



**Office of
Energy Projects**

February 2020

Corpus Christi Liquefaction, LLC

Docket No. CP19-514-000

Corpus Christi Liquefaction Amendment Project

Environmental Assessment

Washington, DC 20426

Corpus Christi Liquefaction, LLC
Docket No. CP19-514-000

ENVIRONMENTAL ASSESSMENT

A. PROPOSED ACTION

On September 27, 2019, Corpus Christi Liquefaction, LLC (Corpus) filed an application for a limited amendment (Amendment) with the Federal Energy Regulatory Commission (FERC or Commission) in Docket No. CP19-514-000 to amend the Commission's December 30, 2014 Order in Docket No. CP12-507-000 (2014 Order). The 2014 Order authorized under section 3 of the Natural Gas Act the Corpus Christi Liquefaction Project in Corpus Christi, Texas (Liquefaction Project), and the Commission's November 22, 2019 Order (2019 Order), which authorized the addition of seven midscale trains and one liquefied natural gas (LNG) storage tank.

In this Amendment, Corpus requests process design modifications to increase the total LNG production capacity of the Liquefaction Project from the currently authorized 767 billion cubic feet per year (Bcf/y) to 875.16 Bcf/y, which represents an increase of 108.16 Bcf/y.

In the 2014 Order, the Commission authorized Corpus to site, construct, and operate three LNG trains, three 160,000 cubic meter (m³) LNG storage tanks, and a marine terminal with two berths capable of receiving LNG carrier vessels. Corpus commenced construction of the Liquefaction Project in February 2015. Construction of Trains 1 and 2 at the Liquefaction Project was completed and the facilities are in service. Construction of Train 3 is currently ongoing, with an expected in service in the second half of 2021. Corpus anticipates commencing construction of the 7 midscale trains in 2020. In addition, the 2019 Order states that the 7 midscale trains would be placed into service by 2024. Construction and operation of Trains 1 and 2 has provided Corpus with more accurate knowledge and insight concerning the actual production capacity of the liquefaction trains. Therefore, Corpus is requesting authorization to increase the authorized production capacity of the Liquefaction Project by 108.16 Bcf/y, to a facility wide production capacity of 875.16 Bcf/y.

Corpus states that the proposed process design modifications associated with the Amendment is essential for Corpus to meet the market demands to the Liquefaction Project

B. ENVIRONMENTAL ANALYSIS

The FERC's Notice of Application for Docket No. CP19-514-000 was issued on October 10, 2019.

The proposed process design modifications would not involve additional construction of new facilities. Nor would they require additional LNG vessel transits beyond those already authorized, and the proposed process design modifications would not have any additional environmental impacts. Additionally, regarding cumulative impacts, as stated previously, the proposed action would involve no construction or modification of facilities. Consequently, there would be no impacts on other past, present, or reasonably foreseeable projects in the project region and no additional environmental impacts associated with the proposed modifications. Therefore, no modifications to the air or other environmental permits or authorizations is warranted.

Corpus acknowledges that the export of quantities beyond the U.S. Department of Energy's (DOE) previously authorized volume would be subject to its receipt of additional LNG export authorization from DOE. Corpus submitted an application with the DOE for additional export volumes on September 27, 2019 with the assigned Office of Fossil Energy of the DOE Docket. No. 19-124-LNG, which is currently under DOE's review.

Our¹ analysis indicates that because Corpus's Amendment in this docket is limited to process design modifications and does not require the construction of new facilities or the modification of previously-authorized facilities it would not affect the following resources:

- ground water, springs, or aquifers;
- wetlands or waterbodies;
- surface water, water intakes, or sources water protection areas;
- cultural resources;
- forested lands and vegetation;
- residential or commercial areas;
- fish or wildlife including federally threatened and/or endangered species;
- geologic resources;
- soils;
- noise; and
- state or national parks, forests, recreation areas, or refuge areas.

¹ The pronouns "we," "us," and "our" refer to environmental and engineering staff of the FERC's Office of Energy Projects.

Air Quality

On January 16, 2020, Corpus stated in a data response that the changes described as the basis for increased production capacity would not increase the levels of any criteria pollutants or greenhouse gas emissions above what was authorized by the terminal's air permit issued by the Texas Commission on Environmental Quality. Therefore, no air permit amendment or alteration would be required to authorize the production capacity increase. The effect of the proposed changes in the Amendment would be to increase equipment availability. However, since the air permit already encompasses 8,760 hours/year of availability and a conservative amount of maintenance hours, the maximum potential to emit would not change, and therefore, no permit updated is warranted.

Reliability and Safety

The regulatory oversight, hazards, and engineering designs remain largely unchanged from that analyzed in the October 8, 2014 final Environmental Impact Statement (EIS) for the Corpus Christi Liquefaction Project. However, the limited modifications to the engineering design would result in higher pressures and flow rates within certain piping systems that were reviewed. Also, there have been some changes in federal agency coordination since the issuance of the 2014 Order, including the assessment of U.S. Department of Transportation (USDOT) Pipeline and Hazardous Materials Safety Administration (PHMSA) siting regulations. On August 31, 2018, USDOT PHMSA and FERC signed a Memorandum of Understanding to improve coordination throughout the LNG permit application process for FERC jurisdictional LNG facilities relating to applicant compliance with USDOT PHMSA safety standards. In order to show compliance with the USDOT PHMSA siting standards, Corpus submitted the application for the Amendment and correspondences with FERC to USDOT PHMSA on January 16, 2020. USDOT PHMSA will review the submitted materials to verify whether the modifications proposed as part of the Amendment would impact the siting of the Corpus Christi Terminal. USDOT PHMSA's analysis and determination of the siting package will serve as one of the considerations for the Commission to deliberate in its decision to authorize or deny the Amendment application.

In addition, the U.S. Coast Guard has authority over the safety of an LNG terminal's marine transfer area and LNG marine vessel traffic, as well as over security plans for the waterfront facilities handling LNG and LNG marine vessel traffic. Corpus stated that there would be no additional LNG vessel transits beyond those already authorized. As a cooperating agency, the U.S. Coast Guard concurred that additional review was not required since the Amendment would not result in additional vessel transits beyond those authorized in the U.S. Coast Guard Letter of Recommendation issued on August 15, 2018.

The process design modifications of the Amendment remain largely unchanged from the previously authorized Corpus Christi Liquefaction Project and the 2019 Order expansion of this facility. However, there are some modifications to increase the efficiency of the refrigeration process in addition to other process and maintenance optimizations. These enhancements do not involve additional construction of new facilities. Updated Heat and Material Balance sheets were provided and reviewed for the Amendment. The impoundment sizing analyzed in the October 8, 2014 final EIS remains valid for the main outside battery limit Impoundment with the increased in liquefaction flow rates associated with the Amendment. Other impoundments remain unaffected by the Amendment.

Corpus executes a Management of Change (MOC) program to control changes to the facilities. Proposed MOC's for the Amendment, in addition to modifications of maintenance schedules and execution, were reviewed as part of the application. If authorized, the execution and completion of the MOC's would be monitored and tracked through an existing condition of the orders for the Corpus Christi Liquefaction Project, as expanded, that requires the facilities be subject to regular inspections throughout the life of the facilities to verify that equipment is being properly maintained and to verify basis of design conditions, such as feed gas and process conditions, do not exceed the authorized basis of design.

C. Conclusions

Based on the analysis in this EA, we have determined that if Corpus operates the proposed facilities in accordance with its application and supplements, approval of the Amendment would not constitute a major federal action significantly affecting the quality of the human environment.