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UNITED STATES OF AMERICA DEPARTMENTOF ENERGY

Jordan Cove Energy Project, L.P.)	FE Docket No. 12–32–LNG
Application for Certificate)))))))	Jordan Cove Energy Project, L.P.; Application for Long-Term Authorization to Export Liquefied Natural Gas Produced From Domestic and Canadian Natural Gas Resources to Non-Free Trade Agreement Countries for a 25-Year Period
)	

CITIZENS AGAINST LNG, Inc; CITIZENS AGAINST LNG NOTICE OF INTERVENTION, PROTEST AND COMMENTS

On June 6, 2012, the Office of Fossil Energy at the Department of Energy posted in the Federal Register a Notice of receipt of an application (Application), filed on March 23, 2012, by Jordan Cove Energy Project, L.P. (Jordan Cove), requesting long-term, multi-contract authorization to export as liquefied natural gas (LNG) both natural gas produced domestically in the United States and natural gas produced in Canada and imported into the United States, in an amount up to the equivalent of 292 billion cubic feet (Bcf) of natural gas per year, 0.8 Bcf per day (Bcf/d), over a 25-year period, commencing on the earlier of the date of first export or seven years from the date the requested authorization is granted. The LNG would be exported from the proposed LNG terminal to be located on the North Spit of Coos Bay in Coos County, Oregon, to any country (1) with which the United States does not have a free trade agreement (FTA) requiring national treatment for trade in natural gas, (2) which has developed or in the future develops the capacity to import LNG via ocean-going carrier, and (3) with which trade is not prohibited by U.S. law or policy. Jordan Cove is requesting this authorization to export LNG both on its own behalf and as agent for other parties who hold title to the LNG at the point of export. The Application was filed under section 3 of the Natural Gas Act (NGA).

Citizens Against LNG is a grassroots organization of citizens that formed during the Federal Energy Regulatory Commission Prefiling phase of the Jordan Cove Energy Project, L.P. and the Pacific Connector Gas Pipeline, L.P., LNG Import project. We represent over 4,000 citizens in Southern Oregon who live, work, have businesses, recreate and socialize in areas that would be negatively impacted by the Jordan Cove LNG terminal, storage tanks, liquefaction facility and the Pacific Connector Gas Pipeline.

Citizens Against LNG, and the citizens who support our cause, declare that a liquefied natural gas (LNG) export terminal, storage tanks and liquefaction facility is not a well conceived or appropriate industry for the Southern Oregon Coast and that LNG represents an unacceptable risk to the people of the State of Oregon. For the safety, security, and well being of the citizens of our communities, the Citizens Against LNG ask the U. S. Department of Energy to immediately take action to stop the Jordan Cove LNG Export terminal, storage tanks and liquefaction facility proposed for the North Spit of Coos Bay and the 230 mile, 36 inch Pacific Connector natural gas pipeline to the California border. We ask the U. S. Department of

Energy to not approve the Jordan Cove Energy Project's application to Export LNG to non-free trade agreement nations as this would not be in the best interest of the public at large. Further details as to our reasons for this are spelled out in the attached comment letter and exhibits.

In order to protect the interest of citizens in Southern Oregon, Citizens Against LNG, Inc, also known as Citizens Against LNG, moves to intervene in this proceeding, pursuant to 10 C.F.R. § 590.303(b).

The Citizens Against LNG previously petitioned, intervened and was part of a coalition of groups that filed a Request for Rehearing to the Federal Energy Regulatory Commission (FERC) concerning their Environmental Impact Statement and their December 17, 2009, Order on the Jordan Cove LNG Terminal and Pacific Connector gas pipeline project. We also petitioned the FERC to protect Coos, Douglas, Jackson, and Klamath Counties and the State of Oregon by taking action to stop the Jordan Cove LNG Terminal and the Pacific Connector gas pipeline. Over 4,000 people have signed our petition opposing this project. A large portion of our petitions are on file in the FERC e-Library. We ask the DOE to note the filed petitions linked below as a reference, along with these additional submitted petitions we have included in with this filing as supporting justification that our intervention in this proceeding should be granted.

In addition, Citizens Against LNG would like to go on record as being in full support of the Sierra club and the Landowners United motion to intervene, protest and comments that are also being filed in this proceeding.

Please send any correspondence to:

Jody McCaffree Executive Director Citizens Against LNG PO Box 1113 North Bend, OR 97459 mccaffrees@frontier.com Curt Clay President Citizens Against LNG PO Box 1113 North Bend, OR 97459 curtclay@gmail.com

Sincerely,

Jody McCaffree

Jody Mc Caffre

Petition Filing 3) http://elibrary.FERC.gov/idmws/file list.asp?accession num=20091112-5040 - Exhibit P

Petition Filing 1) http://elibrary.FERC.gov/idmws/file-list.asp?accession_num=20070326-0003
Petition Filing 2) http://elibrary.FERC.gov/idmws/file-list.asp?accession_num=20070906-0013

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By Docket Room at 4:14 pm, Aug 06, 2012

Citizens Against LNG Inc PO Box 1113 North Bend, OR 97459

August 6, 2012

By Email and by Electronic Filing on the Federal eRulemaking Portal under FE Docket No. 12–32–LNG: fergas@hq.doe.gov http://www.regulations.gov

Ms. Larine A. Moore Docket Room Manager FE-34 U.S. Department of Energy PO Box 44375 Washington, D.C. 20026-4375

Re: Application of Jordan Cove Energy Project, L.P. for Long-Term Authorization to Export Liquefied Natural Gas to Non-Free Trade Agreement Nations, FE Docket No. 12-32-LNG

Dear Ms. Moore:

Please accept for filing the following protest of Citizens Against LNG Inc regarding the application of Jordan Cove for Authorization to Export Liquefied Natural Gas to Non-Free Trade Agreement Nations. For the following reasons, we believe the Department of Energy should reject Jordan Cove's application because it would be detrimental to the public interest.

 Jordan Cove's proposed export facility would hurt consumers in the United States by increasing the prices for domestic natural gas

It is not in dispute that Jordan Cove's proposed LNG export facility would increase the price for domestic natural gas in the United States. The only question is how much domestic natural gas prices in the United States would increase and how badly this would impact consumers. According to the latest assessment of the U.S. Department of Energy, allowing LNG export facilities, including Jordan Cove's proposed LNG export facility, would raise domestic natural gas prices substantially, by as much as 54% under certain scenarios:

- "Increased exports of natural gas lead to increased wellhead prices in all cases and scenarios. The basic pattern is evident in considering how prices would change under the Reference case (Figure 3):
- The pattern of price increases reflects both the ultimate level of exports and the rate at which increased exports are phased in. In the low/slow scenario (which phases in 6 Bcf/d

of exports over six years), wellhead price impacts peak at about 14% (\$0.70/Mcf) in 2022. However, the wellhead price differential falls below 10 percent by about 2026.

- In contrast, rapid increases in export levels lead to large initial price increases that would moderate somewhat in a few years. In the high/rapid scenario (which phases in 12 Bcf/d of exports over four years), wellhead prices are about 36 percent higher (\$1.58/Mcf) in 2018 than in the no-additional-exports scenario. But the differential falls below 20 percent by about 2026.
- Slower increases in export levels lead to more gradual price increases but eventually produce higher average prices, especially during the decade between 2025 and 2035. The differential between wellhead prices in the high/slow scenario and the no-additional-exports scenario peaks in 2026 at about 28 percent (\$1.53/Mcf), and prices remain higher than in the high/rapid scenario.

"In particular, with more pessimistic assumptions about the Nation's natural gas resource base (the Low Shale EUR case), wellhead prices in all export scenarios initially increase more in percentage terms over the baseline case (no additional exports) than occurs under Reference case conditions. For example, in the Low Shale EUR case the rapid introduction of 12 Bcf/d of exports results in a 54 percent (\$3.23/Mcf) increase in the wellhead price in 2018; whereas under Reference case conditions with the same export scenario the price increases in 2018 by only 36 percent (\$1.58/Mcf). But the percentage price increase falls in later years under the Low Shale EUR case, even below the price response under Reference case conditions. Under Low Shale EUR conditions, the addition of exports ultimately results in wellhead prices exceeding the \$9 per Mcf threshold, with this occurring as early as 2018 in the high/rapid scenario." (Emphasis added).

In a recent Congressional Report prepared by the staff of Representative Edward J. Markey, the Department of Energy's findings were summarized as follows:

"The United States faces a critical decision about whether to export natural gas following the rapid expansion of domestic production in recent years. The Department of Energy has already approved one export application and is currently considering eight others. If these applications are approved and the companies export at full capacity, the United States could soon be exporting more than 20 percent of current consumption. The Energy Information Administration has estimated that exporting even less natural gas than what is currently under consideration could raise domestic prices 24 to 54 percent, which would substantially increase energy bills for American consumers and could potentially have catastrophic impacts on U.S. manufacturing."

¹ U.S. Department of Energy (January 2012) "Effect of Increased Natural Gas Exports on Domestic Energy Markets." http://www.fossil.energy.gov/programs/gasregulation/authorizations/2011 applications/exhibits 11-128-LNG/15. EIA Effects of increased NG exports .pdf

² Representative Edward J. Markey (March 2012) "Drill Here, Sell There, Pay More: The Painful Price of Exporting Natural Gas." http://democrats.naturalresources.house.gov/sites/democrats.naturalresources.house.gov/files/2012-03-01 RPT NGReport.pdf

Therefore, proposed LNG export facilities, including Jordan Cove's proposed facility which could 'substantially increase energy bills for American consumers and could potentially have catastrophic impacts on U.S. manufacturing' are simply not in the public interest.

Jordan Cove's proposed LNG export facility would likely cause a net loss in U.S. employment by causing job losses in manufacturing

Jordan Cove argues that its proposed LNG export facility would be in the public interest by creating jobs in Coos County. According to Jordan Cove's application:

"The jobs impact of construction of the Jordan Cove Project will be consequential. On average, the Project will employ 1,768 workers a year, and it will create 1,530 indirect and 1,838 induced jobs a year.

"The employment impacts of the Jordan Cove Project in the typical operating year will include 99 direct jobs at the Jordan Cove terminal and the PCGP pipeline, 51 indirect jobs paid by Jordan Cove (Sheriff's deputies, firefighters, tugboat crews and emergency planners), 404 other indirect jobs and 182 induced jobs for a total of 736 total jobs in Coos County."

What Jordan Cove did not consider is how these possible jobs gained in Coos County would be more than offset by jobs lost in U.S. manufacturing generally. According to the Industrial Energy Consumers of America:

"In regards to using natural gas for export as LNG, IECA supports free trade. At the same time, affordable, abundant natural gas is critical to U.S. manufacturing growth, which in turn is critical to the U.S. economy. The manufacturing sector uses one-third of all of the natural gas and one-third of all electricity (of which one-third is produced from natural gas) which fuels the employment of 12 million high-paid workers. As with any resource that is critical to America's economic growth, any decision to approve the export of natural gas should include a rigorous analysis of the potential impact on the domestic economy and job creation, and place a high priority on the manufacturing sector.

"Affordable and abundant natural gas is vital to the recent renaissance in the nation's manufacturing sector. This renaissance has already contributed to up to a half million new American jobs. In fact, for every manufacturing job created, three to five additional jobs across the broader economy are also created. Natural gas is used as a fuel for the entire manufacturing sector, to make nitrogen fertilizer, and it is also used as a raw material for the production of chemicals that are converted into an immense array of products that are used every day. Manufacturing natural gas consumption creates far more jobs per unit of gas consumed than any other application. The chemical industry

³ Application of Jordan Cove Energy Project, L.P. for Long-Term Authorization to Export Liquefied Natural Gas to Non-Free Trade Agreement Nations, FE Docket No. 12-32-LNG, at pages 21-22.

alone has estimated that over \$35 billion dollars of U.S. investments will be made by abundant, affordable supplies of natural gas."4

The Industrial Energy Consumers of America has concluded:

"Jobs created by natural gas export facilities are small, relative to the opportunities to increase manufacturing jobs. Higher resulting natural gas prices will negatively impact U.S. manufacturing employment and ultimately additional jobs across the broader economy as well."5

Therefore, Jordan Cove's proposed LNG export facility, which could cause job losses in U.S. manufacturing that outweigh job gains locally, is not in the public interest.

3. Coos Bay would suffer the aftermath of unemployment that follows temporary employment in large-scale construction works

Unemployment impacts after the construction phase of the Jordan Cove / Pacific Connector project will not be in the public interest. The high unemployment in rural areas such as Coos Bay would be devastating to the local economy and clearly would not be in the public interest.

In 2003/2004 Coos County built a natural gas pipeline from Coos Bay to the Williams Northwest Grants Pass lateral pipeline that that runs along the I-5 hwy. The Coos County pipeline was a \$51M gamble sold to the public with the promise of 2,900 jobs for the county. Despite all the promises made by industry speculators, those jobs never materialized and that pipeline currently is only operating at 5 to 7 percent of its capacity.

Jordan Cove estimates that 1,110 different jobs would need to be filled to build their project but the average job would only last 14 months. (FEIS 4.8-11)⁶ After that there would be massive unemployment in the area and more people would be out of work than what we have now. The few jobs the facility would estimate to have as permanent jobs in no way justifies the public need for the facility. The Pacific Connector gas pipeline is estimated to end up with only 5 permanent employees after the construction phase of the pipeline is over.

The Portland State University Population Research Center estimated that in July 2007, the population of Coos County was 63,050 people; which represented about a 4 percent increase since 2000. The two closest cities to the proposed Jordan Cove LNG terminal are North Bend, with a population estimated at 9,830 people, and Coos Bay, with a population of about 16,210 in

⁴ July 16, 2012 letter from the Industrial Energy Consumers of America to the Brookings Institute. Re: Hamilton Project: "A Strategy for U.S. Natural Gas Exports" by Michael Levi. http://www.ieca-us.com/wpcontent/uploads/07.16.12 IECA-Response-to-Brookings.pdf

⁶ FERC Final Environmental Impact Statement (FEIS) for Jordan Cove LNG Import Facility; http://www.ferc.gov/industries/gas/enviro/eis/2009/05-01-09-eis.asp Page 4.8-11

FERC Jordan Cove Import Terminal Final EIS -http://www.ferc.gov/industries/gas/enviro/eis/2009/05-01-09eis.asp Page 4.8-22

July 2007 (Proehl 2008). (FEIS 4.8-11) The 56 to 99 jobs promised by Jordan Cove would not make a significant impact to what is truly needed in the area and when you count the jobs that will be lost due to the facilities impacts, the project most likely will end up being a job loser.

There is already high unemployment in the area which has been a continual example of plundering by industry speculators who come to town with big promises of jobs and prosperity and leave us with boondoggles and rotting infrastructure and eyesores. It has been so bad here that several books have been written about our area, the most recent being Wim de Vriend's book, "The Job Messiahs", which came out just this last December and is now in its second edition. Other books include, "Plundertown, USA: Coos Bay Enters the Global Economy" and David Cay Johnston's New York best selling book, "Free Lunch: How the Wealthiest Americans Enrich Themselves at Government Expense (and Stick You With the Bill)," where Johnston devoted two full chapters to Coos County.

4. Jordan Cove's economic analysis rests on the mistaken assumption that U.S. water supplies will be adequate to sustain increased production of natural gas by hydraulic fracturing

Jordan Cove argues that domestic natural gas prices in the United States would not increase that much because the burgeoning use of hydraulic fracturing will continue to create a vast oversupply of domestic natural gas. However, hydraulic fracturing consumes large quantities of water and the continued burgeoning use of hydraulic fracturing rests on assumptions that water supplies will, in the future, be adequate to sustain the continued increased use of this technology.

However, this assumption is likely to be wrong. According to the Pacific Institute:

"There is some evidence that the water requirements for hydraulic fracturing are already creating conflicts with other uses and could constrain future natural gas production in some areas. For example, in Texas, a major drought in 2011 prompted water agencies in the region to impose mandatory reductions in water use. Water agencies, some of which sold water to natural gas companies, indicated they might have to reconsider these sales if the drought persisted. Natural gas companies also tried to purchase water from local farmers, offering \$9,500 to nearly \$17,000 per million gallons of water (Carroll 2011). Likewise, at an auction of unallocated water in Colorado during the spring 2012, natural gas companies successfully bid for water that had previously been largely claimed by farmers, raising concerns among some about the impacts on agriculture in the region and on ecosystems dependent on return flows (Finley 2012).

"Concerns over water availability are not limited to drier climates. Pennsylvania is generally considered a relatively water-rich state. However, in August 2011, 13 previously approved water withdrawal permits in Pennsylvania's Susquehanna River Basin were temporarily suspended due to low stream levels; 11 of these permits were for natural gas projects (Susquehanna River Basin Commission 2011). While parts of the state were abnormally dry, the basin was not experiencing a drought at the time, suggesting that natural gas operations are already creating conflict with other uses under normal conditions. In many basins, the application of fracking is still in its infancy and

continued development could dramatically increase future water requirements and further intensify conflicts with other uses."8

The United States is experiencing one of the worst droughts in 60 years, and this is affecting energy production in the United States. According to a recent editorial in the New York Times:

"We're now in the midst of the nation's most widespread drought in 60 years, stretching across 29 states and threatening farmers, their crops and livestock. But there is another risk as water becomes more scarce. Power plants may be forced to shut down, and oil and gas production may be threatened.

"Our energy system depends on water. About half of the nation's water withdrawals every day are just for cooling power plants. In addition, the oil and gas industries use tens of millions of gallons a day, injecting water into aging oil fields to improve production, and to free natural gas in shale formations through hydraulic fracturing."

If Jordan Cove's application is approved and an LNG export facility is built in Coos Bay, then this facility would be contractually bound to continue LNG exports to Asia regardless of whether future drought conditions would constrain the use of hydraulic fracturing to produce natural gas domestically. This would drive up U.S. natural gas prices and would hurt consumers and businesses in the United States by indirectly causing water shortages and exacerbating water scarcity. This would not be in the public interest.

5. If Jordan Cove is mistaken about Asian demand for imported LNG, then the proposed export facility would be mothballed, but after causing substantial impacts during its construction

Jordan Cove cites to Asian demand for imported LNG as the rationale for building its proposed export facility. In its application, Jordan Cove stated:

"The Jordan Cove facility is the only LNG export terminal proposed for the U.S. West Coast. It is thus uniquely positioned among United States terminals, not only to source its natural gas from Canadian and U.S. Rockies supply basins and to serve Asian demand without the longer routes and Panama Canal transits necessary from the Gulf Coast, but also to provide specific advantages (in addition to the economic benefits already detailed) for gas markets in the United States, in the country's two non-contiguous states of Alaska and Hawaii and in Oregon along the route of the new PCGP pipeline.

"Given North America's enormous shale gas resources and the <u>Asian demand for its</u> <u>production</u>, there is little doubt that Pacific Northwest LNG export facilities will be built."

⁸ Pacific Institute (June 2012) "Hydraulic Fracturing and Water Resources: Separating the Frack from the Fiction." http://pacinst.org/reports/fracking/full_report.pdf

⁹ Webber, E. (July 23rd, 2012) "Will Drought Cause the Next Blackout?" The New York Times.

Application of Jordan Cove Energy Project, L.P. for Long-Term Authorization to Export Liquefied Natural Gas to Non-Free Trade Agreement Nations, FE Docket No. 12-32-LNG, at page 27.

Jordan Cove has already demonstrated its inability to predict demand for natural gas imports and exports. Jordan Cove based the proposed Jordan Cove LNG <u>import</u> terminal in Coos Bay on predictions that an import facility would be needed to meet growing U.S. demand for natural gas imports from overseas. These predictions turned out to be wrong.

Jordan Cove's assumption about sustained Asian demand for LNG imports is likely to be wrong as well; the same factors that created an oversupply of domestic natural gas would likely also create an oversupply of natural gas in Asia, curtailing demand for LNG imports from the U.S. and rendering a West Coast-based LNG export facility economically unviable. According to a recent report of the International Energy Agency:

"The size of unconventional gas resources in China is at an early stage of assessment, but it is undoubtedly large. At end-2011, China's remaining recoverable resources of unconventional gas totalled almost 50 tcm, comprised of 36 tcm of shale gas, 9 tcm of coalbed methane and 3 tcm of tight gas.5 This is around thirteen times China's remaining recoverable conventional gas resources. China's shale gas resources lie in several large basins spread across the country, with plays in the Sichuan and Tarim Basins believed to have the greatest potential.

"The Chinese government has outlined ambitious plans for boosting unconventional gas exploration and production. These call for coalbed methane production of more than 30 bcm and for shale gas production of 6.5 bcm in 2015; the targets for shale gas output in 2020 are between 60 and 100 bcm. They are accompanied by the goal to add 1 tcm of coalbed methane and 600 bcm of shale gas to proven reserves of unconventional gas by 2015. In support of this effort, China plans to complete a nationwide assessment of shale gas resources and build nineteen exploration and development bases in the Sichuan Basin in the next four years. Efforts are also supported by the international partnerships that Chinese companies have formed in North America to develop shale gas acreage, which will provide valuable development experience.

"China's huge unconventional gas potential and strong policy commitment suggest that these resources will provide an increasingly important share of gas in the longer term, though the pace of development through to 2020 – the key period of learning – remains uncertain. Because of China's highly centralised regulatory and policy-making framework and the high priority placed on industrial and economic development, unconventional gas projects may face fewer hurdles stemming from environmental concerns than those in Europe or the United States."

Eastern Europe and Eurasia are also poised to vastly increase production of natural gas from unconventional gas resources. Unlike Jordan Cove, production of natural gas from these locations can supply Asia with natural gas by pipeline.¹²

.http://www.worldenergyoutlook.org/media/weowebsite/2012/goldenrules/WEO2012_GoldenRulesReport.pdf ¹² Ibid., at page 87.

¹¹ International Energy Agency (2012) "Golden Rules for a Golden Age of Gas: World Energy Outlook Special Report on Unconventional Gas," at pages 115-120.

The State of Oregon has found that Jordan Cove's proposed LNG import facility would have had adverse impacts on private landowners and the environment because of this facility's construction.¹³ If Jordan Cove is mistaken (again) about future demand for LNG exports and imports, then the proposed facility would cause adverse impacts on private landowners and the environment by building a facility that would not be economically viable to operate. This would not be in the public interest. (See Exhibits A-G)

6. Liquefaction of natural gas for export/import is energy intensive and greatly diminishes the benefits of using natural gas

The liquefaction of natural gas requires a great amount of energy to compress methane into a liquid. This inherently wastes a substantial portion of the natural gas, which is burned in order to provide power to run compressors at liquefaction facilities. According to Jordan Cove's own study:

"Approximately 6.2 percent of the gas delivered to the JCEP terminal would be either consumed as fuel to operate the liquefaction process or be removed from the feed gas stream (trace sulfur compounds, carbon dioxide, nitrogen and water) prior to or during the liquefaction step. Any hydrocarbons recovered that have a higher molecular weight than methane will fuel the power plant." (Emphasis added).

Transoceanic transport and regasification of LNG are also energy intensive processes. According to a life-cycle assessment prepared by researchers with the Tepper School of Business, and Department of Engineering and Public Policy Carnegie Mellon University comparing coal and LNG:

"The rated power of the LNG tankers ranges between 20 and 30 MW, and they operate under this capacity around 75% of the time during a trip (24, 25). The energy required to power this engine is 11.6MMBtu/MWh(26). As previously mentioned, some of this energy is provided by BOG and the rest is provided by fuel oil. A loaded tanker with a rated power of 20MW, and 0.12% daily boil-off rate would consume 3.88 million cubic feet of gas per day and 4.4 tons of fuel oil per day. The same tanker would consume 115 tons of fuel oil per day on they way back to the exporting country operating under ballast conditions. A loaded tanker with a rated power of 30 MW, and a 0.25% daily boil-off rate would get all its energy from the BOG, with some excess gas being combusted to reduce risks of explosion (22). Under ballast conditions, the same tanker would consume 172 tons of fuel oil per day.

"For LNG imported in 2003 the average travel distance to the Everett, MA LNG terminal was 2700 nautical miles (13, 27). In the future LNG could travel as far as far as 11,700 nautical miles (the distance between Australia and the Lake Charles, LA LNG terminal (27)). This range of distances is representative of distances from LNG countries to U.S.

¹³ State of Oregon's Motion to Reopen the Record and Request to Set Aside Order. December 2, 2011.

¹⁴ ECONorthwest Construction Impact Study, at page 4.

terminals that could be located on either the East or West coasts. To estimate the number of days LNG would travel (at a tanker speed of 20 knots (22)), these distances were used. This trip length can then be multiplied by the fuel consumption of the tanker to estimate total trip fuel consumption and emissions, and these can then be divided by the average tanker capacity to obtain a range of emission factors for LNG tanker transport between 2 and 17 lb CO2 equiv/MMBtu.

"Regasification emissions were reported by Tamura et al. to be 0.85 lb CO2 equiv/MMBtu (21). Ruether et al. report an emission factor of 3.75 lb of CO2 equiv/MMBtu for this stage of the LNG life-cycle by assuming that 3% of the gas is used to run the regasification equipment (28). The emission reported by Tamura et al. differs because they assumed only 0.15% of the gas is used to run the regasification terminal, while electricity, which maybe generated with cleaner energy sources, provides the additional energy requirements. These values were used as lower and upper bounds of the range of emissions from regasification of LNG." ¹⁵

These researchers with Carnegie Mellon University concluded.

"In addition to LNG, SNG has been proposed as an alternative source to add to the natural gas mix. The decision to follow the path of increased LNG imports or SNG production should be examined in light of more than just economic considerations. In this paper, we analyzed the effects of the additional air emissions from the LNG/SNG lifecycle on the overall emissions from electricity generation in the United States. We found that with current electricity generation technologies, natural gas life-cycle GHG emissions are generally lower than coal life-cycle emissions, even when increased LNG imports are included. However LNG imports decrease the difference between GHG emissions from coal and natural gas." ¹⁶

The magnitude of the environmental benefits of natural gas fade away when natural gas is liquefied for export and importation. In general, natural gas supplies should be consumed on the continent they are produced, without liquefaction. For this additional reason, the proposed Jordan Cove export facility is contrary to the public interest.

7. Because Jordan Cove is owned and controlled by foreign investors, any profits from the project would only benefit non-U.S. investors.

The N-FTA Federal Register notice for Jordan Cove states the following:

"...Both Jordan Cove and its general partner are owned by the two limited partners in Jordan Cove. The first, Fort Chicago LNG II U.S.L.P., a Delaware limited partnership owns seventy-five percent. It is wholly owned and controlled, through a number of

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¹⁵ Jaramillo, P., et al (Sep 2007) "Comparative Life-Cycle Air Emissions of Coal, Domestic Natural Gas, LNG, and SNG for Electricity Generation Environ Sci Technol. 41(17):6290-6. http://www.fossil.energy.gov/programs/gasregulation/authorizations/2011 applications/exhibits 11-128-LNG/32. Jaramillo ComparativeLCACoalNG.pdf

¹⁶ Ibid., at page 6294.

intermediate wholly owned and controlled companies, by Veresen, Inc., a Canadian corporation based in Calgary, Alberta, which, prior to its organization as a corporation, was Fort Chicago Energy Partners L.P., a Canadian limited partnership (although the name of the parent changed, the name of the subsidiary owning Jordan Cove did not)..." (Emphasis added)

Fort Chicago Energy Partners L.P. is a Canadian limited partnership in which "only Canadians" are allowed to invest.

"Fort Chicago is organized in accordance with the terms and conditions of a limited partnership agreement which provides that no Class A Units may be held by or transferred to, among other things, a person who is a "non- resident" of Canada, a person in which an interest would be a "tax shelter investment" or a partnership which is not a "Canadian partnership" for purposes of the Income Tax Act (Canada)." 17

Profits projected to be made by Jordan Cove would then be funneled out of the country to only foreign investors. This would not be in the public interest. ¹⁸

8. Obtaining natural gas from Hydro-Fracking techniques is not in the public interest

Jordan Cove Energy Project is currently proposing to export hydro-fracked gas from shale beds in Canada or the United States in the form of Liquefied Natural Gas (LNG). The LNG would be exported from their proposed LNG terminal to be located on the North Spit of Coos Bay in Coos County. Just because the industry has learned how to extract fossil fuel natural gas from shale bed formations does not mean this is a reliable, sustainable or environmentally friendly process. There are loads of factors that affect how much natural gas will actually be produced, and for how long.

The wave of fracking that is currently gong on across the country may soon find limitations due to the detrimental impacts of the fracking process itself. New research was recently published in the Proceedings of the National Academy of Sciences that concluded fluids from the Marcellus Shale are likely seeping into Pennsylvania's drinking water. This means hydrofracking contaminants will find their way into Pennsylvania's water supply also. This issue has create a storm of controversy and after months of research and discussion, Nationwide Insurance issued a memo stating they had determined that the exposures presented by hydraulic fracturing were too great to ignore and they would not be covering fracking damage. Issues such as these

¹⁷ CNW Group, "Canadian Newswire Fort Chicago announces monthly cash distribution for September 2009" September 21, 2009 http://www.newswire.ca/en/releases/archive/September2009/21/c7157.html

¹⁸ Bloomberg - "Exports of LNG May Raise U.S. Prices as Much as 54%, Agency Says"

⁻ By Katarzyna Klimasinska – Jan 19, 2012 http://www.bloomberg.com/news/2012-01-19/lng-exports-may-spur-higher-u-s-natural-gas-prices-report-says.html

¹⁹ ProPublica – "New Study: Fluids From Marcellus Shale Likely Seeping Into PA Drinking Water" by Abrahm Lustgarten; July 9, 2012;

http://www.propublica.org/article/new-study-fluids-from-marcellus-shale-likely-seeping-into-pa-drinking-water

The Huffington Post – "Nationwide Insurance: Fracking Damage Won't Be Covered"

AP | By MARY ESCH; 07/12/2012;

http://www.huffingtonpost.com/2012/07/13/nationwide-insurance-fracking n 1669775.html?utm hp ref=green

could spell a reduction or even a halting of fracking in some areas and as quickly as the shale bed fracking natural gas market has emerged; it could be gone, leaving fast amounts of land taken by the gas industry, possibly by eminent domain, and fossil fuel infrastructure to lay fallow.

 Jordan Cove's proposed LNG export facility will negatively impact existing local and sustainable jobs and industries in the Coos Bay area

9.1 Tourism and Recreation

According to a 2011 study by Dean Runyan Associates for the Oregon Tourism Commission, during the period of 2007 to 2011, direct spending from tourism travel brought in more than a billion dollars into Coos County, Oregon alone. Tourism travel dollars spent in the area have steadily increased every year going from 94.5 million in 1991 to 220.1 million in 2011. There are 3,090 employment jobs in Coos County related to this industry, a direct result of not developing our beaches, dunes and coastline.

Adjacent to the proposed Jordan Cove LNG export facility is a designated Dunes National Recreation Area that is used year round. In addition to this there is the Sunset Bay State Park and Campground which is also used year round along with multiple trails and beach areas in the area, some directly adjacent to the proposed Jordan Cove project. Other examples in the area include the Shore Acres State Park which has a Christmas light show every year that goes from Thanksgiving until New Years. The Park had an estimated 57,768 visitors for the 2011 light show. People came from 25 countries (other than the U.S.) and 42 states. Winter months can see just as many recreational and tourist activates as summer months in our Coos Bay area.

The Final Environmental Impact Statement (FEIS) for Jordan Cove's Import Facility stated the following with regard to this issue: (Emphasis and photos are added)

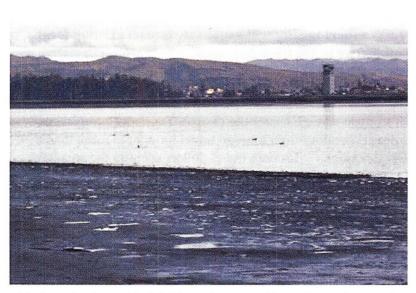
FEIS Page 4.7-5: "... The top five recreational activities along southern Oregon beaches include walking (43 percent), relaxing in a stationary location (24 percent), walking dogs (10 percent), driving OHVs (8 percent), and beachcombing (3 percent) (OPRD 2002)."

FEIS Page 4.7-6: "...Sunset Bay State Park includes a beach, picnic tables, hiking trails, 27 full recreational vehicle (RV) hookups, 66 tent spaces, and eight yurts. A public golf course is next to the park. An OPRD study indicated that Sunset Bay State Park receives 800,000 visitors a year (Hillmann 2006)"

FEIS Page 4.7-6: "... The Oregon Islands National Wildlife Refuge is administered by the FWS, and covers 1,850 rocks, reefs, islands, and two headlands, spanning a total of 320 miles along the Oregon coast. The Oregon Islands National Wildlife Refuge provides sanctuary for seabirds and marine mammals...."

²² Shore Acres State Park Holliday Light Show Stats: http://www.shoreacres.net/images/pdf/stats-hol-Its-2011-wp.pdf

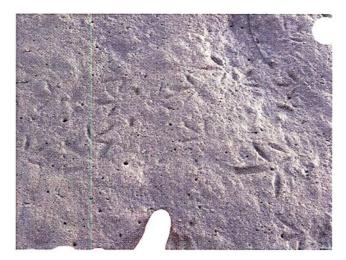
Oregon Travel Impacts 1991-2011p - May 2011; Dean Runyan Associates; Prepared for the Oregon Tourism Commission, Salem, Oregon; Page 83 - http://www.deanrunyan.com/impactsOR.html





Birds swim just off of tidal sand areas at low tide and several species leave footprints in the wet tidal sands where the LNG slip dock is proposed to be built.





According to the World Newspaper; Monday, November 02, 2009:

"Coos Bay got a bit of a tourism boost over the last several days, as 200 or so birders came to the bay to see a rare brown booby that is hanging out near Charleston. People came to scope out the tropical bird from places including Eugene, Portland, Bend, McMinnville, Coos Bay and Washington. The rare tropical bird showed up last week and

is the fourth verified sighting of this species of bird in Oregon. The last local sighting was in October 2008, when a dead female washed ashore at Lighthouse Beach."²³

The Weyerhaeuser site where the Jordan Cove LNG Export facility is proposing to build is arguably one of the best birding destinations in Coos County and attracts a multitude of breeding. migrant and vagrant species year-round. There are species like Wilsons Phalarope and Ring necked Duck. This is a crucial stop-over location for shorebirds during migration where they can rest and refuel, building fat reserves to last them on the next leg of their migration flight.

Oregon has lost much of its shorebird habitat through urban development and filling in wetlands and this site is one of the last significant "refueling stations" left on the Oregon Coast. Shorebirds by the thousands feed in late summer and fall here...

FEIS Page 4.7-7: Figure 4.7-2 list 34 Recreational Areas that are within the LNG Zones of Concern along the waterway for the proposed LNG Marine Traffic.

FEIS Page 4.7-16: "...The Siuslaw National Forest administers the Oregon Dunes National Recreation Area (NRA). It extends 40 miles along the Oregon Coast between Florence and Coos Bay. The Oregon Dunes NRA contains the largest expanse of coastal sand dunes in North America, as well as a coastal forest and over 30 lakes and ponds. Recreational opportunities at the NRA include OHV use, hiking, camping, horseback riding, angling, canoeing, sailing, water-skiing, and swimming. Thousands of OHV owners take advantage of the three main off-highway riding areas within the Oregon Dunes NRA. The day use and overnight camping facilities are used by over 400,000 visitors a year..."

For an Oregon Department of Fish and Wildlife listing of county expenditure estimates for Fishing, Hunting, Wildlife Viewing, and Shellfishing in Coos County and Oregon, see footnote below²⁵

Coos County Local Recreation Expenditures, 2008

Category	Value	% of State Total*	% of All Travel**
Hunting	\$904,977	2.90%	N/A
Fishing Wildlife	\$2,551,433	3.30%	N/A
Viewing	\$1,637,158	4.90%	N/A
Shellfishing	\$1,080,963	20.60%	N/A
Total	\$6,174,531	4.20%	N/A

²³ "Flocking to see a rare bird"; The World Newspaper; Monday, November 02, 2009 http://theworldlink.com/news/local/flocking-to-see-a-rare-bird/article_4c58af85-d571-52c5-b820-3301baf6f9d3.html

³³⁰¹baf6f9d3.html
²⁴ "Site Guide: Weyerhaeuser Settling Pond Site on the North Spit of Coos Bay", Tim Rodenkirk: Oregon Birds 32(2): Pg 68 - 72, Summer 2006

²⁵ "Fishing, Hunting, Wildlife Viewing, and Shellfishing in Oregon - 2008 State and County Expenditure Estimates"; Prepared for the Oregon Department of Fish and Wildlife - Travel Oregon; DeanRunyan Associates; May 2009 http://www.dfw.state.or.us/agency/docs/Report 5 6 09--Final%20%282%29.pdf

Coos County Travel-Generated Expenditures, 2008

Category	Value	% of State Total*	% of All Travel**	
Hunting	\$2,534,940	2.40%	1.40%	
Fishing	\$12,253,254	4.60%	6.70%	
Wildlife				
Viewing	\$14,110,950	3.10%	7.70%	
Shellfishing	\$4,552,379	14.70%	2.50%	
Total	\$33,451,523	3.90%	18.30%	

The Jordan Cove Project will clearly negatively impact this industry and all the permanent and sustainable jobs it supports as well as many others. Incredulously, the ECONorthwest study did not take into account the economic impacts of Jordan Cove's proposed LNG export facility on local tourism and recreation.

9.2 Commercial and Recreational Fishing

The ECONorthwest study did not include negative impacts to our commercial and recreational fishing fleet. This could include negative impacts from <u>transiting LNG tankers</u>, the negative impacts from <u>additional Bay dredging</u>, or negative impacts to <u>salmon bearing streams crossed by the pipeline</u>. This is despite the fact Coos Bay is the third most important harbor in the state of Oregon in terms of total personal income generated from commercial fishing (exceeded only by Astoria and Newport). Commercial landing data compiled by ODFW indicate that a total of \$20.1 million worth of fish and shellfish were landed at Charleston in 2006.²⁶

Landowners and non-profit groups who have done restoration projects to help restore fish runs in Southern Oregon will have their projects and efforts destroyed by the pipeline construction. This would not be in the public interest. (See Exhibits A, B)

FEIS Page 4.7-4: "...According to a 2005 study by the Oregon State Marine Board (OSMB) recreational boaters in Coos Bay took a total of 30,996 boat trips the previous year. Nearly 90 percent of the boat usedays involved fishing (including angling, crabbing, and clamming), 9 percent was for pleasure cruising, and the remainder was for sailing and water skiing. Forty percent of the boating activities in Coos Bay originated from the Charleston Marina, and 20 percent at the Empire ramp..."

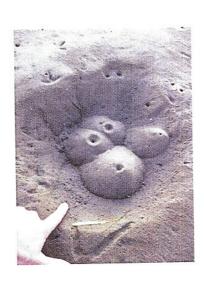
FEIS Page 4.7-4: "... Recreational clamming and crabbing occurs year-round and brings tourism based revenue to the region. Crabbing occurs in the main channel areas from the Southern Oregon Regional Airport to the mouth of the bay around slack tides. Clamming occurs year-round in the mud flats of Coos Bay, but is subject to closure as necessary by the ODA Food Safety Division for reasons of public health (Oregon Department of Agriculture Food Safety Division 2008)...."

²⁶ FERC Final EIS for Jordan Cove LNG Import Facility; http://www.ferc.gov/industries/gas/enviro/eis/2009/05-01-09-eis.asp - Page 4.8-8



Photo to Left: People clamming at low tide in the Lower Coos Bay along Cape Arago Hwy.

Photo to Right: Evidence of Clams in the tidal areas where the LNG slip dock is proposed to be built.



The ECONorthwest study did not account for the total time it would take homeland security to clear the bay before an LNG tanker would transit through the bay, nor did the study account for an accurate number of potential ship transits through the bay. When Freeport LNG import terminal began operating in April of 2008, Petty Officer Second Class Richard Ahlers said it would probably take up to three hours for the boat and its security perimeter to pass through in the first arrivals. Each time a LNG ship crawls into the harbor there, water-borne authorities like the Coast Guard plan on shutting down all boat traffic in a 1,000-meter radius of the transiting LNG vessel. Surfside Beach Mayor Jim Bedward said the village boat ramp, once it opened, would be closed as the ships pass. The City Hall in Freeport would get a 92-hour warning of the oncoming ships but would keep knowledge of the high-security vessels' arrival to themselves — for obvious reasons. ²⁷/²⁸

Likewise the Jordan Cove LNG facility consultants have shown that ship transits would have security zones that are very similar to Freeport except that in some cases security zones for Jordan Cove would encompass the entire width of the Coos Bay and would take from 90 minutes to two hours. This would be an extreme hardship on the Commercial fishing fleet that also need high slack tides in order to transit the Coos Bay.

In Coos County the Pacific Connector is slated to directly negatively impact native Olympia oysters in Haynes Inlet and also Clausen Oyster Company's highly productive silver point Pacific oyster beds. Coos Bay is the largest commercial producer of shellfish in the state of Oregon. Pacific oysters are commercially raised in the mudflats of South Slough and Haynes Inlet and the upper bay east of McCullough Bridge. Clamming also occurs at Haynes Inlet. (FEIS page 4.7-17) In recent testimony provided by the Clausen Oyster Company, Lilli Clausen stated the following:

²⁷ "Coast Guard preparing for port shutdowns", The Facts, by Hunter Sauls, April 14, 2008 http://thefacts.com/story.lasso?ewcd=f482d0ca682cb716

²⁸ Platts LNG Daily April 11, 2008 [subscription required] reports that the <u>Sabine Pass LNG terminal</u> expects to receive its commissioning cargo aboard the LNG carrier Celestine River today. In preparation for the arrival of the ship, the U.S. Coast Guard will impose a security zone at the Sabine Pass in Louisiana for approximately three hours between noon and 7 p.m...

"When the engineer and some other people representing LNG were in our office a few weeks ago my husband, Max, and I tried to explain that the proposed line was too destructive to our oyster business..." (See Exhibit E)

9.3 Timber Production

The Jordan Cove proposal will force a significant change and a significant cost increase in accepted tree farm and forest practices on agricultural and forest lands. Including but not limited to:

- Permanent loss of timber in pipeline right of way.
- Increased loss in timber production due to increased wind in the pipeline right of way. Coos County Commissioner, Fred Messerle, who is also a local private timber operator stated recently in public testimony,

"Cutting and maintaining an extended "hard edge" in an existing and/or new stand of timber will dramatically increase the wind loss over the 40 year rotation and thus increase cost and decrease yield."

- Increase risk of foot traffic and spread of disease and root rot. Pacific Connector's plan will significantly change the accepted practices involved in raising a 40-year crop and/or in a worst case, eliminates the value of the land all together for timber production.
- Increased risk of noxious weed growth which negatively impacts timber production.
- An open vector (right of way) with dry grass and brush creates a path for fire to "run on." This means an increase in fire hazard exposure and risk in currently high timber production areas.
- Project significantly changes and or increases the costs of accepted practices overall. According to Commissioner Messerle,

"Timber harvesting (logging) has always had a very "thin margin" of profit. Logging is not a "get rich quick" proposition. Any change to accepted logging practices will increase costs, decrease margins and significantly change the cost of accepted forest practices." (See Exhibit F)

Yankee Creek Forestry also issued similar statements with regard to the negative impacts this proposed LNG project and pipeline will have on timber production. (See Exhibit G)

Construction of the Pacific Connector pipeline would affect about 3,035 acres of forest and woodland, 623 acres of agricultural lands, 488 acres of grasslands-shrubland, and 131 acres of non-riparian vegetation. (FEIS page 5-9). Approximately 151 miles, or 66 percent, of the proposed pipeline route would cross private property, which could be taken by eminent domain. The remaining 79 miles (34 percent) of pipeline route would cross public lands administered by the BLM (18 percent), USFS (12 percent), BOR (0.14 percent), (FEIS page 4.8-25)

It is difficult enough for a small family owned operation to monitor and oversee its base operation. The Jordan Cove / Pacific Connector project will change family owned and operated practices and increase costs to timber production. Some businesses are likely to go out of business due to this increased cost.

In addition, Jordan Cove did not analyze timber jobs that will be impacted and lost from the flooding of the market with 144 miles of forestlands that will be clear-cut for pipeline construction. This will force timber prices to an all time low which will negatively impact the industry even more than it already has been. It could take years to recover.

9.4 Loss of other Proposed Port Developments

The negative impacts of the Jordan Cove Energy / Pacific Connector pipeline project to bay area businesses, including future potential businesses, industries and land owners was not considered in Jordan Cove's economic reports.

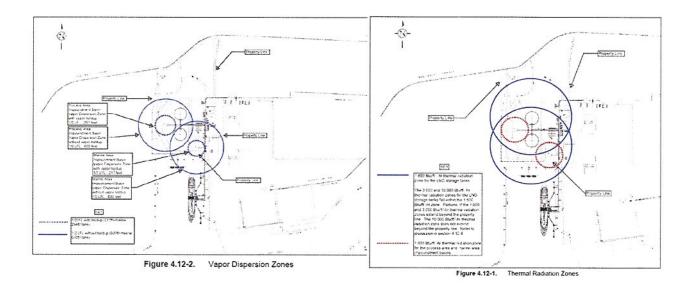
For example, on January 20, 2011 the Oregon International Port of Coos Bay presented the following diagram at their Port Commission meeting concerning a proposed Wind Project the Port is currently working on potentially developing.²⁹



Unfortunately the proposed Jordan Cove Energy LNG Project Thermal Radiation Zones and Vapor Dispersion Zones would negatively impact the above proposed development as shown in the following diagrams below taken from the Final EIS of the Jordan Cove Import facility.³⁰

²⁹ January 20, 2011, Oregon International Port of Coos Bay Wind Development presentation: http://www.portofcoosbay.com/minutes/wind.pdf

³⁰ FERC Final EIS for Jordan Cove / Pacific Connector - Diagrams of Jordan Cove's Thermal Radiation Zones and Vapor Dispersion Zones - Pages 4.12-19 and 4.12-21: http://www.ferc.gov/industries/gas/enviro/eis/2009/05-01-09-eis.asp



On October 8, 2010, FERC sent a letter to Jordan Cove requesting that Jordan Cove revise their Flammable Vapor-Gas Exclusion Zone requirements and modeling to be in compliance with PHMSA Recent Guidance contained in Title 49 CFR Part 193.2059. It is highly likely that the Jordan Cove facility's hazard exclusion zones will end up being much larger than they currently are when they are calculated properly to be in compliance with PHMSA. This could have devastating impacts to other users of the harbor, adjacent landowners and industrial development including the Port's proposed Oregon Gateway cargo terminal, which would not be allowed to operate in these hazard zones. Jordan Cove has not to date filed with FERC their revised Flammable Vapor Gas Exclusion Zone requirements and modeling. Clearly Jordan Cove is aware of this problem and by now the Port should be.

In December 2011, a revised Land Option Agreement with the Jordan Cove Energy Project took back a large portion of Henderson Marsh to the west of the Jordan Cove facility to satisfy these thermal radiation and flammable vapor gas exclusion zone requirements. These thermal radiation and flammable vapor gas exclusion zones must be controlled by the Jordan Cove Energy Project at all times and must remain within the property boundaries of the facility. This will put any planned development to the west of the proposed Jordan Cove facility, including the above proposed wind turbine development, at risk.

The Oregon International Port of Coos Bay says its proposed Marine Terminal Slip is being designed for the Jordan Cove LNG docking facility and other potential marine uses on the west side berth. But the Marine Slip will not likely be usable for purposes other than those associated with and/or controlled by the Jordan Cove Energy Project. At a recent site tour held on March 27, 2012, that was sponsored by the Jordan Cove Energy Project, Bob Braddock from Jordan Cove stated that the current proposed Marine Terminal Slip was only designed to handle one vessel. Presumably this is due to Jordan Cove's thermal radiation and vapor dispersion exclusion

³¹ October 8, 2010 letter requesting Jordan Cove Energy Project, L.P. provide the informing described in Enclosure 3 to assist the FERC in their review re the PHMSA Interpretations on the Part 193 Exclusion Zone Regulations under CP07-444. http://elibrary.FERC.gov/idmws/file_list.asp?accession_num=20101008-3036

zones referenced above and also the Coast Guard safety and security hazard zones proposed for the LNG facility and berth that will preclude the use of the berth for other purposes.

The safety and security hazard zones the Coast Guard has proposed to impose will encompass the LNG vessel both while the vessel is moored and even when the LNG vessel is not moored. When the LNG vessel is at the docking facility there will be a 150 yard security zone around the vessel to include the entire terminal slip and when there is no LNG vessel moored, the security zone shall cover the entire terminal slip and extend 25-yards in the waterway. (CG-WSA page 2)³² In addition, the Coast Guard has also set a moving safety/security zone for the LNG tanker ship that extends 500-yards around the vessel but ends at the shoreline. No vessel may enter the safety/security zone without first obtaining permission from the Coast Guard Captain of the Port who resides in the Portland, OR office.³²

As a result of the above safety zones, the Port's proposed Marine slip can realistically serve only LNG terminal purposes.

In addition, the ECONorthwest study assumes there will be only 80 - 90 shipments per year and not the more realistic number of between 186 - 232 LNG vessel harbor disruptions that would include LNG vessels both coming and leaving the lower Coos Bay during high slack tides. (See Exhibit J)

Detailed issues concerning Pollution, Noise, Visual Impacts, Security, LNG Hazards, Natural Hazards and Emergency Response were filed with the Federal Energy Regulatory Commission for the Jordan Cove LNG Import / Pacific Connector Docket numbers CP07-444-000 and CP07-441-000. Most of these issues were never fully addressed and would apply whether you were importing or exporting LNG.³³

FERC's Order³⁴ that was recently pulled had 128 Conditions of Approval, many highly unlikely that Jordan Cove would ever be able to meet. The impacts of these issues and the true negative effects of the Jordan Cove LNG proposal on jobs in tourism, recreation, real estate, fishing, clamming, crabbing, oyster harvesting, timber, etc, were not addressed or considered fully in any economic study.

10. The proposed project will not provide tax revenue to local government

The Jordan Cove LNG facility will not increase the tax base of Coos County. The facility will sit in an Enterprise Zone and will be exempt from paying taxes for 3 or more years. The facility

Coast Guard - LOR / WSR / WSA for Port of Coos Bay / Jordan Cove Energy Project: http://homeport.uscg.mil/mycg/portal/ep/contentView.do?contentTypeId=2&contentId=63626&programId=12590&pageTypeId=16440&BV

³³ January 15, 2010, letter to FERC with detailed information on LNG Hazard information and studies; http://elibrary.FERC.gov/idmws/file_list.asp?accession_num=20100115-5057

³⁴ December 17, 2009, FERC Order on the Jordan Cove / Pacific Connector LNG Import Project - Dockets CP07-441-000; CP07-444-000 et al: http://elibrary.FERC.gov/idmws/file-list.asp?accession_num=20091217-3076

also will sit in an Urban Renewal District for the North Spit, which is administered by the Oregon International Port of Coos Bay. Money received is to go to Urban Renewal for the North Spit. The Oregon International Port of Coos Bay has already announced at Port meetings how they plan on spending this money. It will not go into the County general fund for roads, schools, sheriffs, and other necessary county expenditures.

11. Jordan Cove proposed LNG export facility would create substantial risks to public safety

Building an LNG import-export terminal on dredging spoils located on a sand spit (an unstable sand dune area) directly across the bay from an airport runway, in the flight path of the runway, in an extreme tsunami inundation zone, in an earthquake subduction zone, in an area known for high winds and ship disasters, less than a mile from a highly populated city not only violates multiple safety codes and regulations but is not in the public interest.

The Jordan Cove LNG facility is not following gas industry recommended guidelines for the safe siting of LNG Ports and jetties, putting thousands of people in the Coos Bay area at risk.

11.1 Tsunami and Earthquake Hazards

The Jordan Cove Energy Project has never complied with FERC's request to show that that their facility which will be located on dredging spoils on a sand spit in a natural hazard zone has met engineering designs in order to withstand a Cascadia subduction 9.0 earthquake event and/or a tsunami. Since it is not a matter of "if" but a matter of "when" a Cascadia subduction event will occur off of our Pacific West Coast, placing a hazardous LNG facility in these natural hazard zones would not be in the public interest. (See Exhibit H)

It is estimated to take 90 minutes to 2 hours for an LNG tanker to transit from K Buoy to the marine slip dock. It is also estimated that it will take around 15-20 minutes from the time of a Cascadia subduction earthquake event until a tsunami would come ashore in the Coos Bay. A new study from Oregon State University says that the South Coast has a 40 percent chance of experiencing a major earthquake and resulting tsunami sometime in the next 50 years. The study further suggests that that tsunami could have a greater impact on the South Coast — around Coos

³⁵ December 17, 2009, FERC Order - pages 79-84, Conditions 52-65,70,74: http://elibrary.FERC.gov/idmws/file_list.asp?accession_num=20091217-3076

The World, Coos Bay — "Not a matter of 'if' It's a matter of when. What will the South Coast look like after a major disaster?" Stories by Jessica Musicar, Nia Towne, Andy Rossback and Nate Traylor. Illustrations by Jeff Trionfante, Benjamin Brayfield and Andy Rossback The World | Posted: Saturday, August 7, 2010 http://theworldlink.com/news/local/not-a-matter-of-if/article_d4b8e520-a1f3-11df-89f5-001cc4c03286.html

^{• &}quot;Oregon geology: 'The next 'Big One' is imminent'": Story Published: Oct 16, 2009; Courtesy OSU News & Communications; http://www.kval.com/news/tech/64534977.html: "... The release of pressure between two overlapping tectonic plates along the subduction zone regularly generates massive 9.0 magnitude earthquakes – including five over the last 1,400 years," Corcoran said. "The last 'Big One' was 309 years ago. We are in a geologic time when we can expect another 'Big One,' "Prudence dictates that we overcome our human tendencies to ignore this inevitability," he added...".

[•] Visit www.oregontsunami.org for more information on current tsunami maps and hazards in the vicinity of the Jordan Cove Energy LNG project.

Bay — than other areas of the west coast. According to the study's authors, the clock is ticking fast. There is no consideration for this LNG ship transit hazard in the FERC FEIS or the Coast Guard Letter of Recommendation (LOR) or Water Suitability Assessment (WSA) or Jordan Cove's 3/31/09 Emergency Response Memorandum of Understanding (MOU). There is no Emergency Response plan that encompasses this and/or other safety issues in regard to transiting LNG tanker ships, floating objects, adrift vessels, barges, etc. Effects of tectonic subsidence (prolonged changes in tidal elevation inherent in the earthquake source scenarios used for tsunami generation) were also not considered in the FERC FEIS.

11.2 LNG Safety and Security Hazard Guidelines and Impacts

Industry SIGTTO Guidelines,³⁸ Sandia National Laboratory Guidelines,³⁹ GAO Report Guidelines⁴⁰ and the most recent U.S. Department of Energy report to Congress, "Liquefied Natural Gas Safety Research"⁴¹ are not being considered or followed. The FERC Final EIS did not address the project's notable departures from **industry standards or comments to them on those departures**.³⁸ It is not in the public interest to proceed with this proposed project until these issues are fully addressed.

If the Jordan Cove LNG project should proceed, LNG tanker ships will be transiting our Coos Bay harbor carrying around 39 million gallons of LNG. If only about 3 million gallons of LNG was to spill onto the water from an LNG tanker ship, flammable vapors from the spill could travel up to three miles⁴². If a pool fire was to develop, people up to a mile away would be at risk of 2nd degree burns in 30 seconds. ^{39/40/41}

³⁷ Study: Coos Bay region in danger of megaquake" By KATU.com Staff, Published: Aug 1, 2012 http://www.kpic.com/news/local/Study-Coos-Bay-region-in-danger-of-megaquake-164645456.html

[•] Oregon State University - "13-Year Cascadia Study Complete – and Earthquake Risk Looms Large" 8-1-12 - http://oregonstate.edu/ua/ncs/archives/2012/jul/13-year-cascadia-study-complete-%E2%80%93-and-earthquake-risk-looms-large 38 "Site Selection & Design for LNG Ports & Jetties – Information Paper No. 14" - Published by Society of

[&]quot;"Site Selection & Design for LNG Ports & Jetties – Information Paper No. 14" - Published by Society of International Gas Tanker and Terminal Operators Ltd / 1997

<a href="http://www.dma.dk/themes/LNGinfrastructureproject/Documents/Risk%20analyses/sigtto-sigto-si

³⁹ SANDIA REPORT "Guidance on Risk Analysis and Safety Implications of a Large Liquefied Natural Gas (LNG) Spill Over Water"; Mike Hightower, Louis Gritzo, Anay Luketa-Hanlin, John Covan, Sheldon Tieszen, Gerry Wellman, Mike Irwin, Mike Kaneshige, Brian Melof, Charles Morrow, Don Ragland; SAND2004-6258; Unlimited Release; Printed December 2004; http://www.fossil.energy.gov/programs/oilgas/storage/lng/sandia_lng_1204.pdf
⁴⁰ United States Government Accountability Office, Report to Congressional Requesters, Maritime Security; "Public Safety Consequences of a Terrorist Attack on a Tanker Carrying Liquefied Natural Gas Need Clarification", February 2007; GAO-07-316: http://www.gao.gov/new.items/d07316.pdf

⁴¹ U.S. Department of Energy report to Congress, "Liquefied Natural Gas Safety Research"; May 2012: http://www.fossil.energy.gov/programs/oilgas/storage/publications/DOE_LNG_Safety_Research_Report_To_Congre.pdf [NOTE: Based on the data collected from the large-scale LNG pool fire tests conducted, thermal (fire) hazard distances to the public from a large LNG pool fire will decrease by at least 2 to 7 percent compared to results obtained from previous studies. In spite of this slight decrease, people up to a mile away are still at risk of receiving 2nd degree burns in 30 seconds should a LNG pool fire develop due to a medium to large scale LNG breach event.]

⁴² "LNG and Public Safety Issues - Summarizing Current Knowledge about Potential Worst Case Consequences of LNG spills onto water". Jerry Havens, Coast Guard Journal Proceedings, Fall 2005

11.3 Airport Issues and Hazards

The proposed Jordan Cove LNG facility and South Dune Power Plant and liquefaction facility are directly across the Bay in close proximity to the Southwest Oregon Regional Airport in North Bend. Airport airspace and hazard issues were not addressed properly in the FERC FEIS. LNG Tank Heights clearly violate Title 14 Code of Federal Regulations (CFR) Part 77, Objects Affecting Navigable Airspace. Many issues concerning this and other airport hazards were raised in comments to FERC (Docket # CP07-444-000 and CP07-441-000)⁴³ The airport will clearly be impacted negatively in order for LNG vessels to safely transit our Coos Bay harbor. This would greatly affect many businesses in the area including the Bandon Dunes World Renowned Golf Course. Currently, there are no plans to prevent this impact and protect citizens in this area and that is not in the public interest. Issues involving LNG tanker passage and air space issues were also not addressed in the Coast Guard's LOR, WSA or considered in Jordan Cove's economic analysis.

11.4 Inadequate Emergency Response Resources

Emergency Response is inadequate with most Emergency Responders located in the Hazard Zones of Concern of the facility and LNG tanker transit. See Hazard Zone maps on FEIS pages 4.7-3,-7,-15.⁴⁴ The Coast Guard WSA is not in line with the Gas Industry SIGTTO guidelines and recommendations nor the Sandia National Laboratories guidelines and recommendations. The Coast Guard did not account for many LNG potential hazards in the waterway, air and shoreline and they failed to consider or mention hazard issues listed in the Coos County Natural Hazards Mitigation Plan. They underestimated the number of annual vessel calls and included no plans for handling tsunamis and earthquakes in their reports.

"Once ignited, as is very likely when the spill is initiated by a chemical explosion, the floating LNG pool will burn vigorously... Like the attack on the World Trade Center in New York City, there exists no relevant industrial experience with fires of this scale from which to project measures for securing public safety." – Statement by Professor James Fay, Massachusetts Institute of Technology

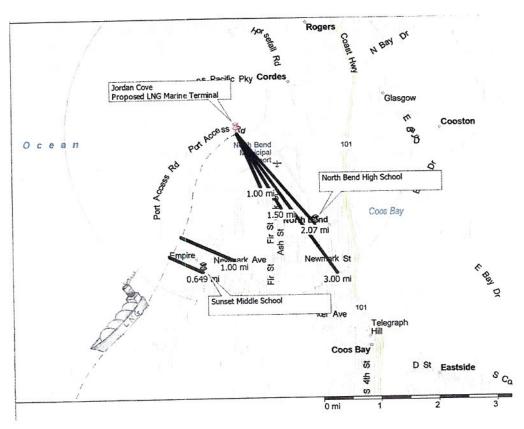
Sandia Laboratory's Dec 2004 Report; "Guidance on Risk Analysis and Safety Implications of a Large Liquefied Natural Gas (LNG) Spill Over Water", states on page 83; "... The distance from the fire to an object at which the radiant flux is 5 kW/m2 is 1.9 km" (1.181 miles).

To clearly understand this one must understand that 5 kW/m2 is the heat flux level that can cause 2nd degree burns on exposed human skin in 30 seconds.

⁴³ March 31, 2009 comment letter to FERC addressing Safety and Security issues / Airport Hazards / Tsunami and Earthquake hazards:

http://elibrary.FERC.gov/idmws/file_list.asp?accession_num=20090331-5160 - & http://elibrary.FERC.gov/idmws/file_list.asp?accession_num=20090401-5170

FERC Final EIS for Jordan Cove / Pacific Connector http://www.ferc.gov/industries/gas/enviro/eis/2009/05-01-09-eis.asp Pages 4.7-3,-7,-15



The FERC Jordan Cove Energy (Import) Project Final Environmental Impact Statement (FEIS) - Section 4-7, pages 4.7-3 and 4.7-15, has maps with diagrams of the structures that are within the LNG Ship Transit Route Hazard Zones of Concern. ⁴⁵ (See Exhibit I) According to the FERC Final Environmental Impact Statement for Jordan Cove (FEIS page 4.8-2), 16,922 people live in these hazard zones along the waterway and yet there is little concern given for their safety. Trees and burnable scrub brush cover our area. Secondary fires will be paramount should an LNG accident occur. The FERC FEIS ignored comments on these dangers. The Coos Bay area has one hospital; it does not have a "Burn Unit." Neither the FEIS nor any public communication from Jordan Cove Energy Project, Inc. ("JCEP") has suggested how the medical response to even a minor LNG hazardous event could be handled in light of our area's obvious insufficiency of appropriate medical facilities and personnel.

Many of the guidelines for safety that are suggested in the gas industries "Society of International Gas Tanker & Terminal Operators" (SIGTTO)⁴⁶ Information Paper No. 14 have been completely ignored in this terminal siting, including the following:

 Approach Channels. Harbor channels should be of uniform cross-sectional depth and have a minimum width, equal to five time the beam of the largest ship

http://www.ferc.gov/industries/gas/enviro/eis/2009/05-01-09-eis.asp

46 Site Selection & Design for LNG Ports & Jetties – Information Paper No. 14 - Published by Society of International Gas Tanker and Terminal Operators Ltd / 1997

⁴⁵ FERC Jordan Cove LNG Import FEIS pages 4.7-3 and 4.7-15:

- 2) **Turning Circles**. Turning circles should have a minimum diameter of twice the overall length of the largest ship, where current effect is minimal. Where turning circles are located in areas of current, diameters should be increased by the anticipated drift.
- 3) **Tug Power**. Available tug power, expressed in terms of effective bollard pull, should be sufficient to overcome the maximum wind force generated on the largest ship using the terminal, under the maximum wind speed permitted for harbor maneuvers and with the LNG carrier's engines out of action.
- 4) Site selection process should remove as many risk as possible by placing LNG terminals in sheltered locations remote from other port users. Suggest port designers construct jetties handling hazardous cargoes in remote areas where ships do not pose a (collision) risk and where any gas escaped cannot affect local populations. Site selection should limit the risk of ship strikings, limiting interactive effects from passing ships and reducing the risk of dynamic wave forces within mooring lines.
- 5) Building the LNG terminal on the outside of a river bend is considered unsuitable due to fact that a passing ship may strike the berthed carrier if the maneuver is not properly executed.
- 6) SIGTTO Examples given for reducing risk factors beyond normal operations of ship/shore interface include LNG terminal patrols of the perimeter of the offshore safety zones with guard boats and to declare the airspace over an LNG terminal as being a restricted zone where no aircraft is allowed to fly without written permission.
- Restriction of the speed of large ships passing close to berthed LNG carriers.

Also ignored were some of the safety guideline preventative measures in the Sandi National Laboratories Report – "Guidance on Risk Analysis and Safety Implications of Large Liquefied Natural Gas (LNG) Spill Over Water" – Dec 04:⁴⁷

- 1) Appropriate off-shore LNG ship interdiction and inspections for explosives, hazardous materials, and proper operation of safety systems;
- 2) Appropriate monitoring and control of LNG ships when entering U.S. waters and protection of harbor pilots and crews;
- 3) Enhanced safety zones around LNG vessels (safety halo) that can be enforced:
- 4) Appropriate control of airspace over LNG ships; and
- 5) Appropriate inspection and protection of terminal areas, tug operations prior to delivery and unloading operations.

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⁴⁷ Without an emergency response plan to review it is hard to know if some of these recommendations have been met. Page 4.8-9 of FEIS states, "The Coos County Airport District, which operates the airport, has stated that the airport would not have to stop operations while an LNG carrier was transiting in the waterway past the airport." "...and the Coos Bay Pilots Association foresees no delays for airplanes using the airport resulting from LNG marine traffic in the waterway." This clearly violates Sandia's safety guideline preventative measure recommendations.

Conclusion

It may be in the financial interest of some Canadian energy company to export domestic natural gas across the United States and across Oregon landowner's private property. But it is contrary to the public interest. Exporting Canadian and domestic natural gas from Jordan Cove will (1) put Coos Bay area residents at risk in the event of a Magnitude 9 earthquake and tsunami; (2) deprive many landowners of the full use of their private property; (3) negatively impact Oregon forests and waterways; (4) increase the costs for residential, commercial, and industrial natural gas users; and (5) negatively impact businesses and industries in Oregon and in other parts of the United States. The DOE should not grant such a permit for Jordan Cove to export LNG to non-free trade agreement nations when it is clearly not in "the public interest" both nationally and locally to do so.

Sincerely,

Jody McCaffree

Executive Director, Citizens Against LNG Inc

Jody Mc Caffre

Citizens Against LNG Index for Exhibits

Exhibit A - Coos Watershed Association, May 13, 2010, comment letter on Pacific Connector Gas Pipeline Coos County CUP #HBCU-10-01.

Exhibit B - Declaration of Russell R Lyon on Pacific Connector Gas Pipeline Case No. CV-10-6279-HO

Exhibit C - Williams / Metcalf, May 13, 2012, comment letter on Pacific Connector Gas Pipeline Coos County CUP #HBCU-10-01.

Exhibit D – McCauley, May 11, 2012, comment letter on Pacific Connector Gas Pipeline Coos County CUP #HBCU-10-01.

Exhibit E - Clausen Oyster, May 13, 2010, comment letter on Pacific Connector Gas Pipeline Coos County CUP #HBCU-10-01.

Exhibit F - Messerle and Sons, June 10, 2010, comment letter on Pacific Connector Gas Pipeline Coos County CUP #HBCU-10-01.

Exhibit G - Yankee Creek Forestry/Jake Robinson, June 7, 2010, comment letter on Pacific Connector Gas Pipeline Coos County CUP #HBCU-10-01

Exhibit H - Current 2012 Tsunami Evacuation Map of Jordan Cove Project area

Exhibit I - Jordan Cove LNG Tanker Hazard Zones from FERC Final EIS page 4.7-3

Exhibit J - Calculation of the approximate number of LNG Ship Transits needed to liquefy .8 and 1 billion cubic feet of gas per day and transport using 148,000 cubic meter ships.



Coos Watershed Association Board of Directors

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Jason Richardson Weyerhaeuser Company

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Jon A. Souder, Ph.D. Executive Director MY & S Year

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Charleston, OR 97420
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E-mail: cooswa@cooswatershed.org
Web: www.cooswatershed.org

May 13, 2010

Ms. Patty Evernden, Planning Director Coos County Planning Department 250 N. Baxter Coquille, OR 97423

RE: Written Comments on Pacific Connector Pipeline #HBCU-10-01

Dear Ms. Evernden,

By a consensus vote without objection, the Board of Directors of the Coos Watershed Association at its regular meeting on May 10, 2010 authorized me to provide these written comments on the environmental effects of the Conditional Use Permit HBCU-10-01 to construct the Pacific Connector Liquefied Natural Gas (LNG) pipeline. The Association takes no position as to the merits of this project, but feels that certain aspects of the Hearings Board Conditional Use (HBCU) permit that affect watershed concerns need to be addressed. Based on the Proposed Route WC-1A from the FERC DEIS, which is the alignment being considered for the HBCU, we would like to provide information related to this route.

- 1. The alignment of Proposed Pacific Connector Pipeline (Route Alternative WC-1A) as identified in the Notice of Land Use Hearing does not follow a path of least environmental disturbance in the area covered by the Coos Bay Estuary Management Plan (CBEMP) of the Coos County Zoning and Land Development (CCZLDO). Alternative routes are available that would significantly reduce construction impacts and long term right-of-way maintenance impacts to streams and wetlands. Specifically, the Amended Blue Ridge Alternative Route includes a ridgeline alignment beginning at approximately MP 8 on the Proposed Route WC-1A in Section 20 (T.25S.;R.12W.) and joining with the Blue Ridge Route Variation in Section 33 (T.25S.; R.12W.). This route would avoid the impacts to lowland areas (particularly wetlands), while reducing the number of stream crossings. This "Amended Blue Ridge Alternative Route" largely follows the ridgeline between the Catching Slough and Daniels Creek watersheds, and is consistent with the design strategies identified in the Jordan Cover/Pacific Connector FERC DEIS to reduce environmental impacts.
- 2. This route crosses two significant streams (Kentuck Slough and Willanch Slough), both of which have high value for coho salmon. The area downstream from the proposed crossing at Willanch Slough is presently being considered for a Wetland Mitigation Bank, while the area upstream has had significant and successful riparian restoration projects. Information on the biological resources in these areas is available in our Coos Bay Lowlands Watershed Assessment (www.cooswatershed.org).

- 3. The route down Lilienthal Creek (T.25S.;R.12W., Sections 20 and 30) will cross the entirety of the Brunschmid Wetland Reserve Project (WRP) that has a perpetual easement held by the U.S.D.A. Farm Services Agency. This site has had significant restoration work during 2008 and was completed in the winter of 2009. Juvenile coho salmon (a Federally-listed Threatened species) were found during fish surveys in this wetland. We expect chronic sedimentation problems to occur in this wetland and Lilienthal Creek if the pipeline parallels the stream down this valley.
- 4. Across East Bay Drive—and hydrologically connected to the Brunschmid WRP—are high quality tidal fringe wetlands (low and high salt marsh) adjacent to the Cooston Channel that have also been identified as having potential for long-term protection and enhancement. These wetlands are in CBEMP zones 18RS, 18A-CA and 18B-CA. The area includes sites (U-12 and U-16(a)) identified as "high" priority for wetland mitigation as a Management Objective (§4.5.480), and this use would appear to be precluded by a 50' LNG pipeline right-of-way. Because juvenile coho salmon were found upstream in the Brunschmid WRP, they will also use this site.
- 5. Once it crosses the Coos River the proposed pipeline route will traverse lowlands adjacent to Catching Slough and its tributaries (approximately MP 8.25 to MP 18). These areas provide some of the most significant current lowland habitat for coho and Chinook salmon rearing, potential wetland restoration opportunities, and needed riparian restoration to reduce summer stream water temperatures. Of particular importance are Stock Slough (MP 10.1), the crossing in lower Catching Slough (MP 11), and Boone Creek (MP 15.75). All these streams and sloughs are used by coho salmon, and the adjacent riparian areas provide resources for these fish and other aquatic life. Additional information on these resources is found in the recently completed Catching Slough Assessment and Action Plan in the Publications section of our website (www.cooswatershed.org).

The Coos Watershed Association is interested in working with Coos County and Williams Pipeline consistent with our mission to "support environmental integrity and economic stability within the Coos watershed." In addition to our watershed assessments and restoration action plans, we have a deep knowledge of local conditions and landowner concerns in the project area in the Coos Bay Frontal watershed, as well as experience in designing and implementing water quality and habitat restoration and road upgrade projects. We would be happy to discuss such possibilities with the project proponents as plans progress.

Please don't hesitate to contact me if you have questions or need additional information.

Cordially,

Jon A. Souder, Ph.D.

Executive Director

Pursuant to the CCZLDO Section 5.7.300.4.B(4), I certify that Dr. Jon A. Souder is authorized to provide these comments on behalf of the Coos Watershed Association.

JR Herbst, President

Date: 5/13/10

Susan Jane M. Brown (OSB #054607) Western Environmental Law Center 4107 N.E. Couch Street Portland, Oregon 97232

Tel: 503-914-1323 Fax: 541-485-2475 brown@westernlaw.org

Attorney for Applicants-in-Intervention/Defendants

UNITED STATES DISTRICT COURT DISTRICT OF OREGON EUGENE DIVISION

PACIFIC CONNECTOR GAS PIPELINE, LP, a Delaware limited partnership;

Plaintiff,

VS.

LOUISE SOLLIDAY, in her official capacity as Director of the Oregon Department of State Lands; and RICHARD WHITMAN, in his official capacity as Director of the Oregon Department of Land Conservation and Development;

Defendants, and

BOB BARKER, JOHN CLARKE, BILL GOW, RUSS LYON, and MARY MARGARET MUENCHRATH, individuals; and OREGON WOMEN'S LAND TRUST, a nonprofit corporation;

Applicants-in-Intervention/Defendants.

Case No. CV-10-6279-HO

DECLARATION OF RUSSELL R. LYON

I, RUSSELL R. LYON, do hereby declare and state:

 My name is Russell R. Lyon. I make this declaration based on my own belief and knowledge.

- My property, which I own with my wife Sandra G. Lyon, is located at 3880 Days Creek
 Road, Days Creek, Oregon, 97429.
- 3. The Pacific Connector pipeline would cross through our property.
- 4. We have a 306-acre ranch consisting of farm and forest land.
- 5. There are two large creeks on our ranch. Days Creek runs east to west near the southern edge for almost the full length of our property before turning south, and Fate Creek runs north to south near the western edge. Nestled between these two creeks at the southwest corner, our house and barns are spread out on about five acres.
- 6. The proposed 36-inch diameter pipeline transporting unscented natural gas at 1400psi, buried as little as 2 to 3 feet under the surface, will cross the southwest corner of our ranch within less than 500 feet of our house.
- 7. I understand that the minimum safe blast zone around this type of high pressure gas line is 900 feet.
- 8. The pipeline would first enter our property on the western side, cutting southeast through a pasture before crossing Fate Creek (at pipeline milepost 88.48) within 500 feet of our house. It would then exit our property through another pasture before crossing Days Creek south of our property, but still within 500 feet of our house, and as it turns to head southeast.
- 9. The proposed pipeline would rip open 75 foot wide swaths across any stream or river, and create a 100 foot wide scar everywhere along its route.
- 10. I would like to tell you about the Fate Creek Project.
- 11. Fate Creek is a small stream in Douglas County, Oregon. It is a poster child, so to speak, of what citizens can do to improve our water quality and salmon habitat. Back in 1990, my wife and I searched all over the West for a spot to settle down and raise our family in a healthy

environment. When we moved to Days Creek, Oregon, it fulfilled all our dreams of a rural environment off the beaten track, away from many of man's detrimental impacts on the environment. Never in our wildest dreams did we imagine that a huge natural gas pipeline would be proposed right through our property. (The first map from Pacific Connector Corporation showed it going right through our very house!)

- 12. My wife and I purchased a historic cattle ranch which, through our hard labor, we turned into an organic farm.
- 13. We have spent 18 years improving our environment, and in particular, Fate Creek. We sought out and worked with the local Soil and Water Conservation District, our local Watershed Council, Oregon Department of Fish and Wildlife, and the Bureau of Land Management (BLM) to carry out numerous improvement projects to this small rural stream to restore its historic salmon runs.
- 14. As a tributary to Days Creek, which in turn is a tributary to the South Umpqua River, Fate Creek is part of one of the Pacific Northwest's prime salmon recovery areas. Before we started our restoration efforts, Fate Creek had no salmon spawning in it. The creek was not fenced so that the cattle were degrading banks and fouling the waters.
- 15. Fate Creek now has nearly 2 miles of fence that keep the livestock out of the creek. Two bridges have been installed to allow cattle to be moved across without going through the creek. An off-stream stock-water system has been installed to provide livestock the water they need without entering the riparian zone.
- 16. There was a 14 foot dam for irrigation diversion, a second smaller 8 foot dam, and a culvert crossing Days Creek Road, that all prohibited fish passage. That culvert has now been replaced, and also one on the BLM lands upstream from us. The smaller dam has been totally

removed, and the larger dam has been retrofitted with a huge gate valve which is left open during the fall, winter, and spring providing unimpaired fish passage.

- 17. In addition, a large riparian restoration project was done where blackberries were removed and replaced with native trees and shrubs to provide further shading in addition to the existing large trees. This September 2010, log/boulder structures are being placed in both Fate and Days Creeks to restore the natural instream habitat that would have historically existed.
- 18. Fate Creek and its restoration efforts will be a show place of riparian restoration possibilities for public tours to show other ranchers and landowners how restoration efforts can be beneficial to both land-managers and wildlife. Coho, a listed fish species, are now spawning and rearing once again in Fate Creek after years of absence.
- 19. The proposed pipeline crossing right through this restoration project area would destroy all of this effort.
- 20. In order to build the pipeline, a large swath of riparian trees will be removed and not be allowed to be replanted.
- 21. The history of past pipeline projects shows that they have major problems with erosion and continually contribute to water turbidity. This will reverse all of the positive things we've been able to do on Fate Creek.
- 22. As landowners along the pipeline route, my wife and I have been very frustrated by the pipeline representatives and how they deal with landowners, so we have not given Pacific Connector access to our property.
- 23. Their environmental and social arrogance has been amazing.
- 24. The idea of using eminent domain, with minimal compensation for our loss of well-being and decreased property values, is, of course, of large concern.

- 25. But, also the very long-lasting environmental damage that will occur over the 280-mile pipeline route and its 379 water body crossings as well as on our land are of equal or greater concern.
- 26. I have watched and heard from the beginning the pipeline representatives give whatever answer they thought would work to relieve landowner concerns.
- 27. For example, a meeting was held July 2009 at the proposed crossing site of Fate Creek that involved Pacific Connector Pipeline Company's lead project engineer, environmental scientist, lead router, and two land agents; Oregon Department of Fish and Wildlife district biologist; executive director and project planner from Partnership for the Umpqua Rivers; an Oregon Department of Forestry engineer; and our family.
- 28. The Oregon Department of Fish and Wildlife had flagged the Fate Creek crossing in their response to the DEIS because of the numerous restoration work and projects in the creek.
- 29. From our meeting, it was immediately clear to us that Pacific Connector representatives didn't have a clear concept of the impact the crossings would have. The disruption of the ecosystem, the erosion of soils, added turbidity in the watershed, the loss of shade from the removal of mature trees, and the introduction of invasive species from contaminated equipment needed to be addressed. Their answer to nearly all the very real concerns was that, if there were a problem, mitigation somewhere else would make up for the local destruction and damage.
- 30. This lack of understanding and caring about the impact of the pipeline on landowners was offensive.
- 31. Why is all of this important? As stated above, salmon are now spawning again in Fate Creek, and the water quality has greatly improved because of the work and money put into

improving our streams by those of us who cared. The proposed natural gas pipeline would cross right through Fate Creek.

- 32. Fate Creek is not the only such stream in the Umpqua watershed where large salmon recovery projects have been carried out. The local watershed council, alone, has spent over ten million dollars to improve fish habitat in the Umpqua watershed. The proposed pipeline will cross dozens of streams as well as going under our major rivers. Precious riparian areas will be moved down and denuded causing loss of stream cover and spawning habitat.
- 33. My wife and I were told that there will be minimal disruption, but the past record of a pipeline between Roseburg and Coos Bay has proven otherwise. Drilling can cause underground blowouts and produce desecration of our waters for years to come.
- 34. We have worked for years now to protect and increase shade cover for our streams. The pipeline would rip open 75 foot swaths across our streams and rivers, and create 100 foot scars across our hillsides and mountains, which consist of greatly varied soil types and stabilities.
- 35. Oregonians appreciate our natural landscape and are proud of our forests and rivers. The terminal and its pipeline would degrade our environment and put our lives at risk, all for no benefit to Oregonians. Oregonians would receive a very small fraction of this gas, if any.
- 36. Besides this environmental damage, the social and economical disruption along the pipeline could be extensive. Our own property and lives will definitely be impacted. The pipeline will cross through our irrigated pastures, trees will be cut down, and our driveway and fields will be used for staging areas.
- 37. Does anyone really believe that we would have any chance of selling our home, at anywhere near its current value, while a 36 inch un-scented high pressure gas pipeline is buried

within its blast range of our house? Pacific Connector only promises current per-acre value of land, which is much less than the property is actually worth.

- 38. What about loss of timber production? They also only promise current prices of timber sales. We, and other landowners like us, would not sell our timber at current low prices.
- 39. I guarantee this proposed pipeline will have, and already has had, extremely adverse impacts on us, and other landowners along its route.
- 40. The "landowner signature requirement" that Pacific Connector is challenging in its lawsuit against the State protects <u>my</u> interests in <u>my</u> property. It insures that my wife and I get to control what happens on our land, which we have worked so hard to restore and make into a wonderful place to live.
- 41. Eliminating the signature requirement would mean that Pacific Connector can run roughshod over property owners, without telling us what they intend to do with land that does not even belong to them.
- 42. To us, Pacific Connector is using this lawsuit to get around a "troublesome" problem, which is that Oregonians simply don't want this pipeline or terminal. The company should not be allowed to ignore the will of private property owners.

I declare under penalty of perjury that the foregoing is true and correct. Dated this 9th day of September, 2010.

/s/ Russ Lyon . Russell R. Lyon 3880 Days Creek Road Days Creek, OR. 97429

(Original signature on file with Applicants' Counsel of Record)

TO: Coos County Planning Department RECEIVED

From: Virgil and Carol Williams / Mary Metca of Coos COUNTY PLANNING DESPRIENT

Fairview KesidenTs
Subject: Coos County Permit Application (FILE # HBCU-10-01)

There are 5 main concerns we have with this Proposed Pipeline route.

- 1. We did Not give pacific Connector pipeline permission to apply for a permit to Come onto our private property.
- (2.) The biggest concern is with our wells. The Aquifer in our area is very fragil and close To the surface. The productive wells here are hand duy and most are 25 to 35 ft. deep. Wells that have been drilled around 100 ft. to 200ft. produce only brackish or Salty water, as was the one drilled on Metcolf property. It had to be filled in. The hand dug well they now have supplies 3 homes. The Pipline route would have to go under this supply pipe, which is 4 ft. underground. That would be a substantial depth for their large pipe. and when they break through the aguiger, what Inopens to this well, along with 3 wells on The Williams property's one of These also services a home on the other side of the road. Plus 3 other homes close by with shallow wells will

be in Jeperty. That's 9 homes to survive without water. How will they compensate these homeowners? Make they could Contract out to have water delivered to a holding tank at each of them once a month.

(Well Guary Report from Water Master attached)

3) The pipeline route as planned, will cross the Williams property in the middle of a home site. When we purchased thise property, the intention was to build a house on it. It was already septic tank aproved, with an existing well. (one of the above mentioned wells) We obtained an address, and made plans. Due to unexpected Health problems, building a house had to be put on hold, but not abandoned. If the pipeline pushes through with this route, there will no longer be a home site and you know they will only compensate for the land as they see it, not for what a person plans to do with

He after laying the pipline accross the Williams home site, Crossing Metcolfs well line, advancing accross more of Williams property, (Removing a Small Barn in :17's way) it will border along the side of a Natural pond (Registerd with The State) and cross the ponds drainaged ditch that runs to the Cognille River. My concern here is that during Solmon Season, young smolt have been known to come up this drainage ditch from the Cognille River, into the pond. But besides the fish, without this drainage ditch; the field if loads in the Rainy Season.

Can it really be legal to distroy this drainage system?

5) Fire Hazard. The report says there will be no significant increase in Fire Hazard with this pipline. I believe only a fool would say Nothing Will Ever HAPPEN. I don't think they have a Crystle ball to look into. There is always an "if" and that would be a big Catastrophe in this small Community of Fairview, with an all volunteer Fire Department with limited resources. We have no fire hydrants. They draft water from the river and Creeks, so there is a limited supply of water on hand to fight a large fire.

DISASTERS DO HAPPEN Just look at the Solf Coast Crises.

Does our small coostal Community really need this Foreign fuel? I though the goal in the U.S. was to not be dependent on Foreign Fuel.

> Sincerely, Ungel + Carol Williams

Virgil & CAROL Williams Mary Meteral 58153 Fairview Rd. Coquille, OR 97423

541-396-4147

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COOS COUNTY PLANNING DEPARTMENT

I'M WRITING TO LET YOU KNOW THAT WE ARE NOT IN FAVOR OF A PROPOSED GAS PIPELINE ACROSS OUR PROPERTY, OUR PROPERTY 15 LOCATED BY TRS # 265 12 W 30 100 AND ACCOURT #'54951.00/4951.90. ACCORDING TO A MAP CTIVEN TO ME BY PACIFIC CONNECTOR, THE PIDELINE WOULD EXTEND FROM M.P. 13.7535 M.P. 14. 2249, THAT'S A PERMANENT SCAR APPROXIMATELY 8304D. LONG+ 50FT, WIDE ACROSS OUR PROPERTY, FURTHER MORE I WALKED THE PROPOSED FONTE WITH AROUTER FROM LNG. THE ROUTE WENT RIGHT OVER OUR ARTESIAN SPRING! WELL, WHICH WE HAVE WATER RIGHT TO (SEEDUER FOR CERTIFICATE COPY). IT'S AN IDYLLIC AREA THAT WE DON'T WANT AFFECTED ADVERSELY BY CONSTRUCTION. THE ROUTER SAID THEY COULD PROBABLY GO AROWED IT, WHICH IS IMPOSSIBLE TO THE WEST BECAUSE PRRIGATION PIPE EXTENDS FROM THE SPRING IN THAT PIRECTION. TO THE EAST THE LAND SLOPES STEEPLY UPHILL. THE WHOLE STUATION PROPOSES A REAL MESS FOR OUR PROPERTY. WE RESPECTIVELY ASK YOU TO RECOMMEND DENYING PACIFIC CONNECTOR FURTHER PROGRESS IN THIS MATTER. MCCAULIEUL, ROBERTHALINDAS. 94621 1005 SUMNERLN. COOS BAY, OR 9942D THANK YOU! JAMISC uneus (541) 167-2466 A

STATE OF OREGON

COUNTY OF COOS

CERTIFICATE OF WATER RIGHT

This Is to Certify, That GRAYDON R. THOM, JR.

of Route 3, Box 220, Coos Bay , State of Oregon , has made proof to the satisfaction of the STATE ENGINEER of Oregon, of a right to the use of the waters of a spring

a tributary of unmamed stream domestic use of one family.

for the purpose of

under Permit No. 30562 of the State Engineer, and that said right to the use of said waters has been perfected in accordance with the laws of Oregon; that the priority of the right hereby confirmed dates from June 15, 1965

that the amount of water to which such right is entitled and hereby confirmed, for the purposes aforesaid, is limited to an amount actually beneficially used for said purposes, and shall not exceed 0.01 cubic foot per second

or its equivalent in case of rotation, measured at the point of diversion from the stream. The point of diversion is located in the NEL NWL, Section 30, T. 26 S., R. 12 W., W. M. Spring located 230 reet South and 1660 feet East from NW Corner, Section 30.

and shall

conform to such reasonable rotation system as may be ordered by the proper state officer.

A description of the place of use under the right hereby confirmed, and to which such right is appurtenant, is as follows:

Lot 1 (NWA NWA) Section 30 T. 26 S., R. 12 W., W. M.

The right to the use of the water for the purposes aforesaid is restricted to the lands or place of use herein described.

WITNESS the signature of the State Engineer, affixed

this date. June 17, 1969

CHRIS L. WHEELER

State Engineer



Max & Lilli Clausen

CLAUSEN OYSTERS

66234 North Bay Road North Bend, Oregon 97459 USA (541) 756-3600 (541) 267-3704 Fax (541) 756-3200



May 13, 2010

Kimberly D Bose, Secretary Federal Energy Regulatory Commission

We are very concerned about the route of the pipe line through Haynes Inlet and the bay on the West side of Highway 101! I realize that the diagonal path through Silverpoint I oyster bed was changed to run alongside the oyster bed.

However, according to the documentary we were shown some time ago, when a pipeline is constructed in the water, mud and sand are suspended in the water, especially on windy days, and would drift over our oyster beds which would kill our oysters.

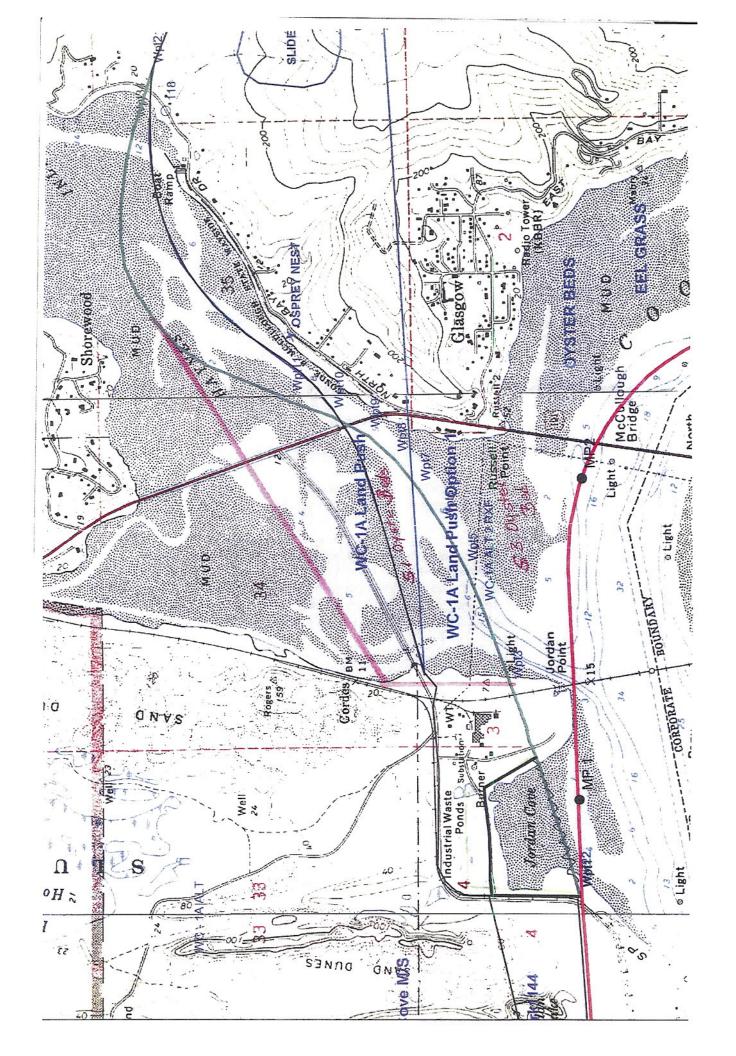
Another problem is the fact when the line is build, the ground over the pipe and the right-of -way is altered to the point where it acts like quicksand. Our oyster crew could not cross there. They usually leave the boat at the edge of the oyster bed and walk to the predetermined site to fill the nets at low tide. The nets are later retrieved at high tide with the oyster barge hoist.

When the engineer and some other people representing LNG were in our office a few weeks ago my husband, Max, and I tried to explain that the proposed line was too destructive to our oyster business. Studying the maps it seems more logical and doable to swing away from our oyster plant from Haynes Inlet and continue straight West, North of Horsefall Beach Road, tunnel under Highway 101 through North Slough where nothing is planted due to poor water quality and ground conditions. There could even be a half mile saved in total distance to offset some of the additional cost.

Considering that the line is starting on the California border; crossing many roads and streets, this should be a possible solution without destroying our business. We do not like the idea of having a pipe line a few hundred feet from our oyster plant, but at least it would not impact our daily commute to and from the oyster beds. Most of the ground in the Northern part of Haynes Inlet is owned by the Division of State Lands while most of the ground in the North Slough is Coos County ground.

Please have your engineers take another look to alter the route to run North of Horsefall Beach Road, as sketched on the enclosed map. That change would eliminate any potential interference in our daily boating and harvesting activities, and hopefully also keep any harmful sediment away from our very productive oyster bed. In effect, you would not need our permission to survey this area, since your future installation would not take place on our land.

Thank you! Filli Clansen





94881 STOCK SLOUGH LANE COOS BAY, OREGON 97420 (541) 267-2997 FAX (541) 269-1042

June 10, 2010

Coos County Planning Department Attn: Patty Evernden 250 N. Baxter Street Coquille, OR 97423

Re: HBCU 10-1

Dear Ms. Evernden:

Please forward the following discussion to Mr. Stamp for his consideration concerning the above referenced matter.



The following is intended to provide the County with information requested relative to the proposed PCGP application. Specifically this information addresses the applicant's compliance with Section 4.8.400, 4.8.300 and 4.8.350.

Section 4.8.400 Review Criteria for Conditional Uses in Section 4.8.300 and Section 4.4.400

The use authorized by Section 4.8.300 and 4.8.350 may be allowed provided the following requirements are met.

A. The proposed use will not force a significant change in, or significantly increase the cost of, accepted farming or forest practices on agriculture or forest lands.

<u>Note</u>: The proposed use <u>will</u> force a significant change and a significant cost increase in accepted forest practices.

OVERVIEW

As a 150 year old Coos County farming and forest family owned business, we operate over 1800 acres of intensity managed timberland. Our operation is Page 1 of 7

based on owning and holding the timberlands for the full term (rotation) from growth to harvest and re-plantation of the timber crop. Therefore, the applicants proposed use does significantly change and significantly increase the cost of our accepted practices in the following ways.

1. The value of the timber.

The price of timber over the last 40 years has gone up 8% per year. Timber value has increased from an average of \$30.00 per 1000 board feet to today's value of \$600.00 per 1000 board feet (a multiplier of 20x).

Based on the increase in worldwide demand and the decrease in supply of softwood (Douglas Fir) timber from Federal land we anticipate the rate of valuation increase to remain the same over the next 40 years.

Therefore, we expect 40 year old Douglas Fir which has been intensively managed to increase in value to \$12,000.00 per 1000 board feet.

Note: This will result in a gross value of \$240,000.00 per acre for 40 year old timber in 2050.

IN OTHER WORDS

We can produce now 20,000 board feet per acre at the end of a 40 year rotation.

2. The <u>wind loss</u> exposure (and expense) in today's accepted forest practice is limited by the number of and/or the distance of the "hard edge" in each "stand" of timber.

IN OTHER WORDS

Cutting and maintaining an extended "hard edge" in an existing and/or new stand of timber will dramatically increase the wind loss over the 40 year rotation and thus increase cost and decrease yield.

- 3. The current accepted practice on our managed forest lands includes severely <u>restricted access</u> to anyone. This restricted access is enforced to:
 - a. Reduce the potential for the spread of soil born pathogens.

Specifically we are trying to stop:

- Port Orford Cedar root rot.
- Douglas Fir root rot.

Note: These diseases produce a 100% mortality rate and once in the soil can never be gotten rid of.

FURTHER

These diseases are typically spread by vehicle and foot traffic thus the increased access, and stated requirement by the applicant, to "walk and maintain the right of way" will significantly change the accepted practices involved in raising a 40 year crop and or, in a worst case, eliminates the value of the land all together for timber production.

Special Note:

Every timber company has "locked up" their land for these risks and or fire risks. The applicants proposed use completely changes the current practice of restricted access.

4. Noxious weeds

An open right of way (vector) through an existing or new stand of timber creates an area for infestation of noxious weeds, once established (even as small populations) are very difficult to get rid of.

FURTHER

Douglas Fir creates a "canopy" of shade that reduces the viability of noxious weeds. This open vector along the proposed right of way will require a significant increase in our costs and time to eliminate noxious weeds on our timber lands.

 An open vector (Right of Way) with dry grass and or brush creates a path for fire to "run on".

There is no question that this vector (right of way) will increase our fire hazard exposure and or risk in the event of a fire.

6. Accepted logging practices.

The applicant's proposed route is generally on ground that would allow mechanized equipment to perform the logging or thinning of the mature stand (i.e., feller buncher, cat, rubber tire skidder).

Our land was specifically acquired and has been developed for this type of ground based operation. The proposed pipeline would change the "established harvest layout" and thus increase the cost to harvest.

Specifically, we cannot "yard" and or drive our equipment (which would be dragging logs) across the right of way. Therefore, we have to go down or around or airlift to log.

IN OTHER WORDS

Each stand of timber has a specific way that we log it. Any breakup (by a right of way) significantly changes and or increases the costs of accepted practices.

Note: Today's logging costs for us run about \$400.00 per 1000 board feet. We expect this cost to increase to at least \$500.00 to \$600.00 per 1000 board feet due to the proposed right of ways impact on accepted forest harvesting practices.

FURTHER

We expect the cost of logging to run parallel to the value of the timber "on the stump" over the next 40 years (8% increase per year on average).

FINALLY

Timber harvesting (logging) has always had a very "thin margin" of profit. Logging is not a "get rich quick" proposition. Any change to accepted logging practices will increase costs, decrease margins and significantly change the cost of accepted forest practices.

7. Valuation of existing stands of timber with the proposed pipeline versus valuation without the proposed pipeline.

IN GENERAL

The valuation of the land will be reduced and appreciation of the land will be in some way restricted.

IN OTHER WORDS

There is no way that a tract of land for timber production is more valuable with the pipeline going through it than a similar tract without a pipeline. In fact, two parcels of similar timber, one with the pipeline and one without, will see a higher value to the parcel without the pipeline.

Actual value reduction:

We do not know but it will be significant. It depends on a variety of things such as:

- FERC restrictions and or any increase in the size of the vector if and when they choose to do so.
- Accidents, risks and or other requirements that result from incidents throughout the world.
- iii. The value of timber land without a pipeline running through it.

8. The real width of the right of way relative to timber.

A 40 year stand of Douglas Fir timber will require a distance from the base of one tree on one side of the right of way to the base of the tree on the other side of 80' to maintain a 50' visible right of way.

IN OTHER WORDS

Two trees 80' apart will create an open strip that is 50' wide.

Note: We are being "told" that we can plant trees 30' apart across the proposed right of way. From the air in 20 years you will not be able to see the ground across that 30'.

Therefore, we expect to lose 80 feet by whatever length the pipeline is (in timber production) when all the dust settles.

Trespass and or vandalism.

In forestry practices trespass and fire is a big concern. The ATV path that the right of way will create is an irresistible temptation to the ATV or walking trespassers. And, no short fence or gate at the road is going to stop them. Therefore, the right of way, in its visibly open vector form, significantly increases fire hazard and fire suppression costs.

10. The cost to cope with the applicants proposed construction and ongoing oversight.

In general, our oversight and monitoring of the proposed construction and ongoing operation of the pipeline through our farm and forest land significantly changes our practices and increases our costs.

We will spend more time and more money than we do now.

Currently we have no third party construction going on in any of our lands and we have no power or pipeline routes through any of our forestry lands either.

It is difficult enough for a small family owned operation to monitor and oversee its base operation. This proposed addition will change our practices and increase our costs.

CONCLUSION

The county must find that the proposed use relative to Section 4.8.300, Section 4.8.350 and 4.8.400 <u>not</u> be allowed because the requirement for the use and its compatibility with forest operations and agriculture has not been met.

Specifically, the proposed use <u>will</u> significantly change and increase the cost of accepted tree farming and forestry practices on agricultural and forest lands.

EXCEPTION SHORTEST ROUTE (Mr. Stamp's letter indicates that the applicant is taking the shortest route).

The proposed route <u>is not</u> the shortest route. The Amended Blue Ridge Route is approximately 2 $\frac{1}{2}$ miles shorter and it dramatically reduces the <u>miles</u> of private timber right of way required.

Therefore, the effect and cost on accepted forest practices can be reduced by a shorter route such as the Amended Blue Ridge Route.

Specifically, we are correcting the statement made by Mr. Stamp in second paragraph of Mr. Stamp's 6/6/10 Pg. 8 letter to Patty Everden.

The applicant by not proposing the shortest route has not met the intention of the provision. The Amended Blue Ridge Route causes less impact to many specific properties because:

- a. It reduces the private landowners affected from 37 to 18.
- b. Shortens the pipeline by 2.5 miles.
- c. Changes the percentage of private to public land affected from:

Current Route - 10.65% Federal Land

Blue Ridge - 76.32% Federal Land

We appreciate the opportunity to provide further comment on this matter.

Fred Messerle & Sons, Inc.

Lied R. Messelo

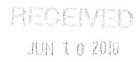
Fred R. Messerle

Secretary-Treasurer

Coos County Planning Dept. Attn: Hearings Officer, Mr. Andrew Stamp 250 N. Baxter Street Coquille, OR 97423

Re:

HBCU 10-01



COOS COUNTY PLANNING DEPARTMENT

Mr Stamp;

I am writing you concerning the land use application submitted by Pacific Gas and Connector Pipeline for permission to construct a natural gas transmission pipe line across Coos Co. I may have stated some of my personal information during the verbal testimony portion of the hearing. Please forgive the repetition. I am a private consulting forester with 10 years experience and an operation base of the southwestern portion of Oregon. I have written forest management plans for over 2500 acres of private forest ground, and wrote the forest management plan for 5000 acres of forest at South Slough Reserve while employed for Oregon Dept of State Lands. I have also designed harvest lay out for commercial operations on both private and Federal forests. I have resided in Coos Co for the past 2 years at 94961 Stock Slough In. This property would be crossed by the proposed pipeline route. I rent and am not the property owner.

The following comments are specific to Coos Co Zoning Land Develop Ordinance (CCZLDO) 4.8.400 concerning forestry operations on lands zoned forestry. I believe that the proposed pipeline would significantly impact landowner's ability to practice timber stand maintenance and harvest on their lands. Most of these land owners rely heavily on periodic proceeds from timber harvest, for some it is a primary source of income. Logging is, in the best of times, a decent living. Under current conditions it is marginal at best. There are several issues which I will raise in regard to impacts. Any one of these impacts could be the difference between a profitable harvest and a break even project, combined they would make it very difficult to continue to economically harvest timber on land which is designated for that purpose.

Increased costs associated with timber harvests; Most of the private timber ground along the pipeline route is under 35% slopes which makes it suitable for ground based harvesting. The applicants have proposed creating a limited number of 'hard crossings' across an otherwise 'no entry' easement. Having only a limited number of crossings will significantly increase logging costs because of changes to proposed harvest lay-out, increased length of skidding turns and haul routes, and reduced harvestable acreage within the stand. Ground based timber harvests require freedom of access, very little is done with long winch lines due to the inefficiency. Machinery is literally driven up to each and every tree. The cost increases would be different for different stands depending on amount if the stand the pipeline crossed, but it could easily range from 5-20%. Logging costs for a ground based operation would be \$200-300 per thousand board feet(mbf). A 12% harvest cost increase at \$200mbf for a 40 acre stand, with 20mbf per acre would work out to a loss of \$19,200. This 40 acres is the typical annual harvest amount for local

- private forest owners, and \$20,000 is probably close to the expected income. The timber ground in this area is expected to produce roughly 20mbf per acre at 40 years, which in the established rotational age.
- The creation of a ± 100° working easement and a 50° permanent easement would fragment some forest stands to the point which made harvest financially restrictive. The increased cost to access an isolated portion of a stand would mean that the planned harvest would be changed to either harvest the patch early or late depending on the age of the adjacent stand. Depending on the restriction of access this would affect patches >5 acres, a small but significant value at \$20mbf per acre.
- Most of the private forest ground along the proposed route is intensively managed on a 40 year rotation. These trees have been planted on a ±11' spacing resulting in 360 trees per acre. Within Coos Co, wind is the dominant disturbance type, both periodic gusts and episodic storm events. Since these stands have grown up under dense conditions, the structural integrity of the stand it based on the uniformity of the stand and individual trees are supported and buffered by their neighbors. The proposed route would create a 'hard edge' through the middle of the forest stands. This hard edge would inevitably create blowdown within the adjacent stands, especially those over 20 years old. The amount of wind damage would be tough to calculate, it would be based upon aspect, slope, age of the stand and, in some cases, pure chance.
- Opening up a corridor within these private forests will inevitably promote trespass, both vehicular and foot traffic. Either will have a negative effect on forestry operations. The applicant has discussed mitigation efforts such as gates, obstacles, and fencing. None of these will have a 100% success rate. You yourself mentioned piano wire as an effective deterrent. The Oregon Dept of Forestry lists humans as the dominant cause of forest fires within the state. I looked at a 5 year trend (2002-2006), 70-80% of all fires were human caused. (http://www.oregon.gov/ODF/FIRE/fire.shtml) These corridors will also provide a vector for the spread and establishment for noxious weeds, both during and after the construction. Even if access is successfully limited to just the contract crews who will be preforming the maintance, the spread of soil borne pathogens will be increased as easliy as mud on a boot. Port Orford Cedar Root Rot, Phytophthora lateralis, and Douglas Fir Laminated Root Rot, Phellinus weirii, are both local soil borne pathogens, which, once introduced to a stand, can effectively kill all host stems as they radiate out from the infection source. P. lateralis in particular has devastated a once very valuable timber species in Coos and Curry county. Once established, these organisms cannot be removed from the stand without removing all host species stems for a period of at least ten years. If you throw in vandalism, un-authorized hunting, mushroom picking, bough collection and dumping, it is easy to see why all industrial private timber lands in the state are attempting to severely reduce access to their crop.
- The proposed pipeline would have a ±100' construction right of way, followed by a 50' permanent right of way. This would mean that the applicant proposes to replant the 20-25' on either side to return it to productive timber. Once established these two 25'wide swaths of trees would constitute un-harvestable ground. They would be of a significantly different age class then the surrounding timber and would have absolutely no access do to restriction on equipment operation within the permanent right of way. Also the trees, especially within the interior of the corridor, would be of poor quality due to the amount of limbs growing on the inside edge. Generally speaking, a landowner could expect 5-15% of the timber harvested to be of poor

quality due to it's limbiness, mills want straight trees with few knots. The proposed 'mini-stands' would not only have very limited access, they would also have at least 50% of the trees deducted due to limbs. Currently Doug Fir saw logs graded 1-3p (good) are \$600/mbf, while limby poorer quality logs (2-3s) are \$450/mbf, a 25% decrease.

http://www.oregon.gov/ODF/STATE_FORESTS/TIMBER_SALES/logP110.shtml

- The proposed pipeline would significantly reduce the landowner or local response team's ability to fight forest fires, especially if they occur as result of trespass along the cleared right of way. One of the most effective methods for stopping the spread of forest fire is to run a 'cat line' above the leading edge of the fire with a bulldozer. Most if not all of the long time loggers in Coos Co have had to do this at one time or another. If access is restricted to hard-crossings then you have the combination of a forest fire which you cannot get to on top of a 3' gas pipeline. The idea of a 'cleared right of way' is somewhat misleading. Having utilized powerline right of ways to access timber land to survey, I can say that they generally have high surface fuel loads. Mulching of the entire pipeline is not possibly, so hand slashing and spraying will be utilized frequently, creating lots of small diameter fuels with direct exposure to the sun making them even drier. This ribbon of dried fuels could easily hasten the spread of a wildfire across the property.
- Though not as common or as profitable as intensively managed timber harvesting, setting forest land aside for conservation easements, watershed benefits and the sale of sequestered carbon is becoming more and more prevalent. Certified forestry (Forest Stewardship Council) and government funding provides the landowner with some funding for these projects. None of these activities would be possible with a permanent easement across the property. This is even more restrictive for wetland mitigation projects within the lower grazing grounds. The applicant will be utilizing wetland mitigation banks to offset the loss of wetlands during the proposed terminal construction. The proposed pipeline would significantly reduce landowners rights to develop potential non-traditional funding sources.

Coos Co Zoning Land Develop Ordinance 4.8.400 states "The proposed use will not force a significant change in, or significantly increase the cost of, accepted farming or forest practices on agriculture or forest lands." Most of the impacted forest lands within Coos Co are private, nonindustrial timber lands. These landowners do not have the land-base to absorb the increased costs of timber operations which I described above, yet they often rely on the timber proceeds for some if not all of their income. These properties are some of the most productive timber lands in the nation, that is why they were zoned as such. Even with the high level of productivity, making money of off trees is marginal at best. The market fluctuations require a successful timber land owner to have enough options to ride out the lows and save from the high times. The proposed pipeline project could effectively end a livelihood for impacted properties by increasing the costs of doing business while increasing the associated risks.

Please feel free to contact me with any questions

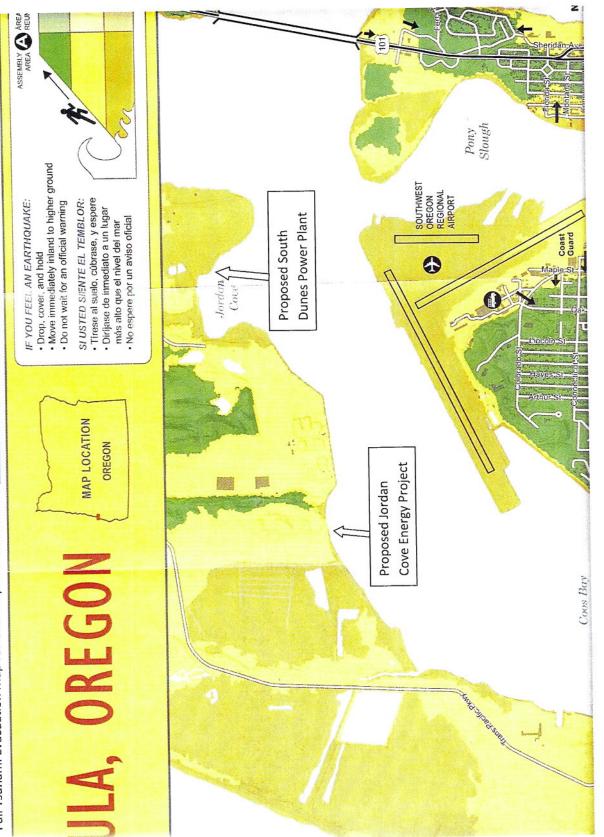
Jake Robinson

Yankee Creek Forestry Yankee Creek Forestry 94961 Stock Slough Rd Coos Bay, OR 97420 541 941 1822

Exhibit H Current 2012 Tsunami Evacuation Map of Jordan Cove Project area Orange — Distant Tsunami evacuation zone

Yellow – Local Cascadia Earthquake and Tsunami evacuation zone

Full Tsunami Evacuation Map for Coos Bay Area available at: http://www.oregongeology.org/pubs/tsubrochures/CoosBayEvac.pdf (4.03 MB)



Jordan Cove LNG Tanker Hazard Zones (FEIS Page 4.7-3)

No one is expected to survive in Zone 1 (yellow) - Structures will self ignite in this zone just from the heat. People in Zone 2 (green) will be at risk of receiving 2nd degree burns in 30 seconds on exposed skin. People in Zone 3 are still at risk of burns if they don't seek shelter but exposure time is longer than in Zone 2. Map does not include the hazard zones for the South Dunes Power Plant.

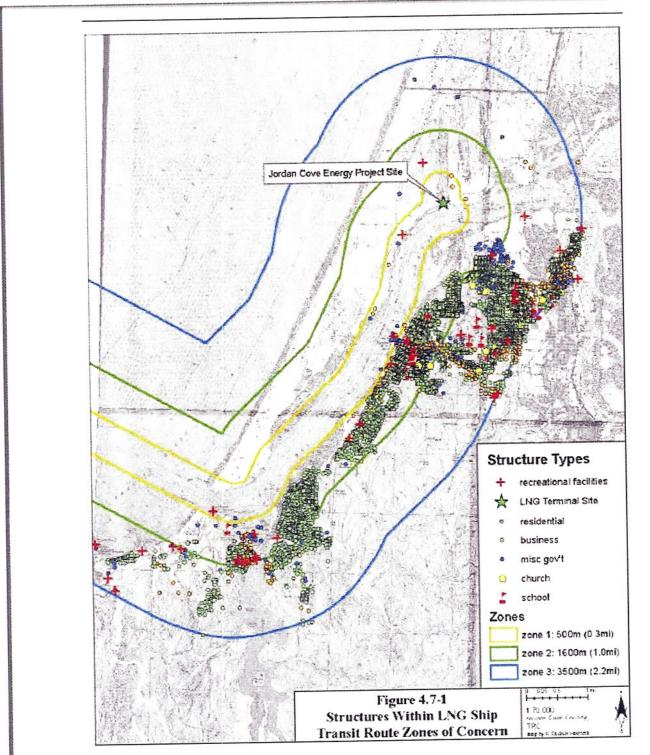


EXHIBIT J

Calculating 148,000 cubic meter LNG ship at – 600 to 1 and 610 to 1 conversion from Natural Gas and how many shipments that would mean:

148,000 cubic meters LNG = 5,226,570.675 cubic feet LNG

 $5,226,570.675 \times 600 = 3,135,942,405$ cubic feet of natural gas

292,000,000,000 cubic feet of gas (yearly):/: 3,135,942,405 cubic feet of gas per shipload = 93 shipments needed per year = 186 harbor disruptions at high slack tide.

[Note: Jordan Cove non-FTA Application page one says JCEP will export 292 billion cubic feet (Bcf) per year (.8 Bcf/d); Page 13 states .9 Bcf/d beginning in 2017; ECONorthwest Construction Impact Study page 3 states; "The PCGP would have a nameplate capacity of 1.1 billion cubic feet of natural gas per day (Bcfd). At a 90 percent capacity factor, throughput would average 0.99 Bcfd." Page 5 states; "A single natural gas compressor station at Malin will allow the PCGP to transport 1.1 Bcfd to JCEP terminus in Coos County."]

148,000 cubic meters LNG = 5,226,570.675 cubic feet LNG

 $5,226,570.675 \times 600 = 3,135,942,405$ cubic feet of natural gas

365,000,000,000 cubic feet of gas (yearly) :/: 3,135,942,405 cubic feet of gas per shipload = 116 shipments needed per year = 232 harbor disruptions at high slack tide

148,000 cubic meters LNG = 5,226,570.675 cubic feet of LNG

5,226,570.675 X **610** = 3,188,208,111.75 cubic feet of natural gas

365,000,000,000 cubic feet of gas (yearly):/: 3,188,208,111.75 cubic feet of gas per shipload = 114 shipments needed per year = 228 harbor disruptions at high slack tide

116 shipments: /: 12 (months) = Ten shipments per month (roughly) A shipment every 2-3 days. Some of the LNG is left in the ship to keep the containers cold and there is also LNG lost to boil off (about 15 % per shipment by some estimates) that has not been figured into these estimates.

Who's to say that the minute the DOE and FERC would approve this, Jordan Cove Energy Project would submit another application to increase their export capacity?

Another good question would be what is the pollution impact of having all these smaller ships? Right now most of the newer ships being built are much larger than 148,000 cubic meters - www.coltoncompany.com

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Citizens Against LNG Petition Exhibit

(Set 4 Beginning #501)

----PROTECT COOS, DOUGLAS, JACKSON, & KLAMATH COUNTIES & THE STATE OF OREGON----STOP LNG TERMINAL & PACIFIC CONNECTOR GAS PIPELINE

PETITION TO PREVENT LNG EXPORT TERMINAL & STORAGE TANK FACILITY; PASSAGE OF LNG TRANSPORT VESSELS THROUGH THE COOS BAY HARBOR & CHANNEL; AND TO STOP THE 230 MILE, 36 INCH PACIFIC CONNECTOR GAS PIPELINE TO THE CALIFORNIA BORDER. To State of Oregon Governor John Kitzhaber and to his appointed Port of Coos Bay Commissioners; to the Commissioners of Coos, Douglas, Jackson, & Klamath County Oregon; to those elected by the people of Oregon who represent the people of Oregon in any state or federal office; and to any person or persons elected by the people or appointed to represent the public trust and interest of the citizens of the State of Oregon.

We the undersigned declare that a liquefied natural gas (LNG) export terminal and storage tank facility is not a well conceived or appropriate industry for Oregon and that LNG represents an unacceptable risk to the people of the State of Oregon. For the safety, security, and well being of the citizens of our communities, the citizens and residents of the State of Oregon ask you to immediately take action to stop the LNG export terminal and storage tank facility proposed for the North Spit of Coos Bay and the 230 mile, 36 inch Pacific Connector natural gas pipeline to the California border. ADDRESS SIGNATURE

NAME (Print)	SIGNALURE	ADDRESS	PHONE / EMAI
		Pc Box 1113	
Jody M. Coffice	Sorry M. Capper	North Bend, OR amusa	
2/11/10. Dollinko	Jan 1900 23	555 Douglas	
3 4 440	y the year	Develor CK 17411	
Te Williams	Je Williams	66642 C. Bay Rd 7459	
4		633 Shora Dings HITS.	
Churci thron	Christing Marien		
Dana Gads	Bucharla	MY	
9		25510 5W Canyon Creek Rd#ZIOI	
Lawin Coburn	Jam Cot	Wilsonville OR 97070	
MICHAEL HANGEL	My Janet	65472 F. BAY KD MATH GND, OR 97459	
8	15		
LINDA E, MORRIS	7	uda 6. 12/00000 685 ELROS AVE CS BY DE 97420	
Camby Collier		903 181 90168 Travs, Gos Bajore	
10 Keresse (Ellen	Melsegga (1 p.180)	1055 & Pentral And Subjection OF.	
Please return petition, completed o	r not, to: Citizens Against LNG, P.	Please return petition, completed or not, to: Citizens Against LNG, P.O. Box 1113, North Bend, OR 97459 47474	THE STATE OF STREET

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-----PROTECT COOS, DOUGLAS, JACKSON, & KLAMATH COUNTIES & THE STATE OF OREGON-----STOP LNG TERMINAL & PACIFIC CONNECTOR GAS PIPELINE

PETITION TO PREVENT LNG EXPORT TERMINAL & STORAGE TANK FACILITY; PASSAGE OF LNG TRANSPORT VESSELS THROUGH THE COOS BAY HARBOR & CHANNEL; AND TO STOP THE 230 MILE, 36 INCH PACIFIC CONNECTOR GAS PIPELINE TO THE CALIFORNIA BORDER. To State of Oregon Governor John Kitzhaber and to his appointed Port of Coos Bay Commissioners; to the Commissioners of Coos, Douglas, Jackson, & Klamath County Oregon; to those elected by the people of Oregon who represent the people of Oregon in any state or federal office; and to any person or persons elected by

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