

[6450-01-P]

**DEPARTMENT OF ENERGY**

**Record of Decision and Floodplain Statement of Findings for the Golden Pass Products LLC Application to Export Liquefied Natural Gas to Non-Free Trade Agreement Countries**

**AGENCY:** Office of Fossil Energy, Department of Energy.

**ACTION:** Record of Decision.

**SUMMARY:** The U.S. Department of Energy (DOE), Office of Fossil Energy (FE) announces its decision in Golden Pass Products LLC (GPP), FE Docket No. 12-156-LNG, to issue DOE/FE Order No. 3978 (Order No. 3978), granting long-term, multi-contract authorization for GPP to engage in the export of domestically produced liquefied natural gas (LNG). GPP seeks authorization to export the LNG by vessel from its proposed export project (GPP Export Project) to be constructed contiguous to and interconnected with the existing Golden Pass LNG Terminal (Terminal), a LNG import terminal owned and operated by Golden Pass LNG Terminal LLC (GPLNG). The Terminal is located near Sabine Pass, in Jefferson County, Texas. DOE/FE is authorizing GPP to export the LNG in a volume equivalent to 808 billion cubic feet per year (Bcf/yr) (2.21 Bcf per day (Bcf/d)) of natural gas for a term of 20 years. GPP is seeking to export this LNG by vessel to any country with which the United States does not have a free trade agreement (FTA) requiring national treatment for trade in natural gas, and with which trade is not prohibited by U.S. law or policy (non-FTA countries). Order No. 3978 is issued under section 3 of the Natural Gas Act (NGA) and 10 CFR Part 590 of DOE's regulations. DOE participated as a cooperating agency with the Federal Energy Regulatory Commission (FERC) in preparing an environmental impact statement (EIS)

analyzing the potential environmental impacts that would result from the proposed GPP Export Project.

**ADDRESSES:**

The EIS and this Record of Decision (ROD) are available on DOE's National Environmental Policy Act (NEPA) website at:

<https://www.energy.gov/nepa/downloads/eis-0501-final-environmental-impact-statement>.

Order No. 3978 is available on DOE/FE's website at:

[http://www.fossil.energy.gov/programs/gasregulation/authorizations/2012\\_applications/Golden\\_Pass\\_Products%2C\\_LLC\\_12-156-LNG.html](http://www.fossil.energy.gov/programs/gasregulation/authorizations/2012_applications/Golden_Pass_Products%2C_LLC_12-156-LNG.html). For additional information about the

docket in these proceedings, contact Larine Moore, U.S. Department of Energy, Office of Regulation and International Engagement, Office of Oil and Natural Gas, Office of Fossil Energy, Room 3E-042, 1000 Independence Avenue, SW, Washington, DC 20585.

**FOR FURTHER INFORMATION CONTACT:**

To obtain additional information about the EIS or the ROD, contact Kyle W. Moorman, U.S. Department of Energy, Office of Regulation and International Engagement, Office of Oil and Natural Gas, Office of Fossil Energy, Room 3E-042, 1000 Independence Avenue SW, Washington, DC 20585, (202) 586-5600, or Edward Le Duc, U.S. Department of Energy, Office of the Assistant General Counsel for Environment, 1000 Independence Avenue SW, Washington, DC 20585.

**SUPPLEMENTARY INFORMATION:**

DOE prepared this ROD and Floodplain Statement of Findings pursuant to the National Environmental Policy Act of 1969 (42 United States Code [USC] 4321, et seq.), and in compliance with the Council on Environmental Quality (CEQ) implementing

regulations for NEPA (40 Code of Federal Regulations [CFR] parts 1500 through 1508), DOE's implementing procedures for NEPA (10 CFR part 1021), and DOE's "Compliance with Floodplain and Wetland Environmental Review Requirements" (10 CFR part 1022).

## **Background**

GPP, a Delaware limited liability company with its principal place of business in Houston, Texas, proposes to construct liquefaction and export facilities (GPP Export Project) at the existing Golden Pass LNG Terminal located near Sabine Pass, Texas. The GPP Export Project will connect to the U.S. natural gas pipeline and transmission system through the proposed expansion of an existing natural gas pipeline (Pipeline Expansion Project) owned by GPP's affiliate, Golden Pass Pipeline LLC (GPPL).

On October 26, 2012, GPP filed an application (Application) with DOE/FE seeking authorization to export domestically produced LNG in a volume equivalent to 740 Bcf/yr of natural gas to non-FTA countries. GPP stated this volume is equal to 15.6 million metric tons per annum (mtpa) of LNG based on a conversion factor of 47.256 Bcf per million metric tons. DOE/FE, however, uses a different conversion factor for U.S.-produced LNG (51.75 Bcf per million metric tons), resulting in an increased export volume.<sup>1</sup> Accordingly, DOE/FE is authorizing GPP to export LNG from the GPP Export Project at the Golden Pass LNG Terminal in a volume equivalent to approximately 808 Bcf/yr of natural gas.

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<sup>1</sup> In the Application (1 n.3), GPP used a conversion factor of 47.256 Bcf per million metric tons of dry natural gas. DOE uses a conversion factor of 51.75 Bcf per million metric tons of dry natural gas to represent typical domestic natural gas quality, which converts the requested export volume to 808 Bcf/yr.

In 2012, DOE/FE granted GPP's separate authorization to export LNG to FTA countries in a volume equivalent to 740 Bcf/yr of natural gas (2.02 Bcf/d) for a 25-year term.<sup>2</sup> The authorized FTA export volume is not additive to the export volume authorized in this proceeding.

Additionally, on July 7, 2014, GPP and GPPL filed their respective applications with FERC under sections 3 and 7(c) of the NGA for the siting, construction, and operation of the GPP Export Project and Pipeline Expansion Project. On December 21, 2016, FERC issued an order granting GPP its requested section 3 authorization and GPPL its requested certificate of public convenience and necessity under section 7(c).<sup>3</sup>

### **Project Description**

The GPP Export Project will be constructed contiguous to and interconnected with the existing Golden Pass LNG Terminal. GPP intends to construct and operate the export facilities to maximize use of the existing import terminal facilities, with the intent of preserving full import capability of those existing facilities while also creating the proposed new export capability. By locating the GPP Export Project on this existing industrial footprint, GPP states that environmental and community effects will be minimized.

The GPP Export Project primarily will consist of feed gas treatment facilities; three liquefaction trains (each with a liquefaction capacity of 5.2 mtpa of LNG, for a total liquefaction capacity of 15.6 mtpa); a flare system to support the liquefaction trains; a

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<sup>2</sup> *Golden Pass Products LLC*, DOE/FE Order No. 3147, FE Docket No 12-88-LNG, Order Granting Long-Term, Multi-Contract Authorization to Export Liquefied Natural Gas by Vessel from the Golden Pass LNG Terminal to Free Trade Agreement Nations (Sept. 27, 2012).

<sup>3</sup> *Golden Pass Products LLC*, Order Granting Authorizations Under Sections 3 and 7 of the Natural Gas Act, 157 FERC ¶ 61,222 (Dec. 21, 2016) [hereinafter FERC Order].

truck loading and unloading facility; refrigerant and condensate storage; safety and control systems; and a supply dock and alternate marine delivery facilities at the Terminal.

GPPL's Pipeline Expansion Project will require new pipeline and associated pipeline facilities in Calcasieu Parish, Louisiana, and in Jefferson and Orange Counties, Texas, to supply natural gas to the liquefaction facility from existing natural gas transmission pipelines. This Pipeline Expansion Project primarily will include the construction of 2.6 miles of a 24-inch-diameter pipeline loop on the existing GPPL pipeline; three new compressor stations and associated above ground facilities; and modifications to existing interconnections and metering facilities with five natural gas pipeline systems.

### **EIS Process**

FERC was the lead federal agency and initiated the NEPA process by publishing a Notice of Intent (NOI) to prepare an EIS for the GPP Export Project and Pipeline Expansion Project in FERC Docket No. PF13-14-000 on September 19, 2013. FERC conducted a single environmental review process that addressed both of these projects, and DOE participated as a cooperating agency in the preparation of the EIS. FERC issued the draft EIS on March 25, 2016, and published in the Federal Register a notice of availability (NOA) for the draft EIS on April 1, 2016 (81 FR 18852). FERC issued the final EIS<sup>4</sup> on July 29, 2016, and published a NOA for the final EIS on August 5, 2016 (81 FR 51880). The final EIS addresses comments received on the draft EIS. The final EIS also addresses geology; soils; water resources; wetlands; vegetation; wildlife and

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<sup>4</sup> Final Environmental Impact Statement for the Golden Pass LNG Export Project, Docket Nos. CP14-517-000 and CP14-518-000, FERC/EIS – 0264F (July 2016).

fisheries; special status species; land use, recreation, and visual resources; socioeconomics; cultural resources; air quality and noise; reliability and safety; cumulative impacts; and alternatives.

The final EIS recommended that FERC subject any approval of the GPP Export Project and Pipeline Expansion Project to 85 conditions to reduce the environmental impacts that would otherwise result from the Projects' construction and operation. Subsequently, the FERC Order authorized GPP and GPPL to site, construct, and operate their respective Projects subject to 83 environmental conditions (or mitigation measures) contained in the Appendix of the Order. Although FERC Staff had recommended 85 mitigation measures in the final EIS, FERC determined that GPP had met two of the requirements, and therefore omitted these two environmental mitigation measures from the Order. On that basis, FERC adopted 83 environmental mitigation measures as conditions to GPP's and GPPL's authorizations granted in the Order.<sup>5</sup>

In accordance with 40 CFR 1506.3, after an independent review of FERC's final EIS, DOE/FE adopted FERC's final EIS (DOE/EIS-0501). The U.S. Environmental Protection Agency published a notice of the adoption on January 27, 2017 (82 FR 8613).

**Addendum to Environmental Review Documents Concerning Exports of Natural Gas from the United States (Addendum)**

On June 4, 2014, DOE/FE published the *Draft Addendum to Environmental Review Documents Concerning Exports of Natural Gas from the United States* (Draft Addendum) for public comment (79 FR 32,258). The purpose of this review was to provide additional

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<sup>5</sup> On February 1, 2017, FERC issued an errata to the FERC Order, in which it corrected its reference to certain environmental conditions in the text of the Order. *Golden Pass Products, LLC, et al.*, Errata Notice, 158 FERC ¶ 61,106 (Feb. 1, 2017).

information to the public concerning the potential environmental impacts of unconventional natural gas exploration and production activities, including hydraulic fracturing. Although not required by NEPA, DOE/FE prepared the Draft Addendum in an effort to be responsive to the public and to provide the best information available on a subject that had been raised by commenters in this and other LNG export proceedings.

The 45-day comment period on the Draft Addendum closed on July 21, 2014. DOE/FE received 40,745 comments in 18 separate submissions, and considered those comments in issuing the final Addendum on August 15, 2014. DOE provided a summary of the comments received and responses to substantive comments in Appendix B of the Addendum. DOE/FE has incorporated the Draft Addendum, comments, and Addendum into the record in this proceeding.

### **Alternatives**

The EIS assessed alternatives that could achieve the GPP Export Project's and Pipeline Expansion Project's objectives. The range of alternatives analyzed included the No-Action alternative, system alternatives, alternative terminal expansion sites, alternative supply dock sites, alternative terminal configurations and power sources, alternative pipeline routes, alternative pipeline expansion aboveground facility sites, alternative sites for pipe storage and contractor yards, and alternative compressor station design. Alternatives were evaluated and compared to the GPP Export Project and

Pipeline Expansion Project to determine if the alternatives were environmentally preferable.

In analyzing the No-Action Alternative, the EIS reviewed the effects and actions that could result if the proposed GPP Export Project and Pipeline Expansion Project were not constructed. The EIS determined that this alternative could result in the use or expansion of other existing or proposed LNG export projects and associated interstate natural gas pipeline systems, or in the construction of new infrastructure to meet the objectives of the GPP Export Project and Pipeline Expansion Project. Any expansion of the existing or construction of the proposed systems/facilities would result in specific environmental impacts that could be less than, similar to, or greater than those associated with the GPP Export Project and Pipeline Expansion Project depending on a variety of circumstances.

The EIS evaluated system alternatives that included an evaluation of the terminal expansion as well as the pipeline system. For the LNG export terminal, the EIS evaluated five existing LNG import terminals with approved, proposed, or planned status and 18 stand-alone LNG terminals that are approved, proposed, or planned along the Gulf Coast of the U.S. In order to be a viable alternative, it would have to meet the GPP Export Project's purpose and need of the terminal expansion, be technically feasible, and offer a significant environmental advantage over the proposed terminal expansion. Based on an evaluation of the alternatives, the EIS determined that each of the potential alternatives were not reasonable or lacked significant environmental advantage over GPP Export Project's design.



To serve as a viable pipeline system alternative to the Pipeline Expansion Project, the alternative would need to (1) transport all or part of the volume of the natural gas required for liquefaction at the terminal expansion; and (2) cause significantly less impact on the environment than the proposed pipeline expansion. Additionally, the natural gas provided by the system alternative must connect to the existing GPPL pipeline or directly to the terminal expansion. The EIS determined that no single pipeline in proximity to the existing Golden Pass LNG Terminal could supply the required natural gas supply delivery pressure. Any potential pipeline alternatives would require construction of a new lateral extension to the terminal expansion or an entirely new pipeline system to connect to supply. The impacts of constructing the alternatives would result in substantially greater impacts than those of the proposed pipeline expansion.

The EIS evaluated several terminal expansion site alternatives. The EIS analyzed the feasibility of constructing the terminal expansion based on the use of the existing infrastructure such as the LNG storage tanks, LNG carrier berths, or other associated facilities. The EIS considered that the construction and operation of alternative or new facilities would substantially increase the environmental impacts of the GPP Export Project compared to the proposed use of the existing infrastructure.

For the supply dock site alternatives, the EIS considered the following three sites in comparison to the proposed site: (1) use of the existing import terminal ship slip; (2) improvements and use of an existing marine dock (Broussard Dock); and (3) improvements and use of an existing tug berth. Each of the three alternatives required either more construction in surrounding wetlands or required removing existing equipment to allow for re-construction of necessary facilities. Based on this analysis, the

EIS concluded that the proposed supply dock was the environmentally preferred alternative.

For the alternative terminal configurations and power sources, the EIS was limited due to siting requirements in terminal configurations and analyzed two power source alternatives. Due to the regulatory siting requirements regarding thermal exclusion and vapor dispersion zones, the EIS was unable to determine an alternative configuration that still met these requirements. In terms of alternative power sources to the proposed gas-fired steam turbines generators on the liquefaction trains, the EIS considered the following: (1) power produced by onsite steam generation plant; and (2) electrical power generated offsite. For both alternatives, higher carbon dioxide emissions and decreases in energy efficiency made the proposed power source the preferred option.

For the alternative pipeline routes, the EIS did not identify any environmental concerns that would require the need to identify and evaluate alternative pipeline routes to minimize environmental impacts. The proposed route would limit the environmental impacts and is the preferred alternative.

The EIS evaluated alternative sites for the proposed three compressor stations and associated aboveground facilities for the pipeline expansion. To assess alternative compressor station sites, the EIS considered the following seven factors: (1) compression requirements; (2) distance from the nearest Noise Sensitive Areas; (3) use of upland areas to minimize impacts on wetlands; (4) impacts on cultural resources or eligible historic properties; (5) presence of known contamination due to industrial activities; (6) presence of natural visual screening; and (7) accessibility. For each of the three proposed

compressor stations and their proposed sites, the EIS determined the alternative either offered no significant environmental advantage or would have a more substantial impact on wetlands compared to the proposed site.

Regarding the associated aboveground facilities for the pipeline expansion, the proposed aboveground facilities were all within the existing GPPL pipeline right-of-way. As a result, the EIS did not identify any environmental concerns that indicated the need to evaluate alternative sites.

For alternative sites for pipe storage and contractor yard, the EIS considered one alternative to the proposed site. The alternative site consisted of land with varying commercial/industrial and agricultural uses. If the alternative site was selected, the agricultural use would be displaced. The proposed site, in comparison, is already previously distributed industrial-use land used for the construction of the existing GPPL pipeline. As a result, the alternative site did not offer a significant environmental advantage over the proposed site.

Finally, the EIS included an alternative compressor station design. Instead of the proposed gas-fired compressors, the alternative design evaluated the use of electric-powered compressors. When comparing the two designs, the EIS focused on the issue of additional infrastructure needed to power the electric-power compressor stations. Use of electricity would require each station to install varying lengths of distribution lines to the compressor stations and a substation and/or switch station to meet power requirements. Additionally, the electrical power could come from existing electrical generation plants with varying fuel uses. However, overall emissions reductions resulting from the use of

electric-powered versus gas-powered compressor stations will vary depending on the fuel used. As a result, the EIS concluded the alternative did not offer a significant environmental advantage over the proposed compressor station design.

### **Environmentally Preferred Alternative**

When compared against the other action alternatives assessed in the EIS, as discussed above, the proposed GPP Export Project and Pipeline Expansion Project are the environmentally preferred alternatives. While the No-Action Alternative would avoid the environmental impacts identified in the EIS, adoption of this alternative would not meet the GPP Export Project and Pipeline Expansion Project objectives.

### **Decision**

DOE has decided to issue Order No. 3978 authorizing GPP to export domestically produced LNG by vessel from the GPP Export Project located near Sabine Pass, Jefferson County, Texas to non-FTA countries, in a volume up to the equivalent to 808 Bcf/yr of natural gas for a term of 20 years to commence on the earlier of the date of first commercial export or seven years from the date that the Order is issued.

Concurrently with this Record of Decision, DOE is issuing Order No. 3978, in which it finds that the requested authorization has not been shown to be inconsistent with the public interest, and that the Application should be granted subject to compliance with the terms and conditions set forth in the Order, including the 83 environmental conditions recommended in the EIS and adopted in the FERC Order at Appendix A. Additionally, this authorization is conditioned on GPP's compliance with any other mitigation measures imposed by other federal or state agencies.

## **Basis of Decision**

DOE's decision is based upon the analysis of potential environmental impacts presented in the EIS, and DOE's determination in Order No. 3978 that the opponents of GPP's Application have failed to overcome the statutory presumption that the proposed export authorization is not inconsistent with the public interest. Although not required by NEPA, DOE/FE also considered the Addendum, which summarizes available information on potential upstream impacts associated with unconventional natural gas activities, such as hydraulic fracturing.

## **Mitigation**

As a condition of its decision to issue Order No. 3978 authorizing GPP to export LNG to non-FTA countries, DOE is imposing requirements that will avoid or minimize the environmental impacts of the GPP Export Project. These conditions include the 83 environmental conditions recommended in the EIS and adopted in the FERC Order at Appendix A. Mitigation measures beyond those included in Order No. 3978 that are enforceable by other Federal and state agencies are additional conditions of Order No. 3978. With these conditions, DOE/FE has determined that all practicable means to avoid or minimize environmental harm from the GPP Export Project have been adopted.

## **Floodplain Statement of Findings**

DOE prepared this Floodplain Statement of Findings in accordance with DOE's regulations, entitled "Compliance with Floodplain and Wetland Environmental Review Requirements" (10 CFR part 1022). The required floodplain assessment was conducted during development and preparation of the EIS (see Section 4.1.4.1 of the EIS). The EIS determined that the proposed Golden Pass LNG export terminal site is within the 100-

year floodplain, as are some portions of the pipeline expansion facilities and one compressor station. While the placement of these facilities within floodplains would be unavoidable, DOE has determined that the current design for the GPP Export Project minimizes floodplain impacts to the extent practicable.

Issued in Washington, D.C. on April 25, 2017.



**Douglas W. Hollett**  
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