reduction in the same. Notably, contrary to commenters' statement, the authors make no assertions regarding the diversion of capital from renewable energy development.

Some commenters also reference a set of their own briefing points prepared on behalf of "Hair on Fire Oregon." These briefing points attempt to identify effects of global climate change in Oregon. The briefing points estimate a $1.7 billion annual "social cost of carbon" supposedly

[54] *Sierra Club*, 867 F.3d at 202.
[55] McCaffree Protest at 10.
[56] Alexander Gilbert, Benjamin Sovacool, *US liquified natural gas (LNG) exports: Boom or bust for the global climate?*, ENERGY, Nov. 2017 at 1672.
[57] *Id.* at 1671.

associated with the Project.[58] But these briefing points initially rely on unsupported estimates from the OCI Report for life-cycle greenhouse gas emissions, and compound those flaws further by using a combination of an arbitrary selection of a 3% discount rate and the estimated cost (in dollars) for the year 2025 ($46) to arrive at a figure of $1.7 billion annually.[59] Moreover, fundamentally the use of the social cost of carbon tool requires an estimate of *net* GHG emissions, and as explained above the OCI Report does not even attempt a net estimate of emissions on a lifecycle basis.[60] No explanation or justification is provided for the selection of these assumptions.

With respect to effects of a changing climate as a whole, there is no generally accepted methodology for translating marginal GHG emissions from a particular project into specific environmental effects. Indeed, the Council on Environmental Quality has previously confirmed that "the totality of climate change impacts *is not attributable to any single action*."[61] Similarly, the Office of the Solicitor at the Department of the Interior noted that "[i]t is currently beyond the scope of existing science to identify a specific source of CO_2 emissions and designate it as the cause of specific climate impacts at an exact location."[62]

As to the Social Cost of Carbon, commenters assert that "there is a growing amount of evidence that suggests the externalities of GHG-induced climate change will need to be

[58] *See* Economic Cost of Greenhouse Gas Emissions, Briefing by Deb Evans for Hair on Fire Oregon, Comments of Evans Schaaf Family, LLC, Ron Schaaf, and Debora Evans, Exhibit M.
[59] *Id.* at 3.
[60] *See, e.g.*, COMMITTEE ON ASSESSING APPROACHES TO UPDATED THE SOCIAL COST OF CARBON, VALUING CLIMATE DAMAGES: UPDATING ESTIMATION OF THE SOCIAL COST OF CARBON DIOXIDE, 1 (The National Academies Press) ("The social cost of carbon ($SC\text{-}CO_2$) for a given year is an estimate, in dollars, of the present discounted value of the future damage caused by a 1 metric ton increase in carbon dioxide (CO_2) emissions in to the atmosphere in that year or, equivalently, the benefits of reducing CO_2 emissions by the same amount in that year. The $SC\text{-}CO_2$ is intended to provide a comprehensive measure of the net damages – that is, the monetized value of the net impacts – from global climate change that result from an additional ton of CO_2.") (emphasis added).
[61] Council on Environmental Quality, Final Guidance for Federal Departments and Agencies on Consideration of Greenhouse Gas Emissions and the Effects of Climate Change in National Environmental Policy Act Reviews at 11 (Aug. 1, 2016) (emphasis added) (withdrawn pursuant to Executive Order 13783, March 28, 2017).
[62] Memorandum from Office of the Solicitor, Department of Interior to Secretary of the Interior, Re: Guidance on the Applicability of the Endangered Species Act's Consultation Requirements to Proposed Actions Involving the Emission of Greenhouse Gases, Oct. 3, 2008.

internalized through a mechanism like the social cost of carbon if public interest is to be accurately assessed on future LNG export projects."[63] But while some agencies have opted to use the social cost of carbon tool to prepare a cost-benefit analysis of various alternatives under certain state and federal regulatory proposals, agencies are not obligated to do so—never mind to evaluate an individual project using the particular parameters chosen in these briefing points. It is entirely reasonable for DOE/FE to opt not to use this tool in considering a specific proposed project, as FERC has already concluded and as has been upheld by the United States Court of Appeals for the D.C. Circuit.[64] Among other reasons, DOE/FE would have no ability to meaningfully evaluate the resulting monetized "cost" of the GHG emissions for a particular permitting or licensing decision as against other non-monetized costs and benefits DOE considers in its public interest determination.

F. The DOE/FE may extend the previously-established deadline to commence exports.

DOE/FE has the power to modify its orders, including the conditional Non-FTA Authorization. Sierra Club's argument that DOE/FE may not extend the deadlines contained in the FTA Authorizations and Non-FTA Authorizations ignores this power.[65] In evaluating the Amendment Application, JCEP anticipates that DOE/FE will consider the current, available evidence, including evidence contained in the FERC-prepared EIS. As before, this evidence supports granting the requested authorization, because it has not been shown to be inconsistent with the public interest.

Sierra Club criticizes DOE's public notice as supposedly refusing to accept comments on JCEP's request to extend the 7-year deadline by which JCEP must commence exports of

[63] Evans Schaaf Family Comment at 20.
[64] *EarthReports, Inc. v. FERC*, 828 F.3d 949, 956 (D.C. Cir. 2016).
[65] Sierra Club Protest at 2-5.

LNG.[66] But the Department's April 19 *Federal Register* notice expressly invited "[c]omments and protests" on "JCEP's Amendment filed on February 6, 2018."[67] The Notice accurately described pertinent aspects of JCEP's February 6 Amendment—not only JCEP's request to "increase its volume of LNG exports," but also its request that "if and when DOE/FE issues an order granting the requested Amendment . . . , DOE/FE also amend or 're-set' the dates by which JCEP must commence exports of LNG."[68] Indeed, the public notice describes the timing request under its own sub-section heading, drawing attention to this aspect of JCEP's amendment.[69] Furthermore, the public notice provides a link to JCEP's Amendment, which is posted on DOE's website in its entirety.[70] In this context, the Notice invited comments and input on both aspects of JCEP's submission, and gave the public an opportunity to "participate in a meaningful way" in DOE's consideration of the proposed amendment.[71]

Read in context, any limiting language in the *Federal Register* Notice simply and reasonably indicated that the agency would not consider comments on JCEP's 2012 application or its 2015 amendment—prior filings on which the public already was given a full and fair opportunity to comment. Indeed, Sierra Club acknowledges that it filed a protest of the 2015 amendment more than two years ago.[72] An agency's public notice is adequate where it invites comments on pertinent aspects of a proposed agency action.[73] The fact that Sierra Club and other commenters such as the John Clarke Family in fact submitted comments on the proposed extension

[66] Sierra Club Protest at 1-2.
[67] 83 Fed. Reg. 17,406, 17,407 (Apr. 19, 2018).
[68] *Id*. at 17,406-07.
[69] *Id*. at 17,407 (heading "Request for an Amended Commencement of Export Period").
[70] *Id*. at 17,407.
[71] *Conn. Light & Power Co. v. Nuclear Regulatory Comm'n*, 673 F.2d 525, 528 (D.C. Cir. 1982).
[72] Sierra Club Protest at 1 n.2.
[73] *Nat'l Asphalt Pavement Ass'n v. Train*, 539 F.2d 775, 780-82 (D.C. Cir. 1976).

of the seven-year period is strong "probative evidence that the notice given was adequate," and that parties were not impeded in their ability to address that aspect of the JCEP amendment.[74]

G. Commenters misstate DOE/FE's powers and obligations under NEPA.

Many of the comments focus on issues that are not particularly germane to this proceeding, including environmental issues associated with the construction and operation of the LNG Terminal and Pipeline. Many of these arguments are irrelevant to DOE/FE's analysis, whereas others are misplaced, because FERC—not DOE/FE—is the lead agency for purposes of conducting NEPA analyses or because FERC—under Section 7, not Section 3, of the NGA—issues orders that convey eminent domain.

1. Congress has assigned environmental review responsibilities for natural gas export facilities to FERC.

DOE/FE need not consider the environmental effects of siting, construction, and operation of the LNG Terminal and Pipeline facilities as part of its analysis of the Amendment Application despite the protestations of several commenters.[75] FERC has exclusive jurisdiction over the siting, construction, and operation of the Project, and is the lead agency charged with conducting the environmental analysis required by NEPA for those activities. As such, the scope of the environmental review relating to siting, construction, and operation of the Project will not be determined by DOE/FE in this proceeding, but rather in JCEP and PCGP's FERC proceedings.

Although certain commenters assert that JCEP should not be given the power of eminent domain, an order on the Amendment Application would be pursuant to NGA Section 3, which does not grant the power of eminent domain. FERC, under NGA Section 7, will convey the power

[74] *Edison Elec. Inst. v. U.S. EPA*, 2 F.3d 438, 450 (D.C. Cir. 1993); *accord Nat'l Asphalt*, 539 F.2d at 780-81.
[75] *See, e.g.*, Notice of Intervention, Comment, and Protest of John Clarke Family – Oregon Trust at 2-3, DOE/FE Docket No. 12-32-LNG (submitted May 9, 2018) ("Clarke Protest"); Sierra Club Protest at 2, 6; Comments of Umpqua Watersheds, Inc. at 2, DOE/FE Docket No. 12-32-LNG (submitted May 9, 2018); Motion to Intervene and Comments of Confederated Tribes of the Coos, Lower Umpqua, and Siuslaw Indians at 6-8, DOE/FE Docket No. 12-32-LNG (submitted May 9, 2018) ("CTCLUSI Comments").

of eminent domain through its certificate of public convenience and necessity for the Pipeline. As such, comments concerning eminent domain are irrelevant to this proceeding.[76] As a matter of law, such considerations are beyond the scope of DOE/FE's authority.

2. DOE/FE has authority to adopt FERC's NEPA document.

Certain commenters assert that the conditional nature of the Non-FTA Authorization and the termination of the FERC proceedings in Docket Nos. CP13-483-000 and CP13-492-000 requires DOE to abandon the current proceeding.[77] This is incorrect. Although the Non-FTA Authorization was conditional, in part, on completion of FERC's environmental review in the prior FERC dockets, DOE may finalize its analysis on the basis of the new EIS being prepared in Docket Nos. CP17-494-000 and CP17-495-000.[78] DOE may satisfy its NEPA obligation through its participation as a cooperating agency in FERC's review of the Project, and may adopt the EIS issued by FERC therein.[79]

[76] *See, e.g.*, Protest and Comment of Stacey McLaughlin and Craig McLaughlin at 2-3, DOE/FE Docket No. 12-32-LNG (submitted May 9, 2018) ("McLaughlin Protest"); Protest and Comment of Roben White at 1, DOE/FE Docket No. 12-32-LNG (submitted May 8, 2018); Intervention, Comment, and Protest of Bob Barker at 2-3, DOE/FE Docket No. 12-32-LNG (submitted May 9, 2018).
[77] Landowners United Protest at 3.
[78] NOI at 1.
[79] 40 C.F.R. § 1506.3.

III. CONCLUSION

For the foregoing reasons, JCEP respectfully requests that DOE/FE reject the arguments set forth in the protests and amend the Authorizations and the Non-FTA Application to allow JCEP to export 395 Bcf/yr of natural gas from the LNG Terminal under both the FTA Authorization and the Non-FTA Authorization and reset the time by which exports must commence.

Respectfully submitted,

/s/ John S. Decker
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Dated: May 24, 2018

Appendix A

VERIFICATION

District of Columbia)

BEFORE ME, the undersigned authority, on this day personally appeared John S. Decker, who, having been by me first duly sworn, on oath says that he is an Attorney for Jordan Cove Energy Project L.P., and is duly authorized to make this Verification on behalf of Jordan Cove Energy Project L.P.; that he has read the foregoing instrument and that the facts therein stated are true and correct to the best of his knowledge, information and belief.

John S. Decker

SWORN TO AND SUBSCRIBED before me on the 23rd day of May, 2018.

Name: Katherine C. Wiebler
Title: Notary Public

My Commission expires:

9/30/2021

KATHERINE C. WIEBLER NOTARY PUBLIC DISTRICT OF COLUMBIA

CERTIFICATE OF SERVICE

I hereby certify that, on the 24th day of May, 2018, I caused a copy of the **Answer to Protests** filed by Jordan Cove Energy Project L.P. on the same day, in FE Docket No. 12-32-LNG to be served by email or U.S. first class mail on the individuals listed on the Service List for that docket as follows:

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