

LNG Export Projects Update

THE LEAD: CHENIERE SHIPS INITIAL LNG CARGOES

In a stunning turnaround for the United States—which less than a decade ago seemed destined to face an indefinite shortage of natural gas—Cheniere Energy shipped its first commissioning cargo of liquefied natural gas (LNG) from the company’s export terminal in Sabine Pass, Louisiana, on Feb. 24. The cargo of some 60,000 tons of LNG (equivalent to 3 billion cubic feet of gas) was purchased by Petrobras and shipped to Brazil on *Asia Vision*, arriving on March 15. The second commissioning cargo left Sabine Pass that very same day (March 15) onboard *Clean Ocean*. That cargo was purchased by Gail India Ltd. The initial cargo drew significant coverage from both the general news media and the specialty press. Cheniere has posted a superb video on YouTube: [Click Here](#)

FOCUS: JORDAN COVE LNG PERMIT DENIED

The Federal Energy Regulatory Commission (FERC) issued a decision on March 11 *denying* the application submitted by Veresen, Inc. for permission to build the Jordan Cove LNG Terminal in Coos Bay, Oregon. This was the first time that FERC had decided that a LNG export terminal was *not* in the public interest.

Jordan Cove LNG, is a subsidiary of Veresen, Inc., a Canadian energy (mainly midstream) company, based in Calgary, Alberta. Jordan Cove proposes to build a four-train LNG export facility on the Oregon coast at the Port of Coos Bay. With a planned initial capacity of 6.8 million metric tons per annum (mtpa), the plant will liquefy 1.04 billion cubic feet per day (Bcf/d) of natural gas. The gas is to be sourced from Canada and the United States and transported to the facility by a new, 36-inch-diameter, 232-mile-long pipeline. As explained below, it was this Pacific Connector Gas Pipeline (49.5% owned by Jordan Cove LNG and 49.5% by Williams Gas Pipeline Co.) that became problematic inasmuch as the pipeline was put forward as “an integral component of the Jordan Cove LNG Terminal.” (Characterized elsewhere as “two segments of a single, integrated project.”)



Photo: Bloomberg

In its Order of March 11, FERC denied the request for authorization of the pipeline stating that: (1) “Pacific Connector has presented little... evidence of the need for the pipeline;” and (2) “generalized allegations of [benefit] proffered by Pacific Connector do not outweigh the potential for adverse impact on landowners and communities.”

Having rejected the pipeline, FERC denied the request for the LNG terminal stating that “without a pipeline connecting it to a source of gas to be liquefied and exported, the proposed Jordan Cove LNG Terminal can provide no benefit to the public to counterbalance any of the impacts which would be associated with its construction.”

Eleven days after FERC’s decision, Veresen announced (March 22) that it had “finalized the key commercial terms with JERA Co., Inc. (JERA) in respect to the long-term provision to JERA of natural gas liquefaction capacity at the Jordan Cove LNG facility.” (JERA is a joint venture established in 2015 by Tokyo Electric Power Co. and

Chubu Electric Power Co. to implement a comprehensive alliance among its two shareholders for several reasons, most notably joint LNG purchases.) *This “preliminary” agreement with a key investment-grade offtaker is a very positive step forward for Jordan Cove LNG.* However, it is still “subject to customary conditions including the execution of a detailed liquefaction tolling agreement.”

Veresen has until April 11 to request a FERC rehearing and the company has said that it intends to make such a request. We are continuing to discuss the implications of the Jordan Cove LNG decision and plan to write more about this in a special report.

LNG ALLIES MEMBERS

■ Delfin LNG (Fairwood LNG)

Fairwood LNG reports that the company’s proposed offshore floating natural gas liquefaction project—Port Delfin—continues under active review in the deepwater port license application process with the United States Coast Guard (USCG) and Maritime Administration (MARAD). Fairwood states that the project remains “on track to receive a final environmental impact statement from the two federal agencies by the end of 2016.” The Delfin LNG deepwater port project is comprised of: (1) a newly built onshore gas compression on existing site; (2) an existing 42-inch pipeline to transport natural gas nearly 50 miles offshore; (3) an offshore port complex comprised of four moorings; and (4) four floating LNG vessels with a total export capacity of 13 mtpa.

■ Texas LNG

Texas LNG announced on March 31 that it had filed a formal application with FERC seeking authorization to site, construct, and operate the proposed Texas LNG two-phase 4 mtpa LNG export facility in Brownsville, Texas. Vivek Chandra, Founder and CEO of Texas LNG, said “transitioning from the pre-filing to the formal application stage is a significant milestone, placing Texas LNG within a select and elite group of U.S. LNG export projects in the FERC formal filing process. [This brings] us closer to our goal of delivering low-cost LNG under flexible terms from the Port of Brownsville to global buyers in 2020. The company’s news release concludes by saying that it is working “towards achieving a Final Investment Decision (FID) in 2017.”

PROJECTS UNDER CONSTRUCTION

■ Cameron LNG - Trains 1-3 (Sempra and Partners)

DOE authorized Cameron LNG (March 18) to export an additional 152 Bcf/year of LNG over 20 years from its export terminal under construction in Cameron Parish, Louisiana, to nations without a free trade agreement (non-FTA) with the United States. Cameron LNG is now authorized to export a total of 772 Bcf/year (14.95 mtpa) of LNG to non-FTA nations from Trains 1, 2, and 3. Also, the company notes that after more than a year and a half of construction activities, the liquefaction project team has achieved nearly 5 million man-hours without a lost time incident. The Cameron project was approved by FERC in 2014.

■ Cheniere Sabine Pass - Trains 1-4

Even as Cheniere Energy’s Train 1 commissioning cargoes ship from Sabine Pass, Train 2 is nearing completion. Cheniere asked FERC for permission to introduce natural gas into Train 2 and FERC granted the request on March 4. According to Bloomberg: “Infrared cameras aimed at the complex saw initial commission activity begin at the compressor stacks for Train 2 on March 11, [said] Jason Lord, a LNG analyst for Genscape, Inc.”

■ Cheniere Corpus Christi - Trains 1-3

The most recent monthly status report filed with FERC by Cheniere for its Corpus Christi LNG project states that engineering for Trains 1 and 2 has progressed to 95.0%, procurement to 44.2% and construction to 2.9%.



ABOUT US

LNG Allies is a nonprofit organization working to expedite and maximize U.S. liquefied natural gas exports to create a more liquid global natural gas marketplace, enhance the energy security of America’s allies, and improve economic and environmental conditions worldwide.

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Thus the total project has progressed to 30.7% completion. Cheniere plans to complete the project in 2017 with first shipments in 2018. Train 3 has not yet reached a final investment decision (FID).

- **Cove Point LNG (Dominion Resources)**

Dominion's latest monthly status report filed with FERC (Feb. 18) indicates that progress on the Cove Point LNG export terminal in Lusby, Maryland, is as follows: engineering is 97% complete, procurement is 89% complete, and construction is 24% complete. Dominion expects the project to be finished by late 2017.

PROJECTS IN FORMAL FERC / MARAD / DOE REVIEW

- **Golden Pass (Golden Pass Products)**

On March 25, FERC released a draft environmental impact statement (EIS) for the Golden Pass liquefaction and export terminal on the Sabine-Neches Waterway in Jefferson County, Texas, and the interconnected pipeline. The EIS concludes that construction of the project would result in some adverse environmental impacts but "those impacts would not be significant with implementation of ... proposed mitigation and the additional measures recommended in the draft EIS." The Golden Pass project is sponsored by affiliates of Qatar Petroleum and ExxonMobil. It involves the conversion of the existing LNG import facility into a bidirectional terminal capable of exporting up to 15.6 mtpa of LNG.

- **Plaquemines LNG (Venture Global)**

Venture Global submitted an application to the U.S. Department of Energy on March 1 requesting authority to export up to 24 mtpa (3.4 Bcf/day) from its proposed liquefaction and LNG export terminal to be located on the west bank of the Mississippi River, near river mile marker 55, in Plaquemines Parish, Louisiana. The project will consist of twenty integrated pre-cooled single mixed refrigerant blocks, four 200,000 cubic meter LNG storage tanks, three marine loading berths for oceangoing vessels within a common berthing area, and on-site electric power generation. [Interesting note: Plaquemines LNG refers to liquefaction "blocks" and "units" rather than "trains" because the term "train" is commonly used to denote a singular, independently-operating process facility involving liquefaction, pretreatment, and compression, all driven by mechanical drive

gas turbines. This is not the case for the Plaquemines LNG project, where two liquefaction process units comprise a single liquefaction block, each driven by electric motors with power provided by a separate combined-cycle gas turbine power system.] This is the second proposed LNG export project from Venture Global LNG.

PROJECTS IN FERC PRE-FILING

- **Cheniere Corpus Christi - Trains 4-5**

Cheniere Energy told FERC (Feb. 18) that the company intends to file a formal application shortly for authority to construct its Stage 3 expansion project. The Stage 3 project consists of Trains 3 and 4, which together can produce some 9 mtpa, an LNG storage tank, and interconnecting pipelines.

- **Port Arthur LNG (Sempra)**

Sempra Energy announced on Feb. 25 that its Sempra LNG & Midstream unit has entered into a project development agreement with a subsidiary of Woodside Petroleum Ltd. "to further advance the development of the proposed Port Arthur LNG natural gas liquefaction facility in Port Arthur, Texas." According to release, the agreement, provides a framework outlining how the two parties will "contribute their experience and share the costs related to the development, technical design, permitting and commercial development of the liquefaction project." The proposed Port Arthur LNG liquefaction project, located at a site previously permitted for an LNG regasification terminal along the Sabine-Neches Ship Channel, initially would be designed to include two natural gas liquefaction trains with a total export capability of approximately 10 mtpa, or 517 billion cubic feet per year, as well as LNG storage tanks and marine facilities for LNG ship berthing and loading.

CANADIAN PROJECTS USING US-SOURCED GAS

No news to report during this 45-day period.

