

EXECUTIVE SUMMARY

INTRODUCTION

The staff of the Federal Energy Regulatory Commission (Commission or FERC) has prepared this draft Environmental Impact Statement (EIS) for the Downeast LNG Project (project) to fulfill the requirements of the National Environmental Policy Act (NEPA) and the Commission's implementing regulations under Title 18 Code of Federal Regulations (CFR) Part 380. The purpose of this document is: to inform the public and the permitting agencies about the potential environmental impacts of the proposed project, including the use of the marine transit route for LNG vessels; identify and discuss project alternatives; and recommend mitigation measures that would avoid or reduce adverse impacts to the maximum extent practicable. The U.S. Coast Guard (Coast Guard); U.S. Army Corps of Engineers (COE); National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NOAA Fisheries); U.S. Environmental Protection Agency; and the Maine Department of Environmental Protection (Maine DEP) have acted as cooperating agencies in the development of this draft EIS.

The FERC is the federal agency responsible for authorizing applications to construct and operate onshore liquefied natural gas (LNG) import and interstate natural gas transmission facilities. The Coast Guard is serving as a subject matter expert for, and providing recommendations on, the maritime safety and security aspects of the project. The Coast Guard is responsible for assessing the suitability of the waterway and issuing a Letter of Recommendation (LOR). The LOR is considered by FERC, as the siting authority, to assist with its decision concerning approval of the project.

PROJECT BACKGROUND

On January 5, 2006, we¹ approved a request by Downeast LNG, Inc. to use the Commission's pre-filing review process in order to identify and address project-related issues prior to the filing of an application with the Commission. On December 22, 2006, Downeast LNG, Inc. and Downeast Pipeline, LLC (hereafter collectively referred to as Downeast) filed an application with the FERC under Section 3(a) and Section 7(c) of the Natural Gas Act to construct, operate, and maintain an LNG import facility, associated sendout pipeline, and various ancillary facilities. On January 16, 2008, Downeast filed an amendment to its Section 7(c) application to modify the proposed pipeline route and avoid crossing the Moosehorn National Wildlife Refuge, owned and managed by the U.S. Fish and Wildlife Service (FWS). We have prepared our analysis based on Downeast's application and subsequent filings.

PROPOSED ACTION

In Docket No. CP07-52-000, Downeast proposes to import, store, and vaporize on average about 500 million cubic feet per day (MMcfd) of LNG with peak deliveries of 625 MMcfd at a terminal facility on the south side of Mill Cove in the Town of Robbinston, Washington County, Maine. The LNG terminal would be located on an 80-acre parcel, near the confluence of Passamaquoddy Bay and the St. Croix River. Downeast requests Commission authorization to construct and operate the following facilities:

¹ "We", "us" and "our" refer to the environmental staff of the Federal Energy Regulatory Commission's Office of Energy Projects (OEP).

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- a new marine terminal that would include a 3,862-foot-long pier with a single berth;
 - two full-containment LNG storage tanks, each with a nominal usable storage capacity of 160,000 cubic meters;
 - LNG vaporization and processing equipment; and
 - various ancillary facilities and buildings.

In Docket Nos. CP07-53-000 and CP07-53-001, Downeast requests Commission authorization to construct and operate natural gas sendout pipeline facilities that consist of:

- a 29.8-mile-long, 30-inch-diameter natural gas pipeline;
- natural gas metering facilities located at the LNG terminal site;
- pig launching and receiving facilities; and
- three mainline block valves.

The proposed sendout pipeline would transport natural gas from the LNG terminal to an interconnect point with Maritimes and Northeast Pipeline L.L.C. (M&NE) near the town of Baileyville, Maine. Based on the information available when Downeast filed its application, we determined that the M&NE system may not have sufficient capacity to transport the natural gas volumes from the interconnection with the Downeast pipeline. Downeast, in consultation with M&NE, provided information regarding the potential modifications and expansions that could be required on the M&NE pipeline system. However, M&NE has not indicated any intent to construct these facilities and does not have an application before the FERC. The facilities identified represent the maximum that may be needed and they are described in this EIS for purposes of disclosure.

PUBLIC OUTREACH AND COMMENTS

On March 13, 2006, the FERC issued a *Notice of Intent to Prepare an Environmental Impact Statement for the Downeast LNG Project, Request for Comments on Environmental Issues, and Notice of a Joint Public Meeting* (NOI) that briefly described the project; the EIS process; explained the FERC and Coast Guard's coordinated reviews; and invited public comments on the environmental issues to be addressed in the EIS. Subsequent to this initial NOI, FERC issued the following Supplemental NOIs:

- September 18, 2006, to describe two additional natural gas sendout pipeline routes that had been identified since the initial NOI and to request comments on the new preferred route;
- December 1, 2006, to describe potential M&NE downstream expansion facilities; and
- February 13, 2008, to describe the modification of the proposed natural gas sendout pipeline route to avoid crossing the Moosehorn National Wildlife Refuge, and request comments on the amended pipeline route.

The notices were published in the *Federal Register* and sent to affected landowners; federal, state, and local government agencies; elected officials; environmental and public interest groups; Native American tribes; local libraries and newspapers; and other interested parties.

On March 28, 2006, the FERC and the Coast Guard conducted a joint public scoping meeting in Robbinston, Maine to provide an opportunity for the public to learn more about the proposed project and provide comments and concerns. On March 28, 2006, the FERC also conducted a public site visit of Downeast's LNG terminal site and the proposed pipeline route.

In response to our notices and public meetings, we received numerous comments expressing concerns for safety; alternatives; purpose and need; wildlife habitat; threatened and endangered species; tourism; commercial fishing; United States-Canadian economic relations; and property values in proximity to the project facilities. Additional issues were identified through communications between Canadian governmental officials and the FERC. The Canadian government's concerns include navigational challenges of the proposed transit route; safety and security zones associated with LNG tankers; and the impacts of accidents such as spills from the terminal facilities or LNG vessels. The Canadian government's concerns are addressed in this EIS and the Coast Guard's Waterway Suitability Report (WSR) (Appendix B).

ENVIRONMENTAL IMPACTS AND MITIGATIONS

We evaluated the impacts of the project, as reduced by Downeast's proposed mitigation measures, on geology, soils, water resources, vegetation, wildlife, fisheries, special status species, land use, visual resources, socioeconomics, cultural resources, air quality, noise, and safety. We also considered the cumulative impacts of this project with other past, present, and reasonably foreseeable actions in the project area and potential alternatives to the proposed action. Where necessary, we have recommended additional mitigation measures to minimize or avoid these impacts. Section 5.2 of the EIS contains a compilation of 96 mitigation measures that we recommend be attached as conditions to any authorization issued by the Commission.

The major issues identified in our analysis are potential impacts on waterbodies and wetlands; sensitive wildlife habitats and fisheries; listed endangered and threatened species; residences; visual resources; cultural resources; commercial and recreational marine vessel activity; and safety.

The proposed sendout pipeline would cross 22 surface waterbodies; the majority of which would be crossed using conventional backhoe-type equipment and dry-ditch techniques. Horizontal directional drill (HDD) techniques would be used at selected rivers including those with riffle pool habitats, the St. Croix River, and the Magurrewock Stream Outlet.

During terminal operations, water would be routinely withdrawn from Passamaquoddy Bay for LNG vessel engine cooling, ballasting, hoteling, and weekly testing of the fire suppression system. Water withdrawals would impinge and entrain zooplankton and ichthyoplankton; however, based on Downeast's sampling and modeling analyses, we have determined that impacts on overall community populations and associated fish stocks would be insignificant.

The primary impact on wildlife would be clearing of forested habitats, impacts on forested and scrub-shrub freshwater wetlands, and disturbance of vernal pools that provided habitat for sensitive species. Downeast located the proposed right-of-way immediately adjacent to existing rights-of-way to the greatest extent practical to minimize forest habitat loss and fragmentation. Downeast would HDD all vernal pools directly crossed by the pipeline and the majority of associated buffer areas. Downeast would compensate for the permanent loss of wetlands through a compensation plan that addresses coastal and freshwater wetlands, areas used by tidal and inland wading waterfowl, and significant vernal pools. In addition, Downeast has finalized a Shorebird Mitigation Plan to compensate for shorebird impacts and would continue consultations with the Maine Division of Inland Fish and Wildlife to develop Deer Wintering Area (DWA) mitigation measures.

Potential impacts on marine mammals may include vessel collisions, acoustic harassment, physical harassment, and exposure to pollutants and marine debris. To minimize and/or avoid potential impact on marine mammals, Downeast would apply mitigation methods specific to the North Atlantic right whale to all marine mammals. Downeast is developing a Prevention and Mitigation Manual for construction and operation that outlines mitigation strategies such as limiting LNG vessel speed, use of forward watching whale spotters, and training and education programs. We have recommended that Downeast file its final Prevention and Mitigation Manual with the Secretary. We also recommended that Downeast continue consultations to determine appropriate mitigation strategies to minimize acoustic impacts, and identify any recommended seasonal or construction timing restrictions to minimize impacts on marine species and habitats, and file those measures prior to the end the draft EIS comment period.

Informal consultations and review of published information identified 12 federally listed special status species that could be affected by project construction and operation, including four species of fish, seven mammals (six whale species and the New England cottontail), and the Leatherback sea turtle. We conclude that construction and operation of the proposed project is likely to adversely affect four threatened or endangered whales species, including the North Atlantic right, humpback, fin, and sei whales, given the frequency of species observations, the increased vessel traffic in the waterway, and the likelihood of acoustic harassment. Within the project area, we also identified designated essential fish habitat (EFH) for 29 species of finfish, 3 species of shellfish, and 4 species of skate. A Biological Assessment (BA) and EFH Assessment is included as Appendix C of this EIS. We are requesting that FWS and NOAA Fisheries review the BA/EFH Assessment and provide concurrence with our determinations of effect or a Biological Opinion, as appropriate, and EFH conservation recommendations. To ensure compliance with the Endangered Species Act and Magnuson-Stevenson Act, we recommended that Downeast not begin construction until the FERC staff completes consultation.

Downeast identified 18 residences within 50 feet of the permanent right-of-way for the sendout pipeline, and filed site-specific plans for construction near these residences (see Appendix Q). We are specifically requesting that landowners review these plans and provide us with any comments. Downeast identified potential alternatives to minimize impacts associated with several of these site-specific residential mitigation plans. We have recommended that prior to the end of draft EIS comment period, Downeast revise all residential site-specific plans to identify a preferred alternative that minimizes impacts on the residences.

There are no public lands or other designated federal, state, or local recreation areas located on or within 0.25 mile of the LNG terminal site. The closest residence is located 125 feet from the proposed LNG terminal boundary. Visual impacts associated with the Downeast LNG terminal would be mitigated using the following techniques: the storage tanks would be painted a neutral color; a 50-foot-wide vegetative buffer would be preserved along U.S. Route 1; a 250-foot-wide tree buffer along Passamaquoddy Bay would be maintained; and equipment specifically designed to reduce off-site light spillage would be used.

Operation of the project would result in regular transit of approximately 60 LNG vessels per year in the Bay of Fundy, Grand Manan Channel, Head Harbor Passage, Western Passage, and Passamaquoddy Bay. A moving security zone imposed around LNG vessels, as recommended by the Coast Guard in their WSR, could impact commercial, recreational, and fishing boats during the arrival and departure of the LNG vessels. Given the limited amount of LNG vessel traffic, implementation of vessel traffic management practices recommended by the Coast

Guard, advance notice to United States and Canadian authorities from the LNG vessels transiting the area, and the limited time that nearby marine traffic could be interrupted, we have determined that impacts on commercial and recreational marine activity would not be significant. Downeast is continuing to consult with the Cobscook Bay Fishermen's Association, the Fundy North Fishermen's Association, and other sources to develop a comprehensive compensation plan to address any potential loss of fishing equipment or income as a result of unavoidable impacts by Downeast LNG vessels. We recommended that, prior to operation of the Downeast LNG terminal, Downeast file the final Fishermen Communication, Coordination and Compensation Plan.

The Bureau of Indian Affairs and Passamaquoddy Tribe have expressed concern for potential project impacts on sites of religious and cultural importance, including archaeological sites, burials, historic properties, and aboriginal fishing rights. We recommended that Downeast file documentation of continued consultations with the Passamaquoddy Tribe and other Native Americans and seek resolution of identified project-related impacts on cultural and religious interests. In addition, we recommended that Downeast not begin construction and use of all proposed facilities until it files the remaining survey and evaluation reports, any required treatment plans, comments of the State Historic Preservation Officer and appropriate Indian Tribes, and the Director of OEP notifies Downeast in writing that it may proceed with treatment or construction.

We evaluated the safety of both the proposed LNG import terminal facility and the related LNG vessel transit through the Passamaquoddy Bay Waterway. As part of our evaluation, we performed a cryogenic design and technical review of the proposed terminal design and safety systems including the proposed seismic design measures. Several areas of concern were noted with respect to the proposed facility, and we identified specific recommendations to address these concerns. Thermal radiation distances and flammable gas dispersion distances were calculated for the proposed facility. Because our modeling indicates that portions of the vapor dispersion exclusion zones would extend beyond the proposed site, we have recommended that Downeast provide revised modeling which demonstrates compliance with Title 49 CFR Part 193 regulations, prior to issuance of the final EIS.

Based on the extensive operational experience of LNG shipping, the structural design of an LNG vessel, and the security provisions and operational controls imposed and recommended by the Coast Guard and the local pilots, the likelihood of a cargo containment failure and subsequent LNG spill from a vessel casualty (i.e., collision, grounding, or allision) is extremely remote. Because it is unlikely that a substantial cargo release would occur, we conclude that an accident involving an LNG vessel or the Downeast LNG import terminal is unlikely to affect the public.

On January 6, 2009, the Coast Guard issued an LOR and made an assessment in its WSR (Appendix B) that the Passamaquoddy Bay Waterway is suitable for the type and frequency of marine traffic associated with the proposed Downeast LNG Project, provided that all of the risk mitigation measures outlined in section 4.6 of the WSR are implemented by the applicant. The risk mitigation measures in the WSR also provide that Downeast must determine and comply with all applicable Canadian laws and regulations applicable to the safe and secure navigation and the regulation of maritime traffic, that comply with customary international law. We recommended that, throughout the life of the facility, Downeast comply with requirements set forth by the Coast Guard Captain of the Port, including all risk mitigation measures in the WSR.

In compliance with the Energy Policy Act of 2005, we recommended that Downeast develop an Emergency Response Plan in consultation with the Coast Guard and state and local agencies. Necessary security measures would further be incorporated into a Transit Management Plan that would clearly spell out roles, responsibilities, and specific procedures for LNG marine traffic transiting to the terminal, as well as for all agencies involved in implementing security and safety during operations. We also recommended that Downeast develop a Cost-Sharing Plan that identifies the mechanisms for funding all project-specific security/emergency management costs that would be imposed on state and local agencies.

CONCLUSIONS AND RECOMMENDATIONS

We conclude that construction and operation of the Downeast LNG Project would result in some adverse environmental impacts. However, most of these impacts would be reduced to less-than-significant levels with the implementation of Downeast's proposed mitigation measures and the additional measures we recommend in this EIS. Although many factors were considered in this determination, the primary reasons are:

- the Coast Guard's LOR states that the Passamaquoddy Bay Waterway is suitable for the type and frequency of marine traffic associated with the proposed project, provided that recommended risk mitigation measures outlined in section 4.6 of the WSR are fully implemented by the applicant;
- adverse impacts on sensitive habitats and wildlife species would be avoided or minimized with incorporation of our recommendations;
- consultation required by Section 106 of the National Historic Preservation Act, and Section 7 of the Endangered Species Act, would be completed prior to construction;
- Downeast has committed to obtain all federal permits and authorizations and to follow the permitting requirements of the State of Maine;
- Downeast is continuing consultation with federal and state agencies to finalize a wetlands mitigation plan; develop a Prevention and Mitigation Manual to minimize adverse impacts on listed species, develop a final DWA mitigation package, determine seasonal or construction timing restrictions, design mitigation strategies to minimize acoustic harassment or harm to marine species, and develop a waterbody crossing schedule that identifies when trenching and blasting would occur;
- Downeast would implement its *Upland Erosion Control, Revegetation, and Maintenance Plan, Wetland and Waterbody Construction and Mitigation Procedures, and Soil Erosion and Sediment Control Guidelines* to minimize impacts on soils, wetlands and waterbodies; and
- environmental inspection and monitoring would ensure compliance with the mitigation measures that would become conditions if the project is authorized by the Commission.