

APPENDIX N
RESPONSE TO COMMENTS

Appendix N

Responses to Comments

1.0 INTRODUCTION

The draft EIS for the proposed Broadwater Project was issued in November 2006 and the formal public comment period extended from the date of issue through January 23, 2007. During this draft EIS comment period, FERC, the Coast Guard, COE, and NYSDOS conducted public comment meetings on Long Island at Smithtown (January 10) and in Wading River (January 11). FERC, the Coast Guard, and COE conducted public comment meetings in Connecticut at New London (January 9) and Branford (January 16). The public comment meetings provided interested groups and individuals the opportunity to present verbal and written comments on FERC staff's analysis of the environmental impacts of the proposed Project as described in the draft EIS. At the public comment meetings, we stated that we would accept written comments throughout the period when the final EIS was being prepared.

We received written comments on the draft EIS throughout the period from issuance of the draft EIS to preparation of the final EIS and considered each of the comments received between November 2006 and November 2007 in preparing the final EIS. All written comments received on the draft EIS and the transcripts of the public comment meetings on the draft EIS are part of the public record for the Project and are available in the Project docket (CP06-054 and CP06-055).

This appendix consists of the following two main sections:

- Section 2.0 provides our responses to the written and verbal comments we received that specifically addressed the draft EIS; and
- Section 3.0 addresses the general written and verbal comments we received regarding the proposed Broadwater Project that were not specific to the contents of the draft EIS.

We also received several petitions from organizations and individuals that were either in general opposition or support of the proposed Broadwater Project. These petitions were general in nature and we have not responded to them in this appendix. However, the Commission will consider these petitions and all other information in the Project record during its deliberations on the proposed Project.

2.0 COMMENTS SPECIFIC TO THE DRAFT EIS

This section presents our responses to written and verbal comments specific to the draft EIS.

2.1 WRITTEN DOCUMENTS

Table 2-1 presents a list of the written comments we received specific to the draft EIS, including the name and affiliation, if any, of the commentor, and the identification number we assigned to each comment letter. The remainder of this section provides our responses to these written comments and the section is organized based on the affiliation of the commentor as follows:

- Federal Agencies (FA) are presented in Section 2.1.1
- State Agencies (SA) are presented in Section 2.1.2
- State Elected Officials (SE) are presented in Section 2.1.3
- Local Agencies and Municipalities (LA) are presented in Section 2.1.4
- Local Elected Officials (LE) are presented in Section 2.1.5
- Organizations and Companies (OC) are presented in Section 2.1.6
- Individuals (IN) are presented in Section 2.1.7
- Applicant (AP) is presented in Section 2.1.8

For comments specific to the draft EIS, we have provided a copy of each letter we received with the specific comments related to the draft EIS bracketed and numbered. Our response to each numbered comment is presented opposite the comment.

Some commentors attached reports, maps, articles, comment letters from others, and other documents to their comment letters. If the attachment was specific to the draft EIS, it is included with the letter and we have responded to comments identified. If the attachment was not specific to the draft EIS, we did not include it with the comment letter. If the attachment was a duplicate of a letter we responded to separately in this section of the appendix, we did not include it with the comment letter or duplicate our responses. However, the attachments are available for review in the public docket at <http://www.ferc.gov> under “E-library.”

**TABLE 2-1
List of Written Comments**

Letter Number	Commentor
FA-1	Dept. of the Interior
FA-2	U.S. Environmental Protection Agency
FA-3	Department of the Army, New York District, Corps of Engineers
FA-4	National Marine Fisheries Service
SA-01	NYS Dept. of Environmental Conservation
SA-02	New York State Department of Environmental Conservation (William Little)
SA-03	NYS Office of Parks, Recreation and Historic Preservation
SA-04	New York Department of Public Service (Saul A. Rigberg)
SA-05	New York State Office of General Services
SA-06	Connecticut Department of Environmental Protection
SA-07	Long Island Sound LNG Task Force
SA-08	Connecticut Department of Environmental Protection
SE-01	NY State Senator Carl Marcellino
SE-02	Connecticut Governor M. Jodi Rell
SE-03	Connecticut Attorney General Richard Blumenthal
SE-04	Connecticut Attorney General Richard Blumenthal
SE-05	Connecticut Attorney General Richard Blumenthal
SE-06	Connecticut State Senator Adrea Stillman
SE-07	Connecticut Representative Toni Butcher
SE-08	Connecticut Attorney General Richard Blumenthal
SE-09	Connecticut Attorney General Richard Blumenthal
LA-01	Farrell Fritz for Suffolk County
LA-02	Suffolk County Legislature
LA-03	Joseph F. Williams, Suffolk County Department of Fire, Rescue & Emergency Services)
LA-04	Long Island Farm Bureau
LA-05	New York City Energy Policy Task Force (Gil C. Quiniones)
LA-06	Towns of Brookhaven, Huntington, and East Hampton
LA-07	Town of Brookhaven Town Board
LA-08	Edward Michels, Chief Harbormaster, Town of East Hampton
LA-09	Bill Taylor, Waterways Management Supervisor, Town of East Hampton
LA-10	East Hampton Twon Commercial Fisheries Advisory Committee
LA-11	Town of Oyster Bay (Cashin Spinelli & Ferretti, LLC)
LA-12	Town of Huntington Town Board
LA-13	Town of Huntington

TABLE 2-1 (continued)
List of Written Comments

Letter Number	Commentor
LA-14	Harry Acker, Town of Huntington, Director of Marine Services
LA-15	Town of East Lyme (Donald F. Landers, Jr.)
LA-16	Norwalk Harbor Management Commission (Anthony Mobilia)
LA-17	Town of Brookhaven (Brian Foley)
LA-18	East Hampton Town Board
LA-19	Towns of Riverhead and Southold
LA-20	Suffolk County
LA-21	Towns of Riverhead and Southold
LA-22	Suffolk County
LA-23	Town of Riverhead
LA-24	Town of Brookhaven
LA-25	East Hampton Fisheries Committee
LE-01	Wayne Horsley, Suffolk Co. Legislator
LE-02	Suffolk Co. Legislator Jay Schniederma
LE-03	Branford Selectman John Opie
LE-04	New Haven Mayor, John Destefano, Jr.
LE-05	Town of Darien, Selectwoman Evonne Klein
LE-06	John M. Kennedy, Jr.
LE-07	Town of Huntington Town Board (statement at comment meeting)
LE-08	Branford Selectman Cheryl Morris
OC-01	Save the Sound ,Appendix Synapse comments, Coastal Vision comments
OC-02	Citizens Campaign for the Environment (also includes IN40 – Tettelbach)
OC-03	CT Stop the Pipeline (Katherine G. Kennedy)
OC-04	Cross Sound Ferry Services
OC-05	Nature Conservancy
OC-06	Save the Sound
OC-07	Audubon Connecticut
OC-08	New England Energy Alliance
OC-09	The Maritime Aquarium at Norwalk (Amy Ferland)
OC-10	Repsol Energy North America Corp.
OC-11	South Fork Groundwater Task Force (Julie Penny)
OC-12	South Fork Broundwater Task Force (Julie Penny)
OC-13	Group for the South Fork (Robert DeLuca)
OC-14	Norwalk River Watershed Association (Lillian Willis)

TABLE 2-1 (continued)
List of Written Comments

Letter Number	Commentor
OC-15	Miller Marine Services (James Miller)
OC-16	Long Island MidSuffolk Business Action (Ernest M. Fazio)
OC-17	Norwal River Watershed Association (Kathleen Holland and Micael Law)
OC-18	Greenport Seafood Dock, Inc. (Mark S. Phillips)
OC-19	Cross Sound Cable Company (Robert Daileader, Jr.)
OC-20	Wading River Civic Association (Sid Bail)
OC-21	Guilani Partners, LLC (Richard Sheirer and Thomas Von Essen)
OC-22	South Nassau Communities Hospital
OC-23	New York City Economic Development Corporation (Gil Quiniones)
OC-24	Connecticut Harbor Management Association (John T. Pinto)
OC-25	Connecticut Harbor Management Association (John T. Pinto)
OC-26	Southern New England Fishermen's and Lobstermen's Association
OC-27	Norwalk Shellfish Commission (John Frank)
OC-28	Nassau Hiking and Outdoor Club (Guy Jacob)
OC-29	Citizens Campaign for the Environment (Maureen Dolan Murphy)
OC-30	Friends of the Bay (Kyle Rabin)
OC-31	Huntington Hospital
OC-32	League of Women Voters of Connecticut
OC-33	Citizens Campaign for the Environment (Kasey Jacobs)
OC-35	Conservationists United for Long Island Sound
IN-01	Elizabeth and Brian Merrick
IN-02	Edward Beutel
IN-03	Marcia Wilkins
IN-04	John Whittaker
IN-05	William D. Nordhaus
IN-06	Patricia Patterson Hauck
IN-07	Thornton H. Lathrop
IN-08	Kenneth Fox
IN-09	Patricia Liano
IN-10	Ann Carter
IN-11	James C. Dunlop
IN-12	Verna B. Lilburn
IN-13	Peter Bergen and Tony DuMula
IN-14	Tamara Fowls and Sarosh Wahla

TABLE 2-1 (continued)
List of Written Comments

Letter Number	Commentor
IN-15	Robert Fromer
IN-16	Warren Spehar
IN-17	Scott Carlin
IN-18	Marian Phillips
IN-19	Leigh Russo
IN-20	Robert W. Ramage
IN-21	Syma Ebbin
IN-22	No name (accession no. 200701235068)
IN-23	Lenore Stelzer
IN-24	Hugh MacLean
IN-25	Michael Theiler
IN-26	No name (accession no. 200701245018)
IN-27	Diane Scully
IN-28	Chad M. Lyons
IN-29	Maureen Ward
IN-30	Berman Family
IN-31	Andrew and Elizabeth Greene
IN-32	Rose Perasa
IN-33	Ann Marie Testa
IN-34	Heather Cusack
IN-35	David Kiremidjian
IN-36	Nick Madden
IN-37	Nick Kapatots
IN-38	C. Thomas Paul
IN-39	Franklin Bloomer
IN-40	Stephen T. Tettlebach
IN-41	Sarah Sorenson
IN-42	Naomi Myers
IN-43	Stephen Myers
IN-44	Franis Rober Denig
IN-45	Creig Peterson
IN-46	John C. Baal
IN-47	Philip Berns
IN-48	Jason Mancini

TABLE 2-1 (continued)
List of Written Comments

Letter Number	Commentor
IN-49	Roger D. Flood
IN-50	Elizabeth Raisbeck
IN-51	Douglas Hill
IN-52	Catherine Smith
IN-53	Christopher Zurcher
IN-54	Pat Lunden
IN-55	Denise Ulrich
IN-56	Kevin Ward
IN-57	Marge Acosta
IN-58	Marge Acosta
IN-59	Jerry Shaw
IN-60	Peter Brown
IN-61	Thomas Cleveland
IN-62	Barry Gorfain
AP-1	Broadwater (LeBeouf, Lamb, Greene, & McCrae)
AP-2	Broadwater (LeBeouf, Lamb, Greene, & McCrae)

2.1.1 Responses to Comments from Federal Agencies

Letter Number	Commentor
FA-1	Dept. of the Interior
FA-2	U.S. Environmental Protection Agency
FA-3	Department of the Army, New York District, Corps of Engineers
FA-4	National Marine Fisheries Service

FA1 - United States Department of the Interior

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United States Department of the Interior

OFFICE OF THE SECRETARY
Office of Environmental Policy and Compliance
408 Atlantic Avenue - Room 142
Boston, Massachusetts 02210-3334



January 18, 2007

9043.1
ER 06/1115

Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First Street, NE, Room 1A
Washington, DC 20426

Dear Ms Salas:

The Department of the Interior (Department) has reviewed the Draft Environmental Impact Statement (DEIS) for the proposed Broadwater LNG Project, FERC Nos. CP06-54-000 and CP06-55-000. The proposed project is the construction, installation, and operation of a liquefied natural gas (LNG) import, storage, and regasification facility and new offshore gas pipeline to connect to the existing interstate natural gas system, with all project components located in Long Island Sound (Sound), New York and Connecticut.

This report of the Department is submitted for project planning purposes under the National Environmental Policy Act and the Endangered Species Act (ESA) of 1973 (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.). Comments pursuant to the ESA were submitted in a letter dated February 10, 2006. Additional comments may be provided pursuant to, and in accordance with, provisions of the ESA and Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.) in the future, if applicable.

PROJECT DESCRIPTION

The proposed Broadwater LNG terminal would be a floating storage and regasification unit (FSRU) that would be attached to a yoke mooring system that includes a mooring tower embedded in the sea floor. The LNG would be delivered to the FSRU by LNG carriers, temporarily stored, vaporized (regasified), and then transported to a new subsea natural gas pipeline that would extend from the seafloor beneath the FSRU approximately 21.7 miles to an offshore connection with the existing Iroquois Gas Transmission System pipeline which extends across the Sound.

The LNG would be delivered to the FSRU at a rate of about 118 LNG carriers per year. In order to accommodate the cryogenic storage tanks, the FSRU would be double hulled. The main components of the FSRU would include a single berthing and unloading facility for LNG carriers with cargo capacities ranging from 125,000 to 250,000 cubic meters, a total storage capacity of 350,000 cubic meters, a closed loop vaporization system that would heat the LNG using natural gas, utility systems, crew quarters, and service facilities.

FA1 - United States Department of the Interior

IMPACTS TO FEDERALLY-LISTED THREATENED AND ENDANGERED SPECIES

The U.S. Fish and Wildlife Service (Service), in a letter dated February 10, 2006, indicated that the Federally-listed as threatened piping plover (*Charadrius melodus*) may occur in the vicinity of the Port Jefferson and Greenport areas. The Port Jefferson and Greenport facilities would be used for office and warehouse space, as well as for mooring tugboats. Both facilities are currently occupied by warehouses, office space, and commercial docks. The DEIS indicates that since these two onshore facilities are currently used as office space, warehouse space, and commercial docks, it is not anticipated that there would be impacts to onshore piping plovers. The DEIS concludes that with the implementation of recommendations, including coordination with both the Service and the National Marine Fisheries Service, the project would not be likely to adversely affect any Federally-listed threatened or endangered species. The Service concurs that the on-shore facilities and operations associated with the proposed action are not likely to adversely affect Federally-listed species under our jurisdiction. However, the Service is currently assessing the potential impacts of migrating/foraging piping plover and Federally-listed endangered roseate tern (*Sterna dougallii*) collisions with the proposed off-shore facility and associated structures. As such, further ESA consultation and coordination is required.

FA1-1 [
FA1-2 [

FA1-1 Thank you for your comment. Section 3.4 of the final EIS has been updated to reflect concurrence by FWS that the onshore facilities would not adversely affect federally listed species under their jurisdiction.

FA1-2 Section 3.4.1 of the final EIS has been modified to include information regarding potential impacts to federally listed avian species from collisions with the proposed FSRU, including information provided by FWS. In a letter dated June 8, 2007, FWS concurred with FERC's determination that collisions with the proposed FSRU would not be likely to adversely affect federally listed species since impacts would be insignificant or discountable.

IMPACTS TO FISH AND WILDLIFE RESOURCES

Entrainment and Impingement of Aquatic Organisms

The Department has concerns regarding the effects on fish and other aquatic organisms of the FSRU and LNG carriers taking in and discharging large volumes of water. Most of the water taken in by the FSRU would be used for ballast when discharging vaporized LNG. When taking on LNG from the carriers, the ballast water in the FSRU would be returned to the Sound. The LNG carriers would take on water primarily for use in cooling and for ballast when LNG is being unloaded. The cooling water would be returned to the Sound and ballast water would remain on the LNG carrier until it departed the Sound.

Annually, the water intake of the FSRU would average about 5.5 million gallons per day (mgd), with a maximum daily intake of 8.2 mgd. In general, this water would be treated with the biocide, sodium hypochlorite. The water intake of the carriers would be about 22.7 mgd, including ballast and cooling water. Some water discharges from the carriers would be associated with cooling on-board machinery and may be an average of 3.6°F warmer than ambient temperatures.

The primary impacts to fish and other aquatic resources associated with the above described exchange of water would be the impingement and entrainment of ichthyoplankton, and possibly larger organisms, and the adverse impacts potentially associated with the discharge of water containing sodium hypochlorite. The FSRU and LNG carriers are predicted to annually impinge/entrain between 49.8 - 101.9 million eggs and 67.4 million to 173.1 million larvae. Based on ichthyoplankton surveys conducted in the project vicinity, the fish species most likely to be impacted include weakfish/scup (*Cynoscion regalis/Stenotomus chrysops*), fourbeard rockling (*Enchelyopus cimbrius*), tautog (*Tautoga onitis*), sea robin (*Chelidonichthys spinosus*), Atlantic menhaden (*Brevoortia tyrannus*), windowpane flounder (*Scopthalmus aquosus*), bay anchovy (*Anchoa mitchilli*), smallmouth flounder (*Etropus microstomus*), sand lance (*Ammodytes dubius*), and butterfish (*Poronotus triacanthus*).

FA1 - United States Department of the Interior

Broadwater is proposing measures to reduce entrainment and impingement. Their water intake velocity would be 0.5 feet per second (fps), which is an acceptable intake velocity to protect aquatic organisms, including juveniles. The screen size on the intake to the ballast tanks of the FSRU is 0.2 inches (5.08 mm), a diameter that will not preclude entrainment and impingement of many ichthyoplankton that are taken into the sea chests. Many powerplants use a wedgewire screen with a 0.08 inches (2 mm) screen size. Weisberg et al., (1987) found that wedgewire screens with an intake velocity of 0.7 fps and slot sizes of 0.04 inches (1mm), 2 mm, and 0.12 inches (3 mm), significantly reduced fish entrainment. We recommend that Broadwater consider the use of a wedgewire screening system with a slot opening in the 1 - 3 mm range.

FA1-3

FA1-3 Section 3.3.2.2 of the final EIS has been updated to discuss the potential use of wedgewire screens.

FA1-4

No information was provided in the DEIS regarding the screening of water taken into the LNG carriers. We note that the LNG carriers will take in greater volumes of water and potentially significant numbers of ichthyoplankton than the FSRU. All of these organisms would likely suffer mortality, either as a result of biocide use in the carrier or ballast water exchange in the ocean. We recommend that the final EIS discuss this topic in greater detail.

FA1-4 Ichthyoplankton impacts related to LNG carrier operation are discussed in Section 3.3.2.2 of the final EIS.

Use of Biocide, Sodium Hypochlorite

The ballast water within the FSRU will be treated with the biocide, sodium hypochlorite, a high pH oxidizing and disinfecting agent. The treated ballast water would subsequently be discharged to the Sound. Broadwater is predicting that the discharged water would contain sodium hypochlorite at concentrations between 0.01 and 0.05 parts per million (10 - 50 parts per billion [ppb]). We recommend that Broadwater estimate the likely concentrations of total chlorine likely to be released and compare those concentrations with the New York State Department of Environmental Conservation water quality standard for chlorine of 5 ppb to assess potential biological effects. Although very little information exists on the biological effects of this chemical on aquatic organisms, the PAN Pesticides database (2006) provides some toxicological endpoints. Most relevant to the Sound, the larvae of American lobster exhibited altered growth at sodium hypochlorite water concentrations of 150 ppb, with larval LC₅₀s ranging from 2,500 - 16,300 ppb (http://www.pesticideinfo.org/List_AquireAll.jsp?Rec_Id=PC34390). Broadwater should more thoroughly describe the water quality monitoring plan, linking their monitoring with water quality standards and biological endpoints, such as the one mentioned above for the American lobster.

FA1-5

FA1-5 Sections 3.2.3.2 and 3.3.2.2 of the final EIS have been updated to more completely describe potential impacts of water discharges to water quality and biological resources, including the information provided herein. All FSRU discharges (including concentrations of residual chlorine) would be conducted in accordance with SPDES permit requirements throughout the life of the Project. As described, no significant impact to marine resources would be associated with residual chlorine levels in discharges.

Effects on Migratory Birds

Little detail is provided in the document regarding aviation and navigation warning lighting. Based on concerns about lights attracting birds, especially in inclement weather (Manville 2005), we encourage the applicants to use minimum intensity, red or white, strobe lights at night on outbuildings, tall structures, and any other facilities requiring warning lights. We discourage use of bright, high-intensity, high-lumen sodium or mercury vapor lighting. These have been well documented to attract birds, especially during inclement weather at night (Manville 2005).

FA1-6

FA1-6 Section 3.3.5 of the final EIS has been updated to include information regarding potential impacts to avian species from lighting on the proposed FSRU.

FA1-7

On structures regulated by the Federal Aviation Association (FAA), unless otherwise requested by the FAA, only white strobe lights should be used at night, and these should be the minimum number, minimum intensity, and minimum number of flashes per minute (longest duration between flashes) allowable by the FAA. Solid red or pulsating red incandescent lights should not be used, as they appear to attract night-migrating birds at a much higher rate than white strobe lights. For more information see the Service's Best Management Practices at <http://www.birdsandbuildings.org/docs/AlManvilleTallStructures.pdf>.

FA1-7 Please see response to comment FA1-6.

FA1 - United States Department of the Interior

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SPECIFIC COMMENTS

FA1-8 [Maps in the draft EIS do not show latitude or longitude. Without precise location information, it is difficult to determine where the pipeline, yoke mooring system, and floating storage and regasification unit will be sited.

Section 2.3.2.2 Special Construction Techniques, Installation at Stratford Shoal, pages 2-30 and 2-31

FA1-9 [It is stated in the DEIS that the proposed "post-lay plowing technique" of pipeline installation may not work in the coarse, potentially bouldery, sediments expected on the southern flank of Stratford Shoal Middle. It is also stated that, "Broadwater would conduct additional investigations to determine whether or not geotechnical conditions across Stratford Shoal would allow pipeline installation using the post-lay plowing method.... If the additional investigations indicate that the post-lay plowing method would not be appropriate, Broadwater would develop an alternative installation method for this portion of the route." It is suggested that Broadwater consult the seismic-reflection sub-bottom profiles available for the project area. These profiles, which could be used to clarify geological issues involved with pipeline installation and geohazards at the floating storage and regasification unit, are available in Poppe et al. (2002) at: <http://woodshole.er.usgs.gov/openfile/of02-002/>.

Section 3.0 General Setting, page 3-2, first paragraph, fourth sentence

FA1-10 [Several geographic features are misnamed and mislocated. The sentence currently reads "A relatively shallow area called the Norwalk Shoal Complex separates the east basin from the central basin." This sentence should be revised to read, "A relatively shallow area formed by a submerged marine delta and provincially referred to as the Mattituck Sill separates the east basin from the central basin."

Section 3.1.1.1 Geologic Setting, page 3-3, second paragraph, fourth sentence

FA1-11 [The sentence currently ends with the phrase "...from the North Fork." Add "of Long Island" for clarity -- change to "...from the North Fork of Long Island."

Section 3.1.1.1 Geologic Setting, page 3-4, third paragraph

FA1-12 [Replace the references to "Norwalk Shoal Complex" in the second and fourth sentences with "Mattituck Sill", and replace the references to the "Stratford Shoal Complex" in the fourth and last sentences with "Stratford Shoal Middle Ground Complex."

Section 3.1.1.3 Geologic Hazards, Seismicity, and Faulting, page 3-5, first paragraph

FA1-13 [The last sentence states that no New England earthquakes have exceeded a magnitude of 6.0. This is incorrect; the Cape Ann earthquake is currently estimated to have had a magnitude of 6.2 (Ebel, 2006).

FA1-8 Figure 2.1.1 in Section 2.1 of the final EIS provides the latitude and longitude of the proposed Project.

FA1-9 The recommended reference was reviewed in updating Section 3.1 of the final EIS.

FA1-10 The final EIS has been revised with this information.

FA1-11 The final EIS has been revised accordingly.

FA1-12 The final EIS has been revised accordingly.

FA1-13 The final EIS has been revised accordingly.

FA1 - United States Department of the Interior

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- Section 3.1.1.3 Geologic Hazards, Soil Liquefaction, page 3-5, second paragraph, second sentence**
- FA1-14 [The sentence currently begins: "The surface substrate is composed of soft sediment (clays and sands)...." The wording should be revised to read, "The surface substrate is composed of soft muddy sediment (primarily clayey silt)...."
- Section 3.1.2 Sediments**
- FA1-15 [The text in this section confuses sedimentary environment with sediment texture, and uses the related terms interchangeably. Figures 3.1-2 and 3.1-3 both show sediment type in the background. If one of these figures showed the sedimentary environment data layer available from the same source (Paskevich and Poppe, 2000), some of the resultant confusion would be rectified.
- Section 3.1.2.1 Existing Environment, page 3-7, first paragraph, last sentence**
- FA1-16 [Change "Lacustrine glacial deposits...." to "Glaciolacustrine deposits...."
- Section 3.1.2.1 Existing Environment, page 3-7, second paragraph, third sentence**
- FA1-17 [Change "Fine-grained material covers...." to "Environments characterized by fine-grained deposition cover...."
- Section 3.1.2.1 Existing Environment, page 3-7, second paragraph, fourth sentence**
- FA1-18 [Change it to read "Environments characterized by sorting cover approximately 22 percent of the seafloor, and environments characterized by coarse bedload transport cover approximately 16 percent."
- Section 3.1.2.1 Existing Environment, page 3-7, second paragraph, fifth sentence**
- FA1-19 [Change "Coarse-grained material is present mainly in...." to read "The main area of coarse-grained bedload transport is present in...."
- Section 3.1.2.1 Existing Environment, page 3-7, second paragraph, sixth sentence**
- FA1-20 [Change it to read "Environments characterized by erosion cover approximately 10 percent of the seafloor, primarily at the eastern entrance to the Sound and on the shallower parts of the Stratford Shoal Middle Ground and Norwalk Shoal complexes."
- Section 3.1.2.1 Existing Environment, page 3-7, third paragraph, first sentence**
- FA1-21 [Change "...sediment associated...." to "...sedimentary environment associated...." and change "...sediment composition." to "...the distributions of these environments."
- Section 3.1.2.1 Existing Environment, page 3-7, fourth paragraph, first sentence**
- FA1-22 [Change the reference to Poppe et al. (2001) to Knebel and Poppe (2000).
- FA1-14 Section 3.1.1.3 of the final EIS has been revised.
- FA1-15 Section 3.1.2.1 of the final EIS has been revised to separate the discussion of sedimentary environments from the discussion of the resultant distribution of the sediment types in the Long Island Sound including a map of the sediment types in Long Island Sound.
- FA1-16 Section 3.1.2.1 of the final EIS has been revised to better characterize the existing environment.
- FA1-17 Section 3.1.2.1 of the final EIS has been revised to better characterize the existing environment.
- FA1-18 Section 3.1.2.1 of the final EIS has been revised to better characterize the existing environment.
- FA1-19 Section 3.1.2.1 of the final EIS has been revised to better characterize the existing environment.
- FA1-20 Section 3.1.2.1 of the final EIS has been revised to better characterize the existing environment.
- FA1-21 Section 3.1.2.1 of the final EIS has been revised to better characterize the existing environment.
- FA1-22 Section 3.1.2.1 of the final EIS has been revised to better characterize the existing environment.

FA1 - United States Department of the Interior

Section 3.1.2.1 Existing Environment, page 3-7, fourth paragraph, third sentence

FA1-23 [Change sentence to read: "Environments of erosion or nondeposition occur on the shallower parts of Stratford Shoal Middle Ground."

Section 3.1.2.1 Existing Environment, page 3-7, fourth paragraph, fourth sentence

FA1-24 [Change "in sediments composed of various proportions of sand, silt, and clay." to "in muddy sediments composed primarily of clayey silt (Poppe et al. 2000)."

Section 3.1.2.1 Existing Environment, page 3-7, fourth paragraph, fifth, sixth, and seventh sentences

FA1-25 [Change all references to "Stratford Shoal" to "Stratford Shoal Middle Ground."

Section 3.1.2.1 Existing Environment, page 3-7, fourth paragraph, sixth sentence

FA1-26 [Change the phrase "...gravel or bedrock." at the end of the sentence to "...gravel."

Section 3.1.2.1 Existing Environment, page 3-7, fourth paragraph, last sentence

FA1-27 [Change the phrase "...sediment type is a combination of sand, silt, and clay." at the end of the sentence to "...sediment type progressively fines until it becomes clayey silt."

Section 3.1.2.2 Potential Impacts and Mitigation - Physical Disturbance, page 3-15, first full paragraph

FA1-28 [The applicant's contention that the excavated trench would backfill naturally within 3 years (or even 10 years) is unlikely, based on the geology of the area. Active backfilling of the pipeline trench, as recommended by the EIS authors, is most consistent with minimizing environmental impacts along the pipeline route and reducing potential releases from any contaminated sediments that might be exposed during excavation. The rate of natural backfill in most of the depositional areas of the Sound is not rapid enough to refill the pipeline trench in the time envisioned (greater than 2 years). The authors are referred to Mecray and Buchholtz ten Brink (1999), which shows dated sediment profiles from the area using Pb-210 and Cs-137 indicating the low sedimentation rates, and Knebel (1998), which shows areas of deposition and erosion. The natural sedimentation rate is generally less than 1/8 inch per year. The only backfill would come from slumping or transport of excavated material back into the trench by bottom currents.

Section 3.1.2.2 Potential Impacts and Mitigation - Sedimentation, page 3-16

FA1-29 [The applicant used the MIKE3 modeling method to predict transport and fate of sediment disturbed during construction. However, they did not specify if or whose near-bottom current models were incorporated into the modeling and what range of storm energy the currents reflected. The MIKE3 system is indeed a state-of-the-art modeling system capable of representing the complex processes of sediment resuspension and sediment transport by wind, waves, and currents in a semi-enclosed basin such as Long Island Sound. These modeling systems, however, require initial conditions, boundary conditions, specification of many tunable parameters, and, therefore, the public can have no confidence in the model results without knowing how the model was actually configured, calibrated, and assessed. A detailed technical

FA1-23 Section 3.1.2.1 of the final EIS has been revised to better characterize the existing environment.

FA1-24 The sentence has been reviewed and deemed to be accurate as written. The subsequent sentences in this paragraph provide the greater detail that we believe the commentor seeks.

FA1-25 Section 3.1.2.1 of the final EIS has been revised to better characterize the existing environment.

FA1-26 Section 3.1.2.1 of the final EIS has been revised to better characterize the existing environment.

FA1-27 Section 3.1.2.1 of the final EIS has been revised to better characterize the existing environment.

FA1-28 Section 3.1.2.2 of the final EIS has been updated to incorporate this information.

FA1-29 A technical appendix describing calibration and verification data, boundary conditions, calibration procedures, parameters, and results generated from the MIKE3 model has been included in the final EIS as Appendix H.

FA1 - United States Department of the Interior

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FA1-29 ↑ appendix that describes how the model was configured, calibrated, and assessed is recommended. The reliability of these findings can not be ascertained due to the insufficiency of information provided in the DEIS about how the modeling was actually performed.

Section 3.1.2.2 Potential Impacts and Mitigation - Scouring, page 3-17, first (partial) paragraph, last sentence

FA1-30 [Although field measurements indicated that average current speeds across Stratford Shoal Middle Ground were less than 1.3 fps, these data were probably not collected during storm conditions. These potentially higher storm-related current speeds should be factored in when finalizing plans for backfilling.

Section 3.2.3.1 Construction

FA1-31 [Consideration should be given to conducting a detailed geotechnical study of the terminal site and pipeline route prior to beginning construction on this project. Possible difficulties with pipeline construction across Stratford Shoal in particular should not be minimized, and merit additional sidescan and seismic surveying, as well as detailed examination of existing data available in Poppe and others (2002).

Section 3.2.3.1 Construction, page 3-25

FA1-32 [In this section, copper release from antifouling paint used on the floating facility and mooring structure is presumed to come only from leaching into the dissolved phase. The reviewer would assume that over the operational life of the facility (greater than 30 years) particulates from spot rusting and flaking of paint from the hull of the facility and the mooring are likely to deposit particulates with elevated copper concentrations in the sediments in non-negligible concentrations.

Section 4.5 Pipeline Route Alternatives, pages 4-33 to 4-38

FA1-33 [Project features are shown on the figures without navigational information and, in this case, without underlying data germane to the topic. Sediment texture, sedimentary environments, bathymetry, habitats, contaminant distributions, sea-floor features, etc., are discussed in the text in reference to the proposed routes, but are not shown in any of the figures.

Thank you for the opportunity to review and comment on this DEIS. If you have any questions concerning our comments on Federally-listed threatened or endangered species or other fish and wildlife impacts, please contact Anne Secord, with the U.S. Fish and Wildlife Service at 607-753-9334 (anne_secord@fws.gov). For questions concerning the specific comments, please contact William Schwab at the USGS Woods Hole Science, at 508-457-2211 (bschwab@usgs.gov).

Sincerely,



Andrew L. Raddant
Regional Environmental Officer

FA1-30 Sections 3.1.2.2 and 3.2.3.2 of the final EIS have been updated to include an expanded discussion of the Stratford Shoal contingency plan.

FA1-31 As required by the recommendation in Section 3.1.1.3 of the final EIS, Broadwater would complete geotechnical surveys in the area of the proposed FSRU mooring site prior to construction. Broadwater would complete additional field investigations with test plows across Stratford Shoal between October 2008 and April 2009 to determine the most feasible plowing method for the pipeline trench. Plowing is anticipated to begin in October 2009.

FA1-32 Rather than the use of anti-fouling paint that contains copper, Section 3.2.3.1 of the final EIS includes a recommendation that Broadwater use silicone paint for the hull of the FSRU.

FA1-33 The existing environmental conditions in the Project area are depicted in Figures found in Sections 2.0 and 3.0 of the final EIS, including navigational information (Figure 2.1-1), bathymetry (Figure 3.0-1), sediment texture (Figures 3.1-1), and contaminant distribution (Figures 3.1-3 through 3.1-5).

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FA2 - United States Environmental Protection Agency

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Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First St. NE, Room 1A
Washington, D.C. 20426

Reference Docket Nos. PF05-4, CP06-54-000, and CP06-55-000

Dear Ms. Salas:

The U.S. Environmental Protection Agency (EPA) has reviewed the draft environmental impact statement (DEIS) for the Broadwater Liquefied Natural Gas (LNG) terminal and pipeline (CEQ # 20060479). The proposed terminal and pipeline would be located in New York State waters of the Long Island Sound, approximately nine miles from the nearest shoreline of Long Island, and about eleven miles from the nearest shoreline in Connecticut. This review was conducted in accordance with Section 309 of the Clean Air Act, and the National Environmental Policy Act (NEPA).

The proposed LNG terminal would be a floating storage and regasification unit (FSRU) that would be attached to a yoke mooring system (YMS) that includes a mooring tower embedded in the seafloor. The FSRU would look like a marine vessel, 1,215 feet long, 200 feet wide, and 48 feet above the waterline at the primary hull, and would pivot around the YMS, enabling the FSRU to orient in response to the prevailing wind, tide, and current conditions. LNG would be delivered to the FSRU by LNG carriers (on average two to three per week), temporarily stored, regasified, and then transported in a new subsea natural gas pipeline that would extend from the seafloor beneath the FSRU approximately 21.7 miles to an offshore connection with the existing Iroquois Gas Transmission System pipeline in Long Island Sound. Approximately 118 carrier deliveries are expected per year.

Comments

FA2-1

EPA commends the Federal Energy Regulatory Commission (FERC) on its efforts to work with all the cooperating agencies during the preparation of this DEIS. The document reflects many of the issues brought forth during interagency meetings and discussions. We also appreciate the recognition of the Long Island Sound Estuary as a resource of particular importance receiving significant public investment. Our remaining comments on the document are as follows:

FA2-1

FERC appreciates the efforts of the EPA staff to provide timely and consistently useful input into the NEPA review of the Project.

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Air Quality

- FA2-2 [
 - In order to demonstrate compliance with the National Ambient Air Quality Standards (NAAQS), FERC included a discussion of the air impacts of the anticipated emissions from the proposed Broadwater project and other background sources of emissions (page 3-181). The DEIS states that air impacts were evaluated with the EPA dispersion models, Offshore Coastal Dispersion (OCD) and AERMOD Prime, and that meteorological data collected from a nearby buoy by the University of Connecticut was used as input to the dispersion models. EPA recommends that a copy of the modeling analyses be included as an appendix of the Final Environmental Impact Statement (FEIS) in order to help support the findings from the models.
- FA2-3 [
 - During discussions concerning facility permitting, Broadwater representatives were informed by EPA and the New York State Department of Environmental Conservation (NYSDEC) that the meteorological period selected for input to the dispersion models was not appropriate. In response, Broadwater staff stated that they would obtain a better quality meteorological data set and submit an updated modeling analysis. We recommend that this new meteorological data set be used to update the NEPA analysis as well.
- FA2-4 [
 - Though the input data for the modeling analyses are going to be revised and, therefore, results may change, EPA would like to note that the table of impacts in the DEIS using AERMOD-Prime (Table 3.9.1 – 15) shows a 24 hour average PM2.5 concentration of 59 ug/m3. This value would exceed the recently revised PM2.5 NAAQS of 35 ug/m3 and would warrant discussion in the FEIS.

Air Quality – General Conformity

- FA2-5 [
 - Appendix F provides a “Draft General Conformity Evaluation” with a disclaimer that “Additional information from Broadwater is required to finalize this document...” As indicated in the DEIS, the current discussion of the conformity determination does not include substantive information about project emissions subject to conformity or about the method by which the project will demonstrate conformity. This type of information is usually included in conformity determinations issued for public comment under 40 CFR 93.156. Once the final general conformity determination has been completed, it will also need to be noticed under 40 CFR 93.156.
- FA2-6 [
 - Appendix F, sections 4.0 and 5.0 at page F-3, indicate generally that FSRU emissions will be excluded from the conformity analysis because they are subject to stationary source permitting. However, please note that the permitting exclusion provided in 40 CFR 93.153(d)(1) only excludes emissions governed by a major nonattainment new source review (NSR) permit or a prevention of significant deterioration (PSD) permit. A minor NSR permit or an operating permit under Title V does not provide an exemption for emissions from the conformity regulations. Given the discussion in the DEIS (section 5.1.9, page 5-

- FA2-2 The final modeling analyses and protocol for the Project are publicly available in the FERC docket for the Broadwater LNG Project (Docket No. CP06-54-000, Accession #20071210-5109).
- FA2-3 The revised protocol for air dispersion analysis submitted to NYSDEC on March 13, 2007 included revised meteorological data based on comments received from NYSDEC. NYSDEC approved the revised protocol in a letter dated April 6, 2007. The air dispersion modeling results contained in the FEIS were based on the new meteorological data set.
- FA2-4 Table 3.9.1-5 from the draft EIS has been updated in the final EIS (Table 3.9.1-7) to reflect the new PM2.5 standard finalized in December 2006. A revised modeling protocol was submitted to NYSDEC on March 13, 2007. The revised protocol was approved by NYSDEC on April 6, 2007. Updated modeling results have been included in the final EIS.
- FA2-5 The final General Conformity Analysis is included as an appendix to the final EIS (Appendix K).
- FA2-6 The General Conformity analysis includes FSRU operation emissions not subject to NSR and PSD but subject to other permitting.

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FA2-6

11), which suggests that some of the emissions from the FSRU will not trigger a major NSR or PSD permit requirement, it appears that the FSRU emissions may need to be included in the conformity analysis.

FA2-7

- Appendix F, section 5.0, last sentence, indicates that the conformity analysis will exclude "propulsion engine emissions." We are concerned that excluding propulsion engine emissions from the conformity determination does not appear to be consistent with the requirement in 40 CFR 93.159(d) that all direct and indirect emissions from the project be addressed in the determination.

FA2-8

- Appendix F, section 6.0, paragraph 1, suggests that the New York State Implementation Plan (SIP) would need to be revised before the threshold levels for a moderate ozone nonattainment area would apply. Based on the references in Appendix F to the federal conformity regulations in Part 93, it appears that FERC is applying EPA's conformity regulations, not a federally-approved state conformity regulation. If so, the thresholds applicable to a moderate area under 40 CFR 93.153(b)(1) would apply directly based on the designation and classification EPA gave the area. Therefore, a further SIP revision would not be required to make that classification applicable to the area. Further, we note that the discussion does not appear to reflect the fact that this nonattainment area is in the Ozone Transport Region (OTR), and that the discussion appears to reverse the thresholds that would apply to NOx and VOC in the OTR. Accordingly, we recommend that the applicable thresholds be reviewed and clarified, if necessary.

FA2-9

- In the absence of emissions numbers, we cannot determine at this time if conformity is applicable to emissions of PM 2.5 and its precursors. The applicability discussion in Appendix F, section 5.0, suggests that conformity might apply to PM 2.5 pollutants. If so, we recommend that section 6.0 address PM 2.5 pollutants, as well as NOx and VOC for ozone nonattainment purposes.

FA2-10

- Section 5.1.9, at p. 5-11, indicates that construction is scheduled to occur outside the ozone season. If FERC is planning to exclude any construction emissions from the conformity analysis because the emissions will not occur in the ozone season, we recommend that the FERC license or some other legally binding commitment limit construction to the non-ozone season. Without such a binding requirement, there would not be a basis for excluding those emissions from the conformity analysis. In addition, we recommend that the FEIS contain verification that the NYSDEC has approved limiting construction to the non-ozone season as an appropriate basis for excluding those emissions from the conformity analysis.

FA2-7

Sections 3.9.1.1 and 3.9.1.2 and Appendix K in the final EIS have been revised to clarify that propulsion emissions during transit have been incorporated into the General Conformity analysis.

FA2-8

Section 2.0 of the General Conformity analysis (Appendix K) has been updated to indicate that NYSDEC has not promulgated a rule incorporating Federal General Conformity regulations. As specified in 40 CFR Part 93, Subpart B, the provisions of Subpart B apply. Additionally, Section 2.2 of the General Conformity analysis has been revised to reflect the recent reinstatement of the 1-hour ozone standard. Finally, the final EIS has been updated to state that this nonattainment area is in the Ozone Transport Region (OTR), and thresholds for NOx and VOCs in the OTR have been reviewed.

FA2-9

Section 6.0 of the General Conformity analysis (Appendix K) addresses PM2.5 pollutants.

FA2-10

Section 5.3 of the General Conformity analysis indicates that (1) construction would not occur during the ozone control period (May 1 through September 30) over the planned 2-year construction period; and (2) this mitigation measure would contribute to the current 1-hour ozone SIP goal to reduce ozone precursor emissions and would similarly serve the goals of the 8-hour ozone SIP, when approved. We have included a recommendation in Section 3.9.1 of the final EIS that Broadwater be required to limit construction in Long Island Sound to the ozone control season.

FA2 - United States Environmental Protection Agency

Water Quality

- FA2-11 [• The DEIS recognizes that the scaled-down subsea plow method proposed by Broadwater to address trenching through the coarser substrate along Stratford Shoal may not be successful. FERC staff (page 3-14) recommended that Broadwater provide a contingency plan to the Secretary prior to implementation of an alternative installation method. EPA recommends that the contingency plan regarding an alternative to subsea plowing in the Stratford Shoals be included in the FEIS in order to allow for an analysis of the potential impacts of another method of laying the pipeline.
- According to the DEIS, Broadwater proposes to create the pipeline trench with a subsea plow and to backfill less than 10 percent of the trench length, and allow the remaining trench to naturally backfill. Alternatively, FERC staff (page 5-2) recommend “that Broadwater actively backfill the entire length of the pipeline trench and develop post-construction monitoring criteria in coordination with federal and state resource agencies.” We agree with the conclusion in the DEIS that “the success and timing of natural backfilling is uncertain” (page ES-8) and support the FERC staff recommended license condition #15 that would require Broadwater to develop a plan describing methods to mechanically backfill the trench, as well as incorporating detailed post-construction monitoring criteria to assess success. While we recognize that the active backfilling would generate some additional sediment disturbance and turbidity in the water column, we believe it would restore the benthic environment to its preconstruction condition as expeditiously as possible and ultimately lead to faster recovery of benthic communities. As noted in the DEIS, an open trench can potentially be a migration obstacle to biota and an exposed pipeline could have potential limited thermal impacts (page E-30).
- FA2-12 [• The DEIS states that the temperature of the natural gas in the riser will decrease from 130° to 120° F from the top of the riser to its insertion point in the subsea pipeline (page 3-35) and that there will be no predicted increase in water temperature approximately 4 feet from the riser due to mixing to ambient temperatures. We recommend that the modeling and analysis to support this conclusion be included in the FEIS. We also suggest that FERC consider conducting an analysis to determine whether the warmer water produced by the riser would enhance the development or growth of nuisance organisms.

Biological Resources

- FA2-13 [• We recommend that a more detailed discussion of operational underwater noise and its impacts be included in the FEIS. In particular, we recommend that the FEIS include a discussion of any of the specific recommendations to protect marine organisms during construction and operation of the project that result from the coordination that would be required by proposed license condition # 17 (5-20).

FA2-11 Section 3.1.2.2 of the final EIS has been updated to describe the potential impacts associated with contingency methods for installing the pipeline trench across Stratford Shoal, in the event that a subsea plow proves to be infeasible during pilot testing in late 2008 or early 2009.

FA2-12 Section 3.2.3.2 of the final EIS has been updated to discuss potential impacts of warmer water at the riser as it could relate to nuisance organisms.

FA2-13 Section 3.3 of the final EIS has been expanded to more completely discuss potential underwater noise levels and potential mitigation measures during Project construction and operation. We have also included a discussion of potential impact thresholds. Specific mitigation measures would be determined after geotechnical investigations were completed in 2008, in coordination between NMFS and Broadwater.

FA2 - United States Environmental Protection Agency

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General

- FA2-14
- The DEIS (page 4-39) states that Iroquois Gas Transmission System L.P. is considering construction of a 24-inch-diameter Brookhaven Lateral gas line that may have an effect on two of the alternative pipeline routes. We recommend that the FEIS address the Brookhaven Lateral docket PF05-16 and update the status of that project and its possible impact to the Shoreham and Scott's Beach alternative routes.
- FA2-15
- We recommend that the information on the Roosevelt Island Tidal Energy Project on page 4-4 be updated to reflect that the project is currently in a demonstration phase and producing electricity.

In light of our concerns over the potential environmental impacts from the proposed project, as well as our recommendations for additional information and analyses, EPA has rated the DEIS as Environmental Concerns – Insufficient Information (“EC-2”) (see enclosed rating sheet). If you have any questions regarding this review or our comments, please contact Lingard Knutson at 212-637-3747.

Sincerely yours,



John Filippelli, Chief
Strategic Planning and Multi-Media Programs Branch

Enclosure

FA2-14 Section 4.3.1.1 of the final EIS has been updated to provide the most recent available information on the potential Brookhaven Lateral Pipeline Project. Since Iroquois has formally withdrawn the Brookhaven Lateral proposal, it would not influence the expected impacts of Scott's Beach or Shoreham alternative routes for the proposed Broadwater Project.

FA2-15 As reflected in Section 4.2.2, the final EIS has been updated to include the most recent available information on the Roosevelt Island Tidal Energy Project and other proposed alternative energy projects.

FA3 - Department of the Army, New York District, Corps of Engineers



DEPARTMENT OF THE ARMY
 NEW YORK DISTRICT, CORPS OF ENGINEERS
 JACOB K. JAVITS FEDERAL BUILDING
 NEW YORK, N.Y. 10278-0090

REPLY TO
 ATTENTION OF

FEB 09 2007

Regulatory Branch

SUBJECT: Broadwater Energy LLC Draft Environmental Impact Statement
 U.S. Army Corps of Engineers Application No. NAN-2006-265
 Federal Energy Regulatory Commission Docket No. CP06-54

Magalie R. Salas, Secretary
 Federal Energy Regulatory Commission
 888 First Street NE, Room 1A
 Washington, DC 20426

Dear Secretary Salas:

This letter provides comments in response to the Draft Environmental Impact Statement (DEIS) prepared by the Federal Energy Regulatory Commission (FERC) for the Broadwater LNG Project.

The U. S. Army Corps of Engineers, New York District generally concurs with the DEIS. We offer initial comments on the DEIS as follows; while looking to provide additional comments within the next two weeks.

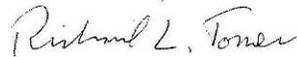
- FA3-1 [The DEIS does not evaluate impacts that the moving and fixed security zones may have on active Long Island Sound (LIS) dredged material disposal sites that are managed by the U.S. Army Corps of Engineers. The Final Environmental Impact Statement (FEIS) should provide a graphic (or several graphics as necessary) that clearly illustrates the relationship between the LIS dredged material disposal sites, the moving security zone surrounding a LNG tanker approaching the FSRU and the security zone around the FSRU. A discussion of impacts to the LIS dredged material disposal sites, including possible exclusion zones and restrictions on use should accompany the graphic(s).
- FA3-2 [The DEIS does not address the economic impact to the fishing and related support industries caused by the exclusionary fixed and moving security and safety zones. The FEIS should quantify adverse economic effects to these industries that will be caused by the reduction in lobster fishing grounds and commercial fishery trawling lanes due to the exclusion zones.
- FA3-3 [The DEIS does not evaluate long term operational noise impacts upon fishery resources. The FEIS should address impacts to fishery resources due to noise caused by the operation of the FSRU.
- FA3-4 [The FEIS should include an evaluation of how the project will comply with the Clean Water Act Section 404(b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material.

- FA3-1 The dredged material disposal sites are identified in Figure 3.5-2 of Section 3.5.5.2 of the final EIS. As identified, the fixed safety and security zone for the FSRU, and the moving safety and security zones for the LNG carriers would be located over 2 miles from those sites.
- FA3-2 Section 3.6.8.1 of the final EIS addresses potential economic impacts to commercial fishing due to the proposed fixed safety and security zone around the YMS and FSRU. This assessment includes potential impacts to both commercial lobster fishing and commercial trawling. Section 3.6.8.1 of the final EIS has been updated to address the potential impacts to commercial fishermen who may be affected by the proposed moving safety and security zones around LNG carriers as they enter and exit the Sound.
- FA3-3 Section 3.3.2.2 of the final EIS has been updated to more completely discuss expected underwater noise levels during Project operations. In addition, the final EIS includes a recommendation that Broadwater coordinate with NMFS to identify appropriate underwater noise thresholds and mitigation measures that would avoid and minimize potential impacts during Project construction and operations.
- FA3-4 Section 3.2.3.1 of the final EIS has been updated to identify how Project construction would be conducted in accordance with the CWA.

FA3 - Department of the Army, New York District, Corps of Engineers

We thank you for giving us this opportunity to comment on the DEIS. If you have any questions, need additional information, or wish to discuss any of the above issues in more detail, please contact Naomi Handell, Project Manager, at 917-790-8523.

Sincerely,



Richard L. Tomer
Chief, Regulatory Branch

cc: James Martin
FERC, Environmental Project Manager
Gas Branch 3
888 First Street NE
Washington, DC 20426

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UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
NORTHEAST REGION
One Backburn Drive
Gloucester, MA 01930-2298

JAN 23 2007

Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First St. NE, Room 1A
Washington, D.C. 20426

Re: OEP/DG2E/Gas Branch 3
Broadwater LNG Project
Docket No. CP06-54-000
CP06-55-000

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FEDERAL ENERGY
REGULATORY COMMISSION

Dear Secretary Salas:

The National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NMFS) has reviewed the draft environmental impact statement (DEIS) prepared for this project, which entails the proposed construction, installation, operation, and maintenance of a floating storage and regasification unit (FSRU) and appurtenant support and natural gas transmission facilities which collectively are being proposed by Broadwater Energy LLC and Broadwater Pipeline LLC [jointly termed hereafter as Broadwater]. The proposal generally is intended to establish a terminal capable of receiving imported LNG from seagoing carriers, storing and evaporating (regasifying) the LNG, and subsequently delivering natural gas to New York and Connecticut markets through a new subaqueous pipeline tying in to the existing Iroquois Gas Transmission System [IGTS]. If constructed, the FSRU would be supported and supplied by existing waterfront facilities on Long Island. Existing warehouse, office, and docking space with the capacity to berth up to four tugs has been identified for project support during construction and operation in either Greenport or Port Jefferson, New York.

Federal agencies that have jurisdiction by law or special expertise with respect to any environmental impact resulting from an agency action are required to comment on the DEIS. See 40 C.F.R. § 1503.2. NMFS maintains expertise and jurisdiction by law over the nation's living marine resources and offers the following comments and recommendations on the Broadwater LNG DEIS.

Project Description

Broadwater's conceptual design indicates that the proposed LNG terminal and regasification plant would be housed on a permanently moored vessel that is approximately 1,215 feet long, 200 feet wide, and 112 feet tall [with approximately 82 feet extending above the water line]. The vessel would be double-hulled and held in place at least nine miles offshore by a yoke and tower system [YMS] that would permit the



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vessel to orient in response to prevailing winds, tides, and currents. The FSRU would have one berthing and unloading facility capable of serving carriers holding from 125,000 to 250,000 cubic meters of LNG, and a total storage tank capacity of 350,000 cubic meters.

Vaporization of the LNG would be accomplished using a closed loop system that heats the LNG using natural gas. Water intakes that supply ballast water for the FSRU and other facility needs are expected to draw approximately 5.5 million gallons per day. In addition to the industrial portions of the project, which largely entail LNG storage and regasification facilities, the FSRU also would be designed to house crew and areas dedicated to service functions. Finally, natural gas produced from the LNG stored on the FSRU would be delivered primarily to New York markets through approximately 21.7 miles of subaqueous pipeline installed between the FSRU and the existing IGTS. Significant project details, including the YMS design and final pipeline installation methodology, have not yet been finalized.

General Comments

Broadwater's LNG terminal is proposed to be constructed in Long Island Sound [LIS], a nationally significant estuary that lies between the Connecticut shoreline and Long Island, New York. This important habitat supports a wide variety of natural resources of concern to the National Marine Fisheries Service, notably lobsters and other crustaceans; abundant bivalve mollusk populations; diverse finfish species; and federally listed, endangered, or threatened wildlife. LIS also supports a spectrum of important recreational and commercial uses ranging from fisheries, boating, and transportation to a variety of utility installations. Maintaining these existing coastal zone uses is regionally important and consistent with the goals and objectives of the two states' coastal management programs. Resource agency comments on past installations of natural gas pipelines, telecommunications equipment, and electric transmission cables within LIS indicate the potential impacts that would accrue from constructing the Broadwater project.

FA4-1

Implications of Water Intakes and Discharges: While average water intake volume would be reduced through use of a closed-loop heating system featuring a system comprising eight closed-loop shell-and-tube vaporization system (STV) units, the operation, nonetheless, would require millions of gallons of water per day. Ballast water and all other seawater requirements would be met using four intakes positioned on the bottom of the FSRUs hull, approximately 40 feet below the water line. The intake position and screening are designed to reduce entrainment and impingement of macrofauna, but flow and volume needs do not permit that all species and life stages could be excluded from the intakes. Entrainment of fish or invertebrate eggs and larvae as well as small prey items is likely to be lethal and have consequences for aquatic resources on both the Connecticut and New York sides of LIS. In addition, impacts that result from proposed releases of treated ballast and other discharges should be characterized in greater detail.

FA4-1

Impacts to water resources associated with water intakes and discharges are discussed in Section 3.2.3 of the final EIS. Impingement and entrainment impacts are discussed in Sections 3.3.1.2, 3.3.2.2, and 3.3.3.1.

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FA4-2 The analysis of these impacts should be supplemented before the NEPA process is completed. In addition, the overall operation would require regular discharges of treated water back into LIS to adjust ballast water and related activities. While these would be subject to some level of Clean Water Act oversight, it remains to be seen whether suitable measures could be developed and subsequently implemented to protect aquatic life and habitats.

FA4-3 Implications of Benthic Habitat Disruption from Pipeline Installation: While FERC staff has developed a series of recommendations in the DEIS that could be used to reduce certain construction impacts, significant project design details have yet to be proposed. As a consequence, NMFS is not able to accept at this stage that the ecological implications of project construction, installation, and operation have been characterized adequately. In particular, key design features such as the YMS, the gas pipeline interconnects, and the final pipeline installation methods remain to be determined and could, therefore, not be assessed fully in the DEIS. NMFS knows from previous utility installations in LIS that significant issues can, and do, arise during construction. For instance, unexpected obstructions were encountered during the installation of the Transenergie Cross Sound Cable that significantly complicated project completion. While there are important differences in the generic impacts of installing this cable crossing with respect to those that would accrue from constructing the proposed Broadwater pipeline lateral, the example is instructive in that preliminary reconnaissance studies for other utilities have failed to disclose all potential obstructions that could complicate installation according to the proposed method. Similarly, installation of both the original IGTS crossing and the subsequent Eastchester lateral similarly posed challenges that were not anticipated in their respective NEPA analyses. Notably, even years post construction, benthic habitat in significant reaches of the Eastchester project did not recover as predicted in the NEPA analysis for that project and remains disturbed.

FA4-4 While we appreciate that FERC recognizes the importance of this issue and has recommended that Broadwater backfill the trench and otherwise address pipeline installation impacts, the DEIS does not provide details on how this would be accomplished and what the resulting impacts of the activities would be. In light of the difficulties experienced with utility crossings in LIS and potential for adverse impacts on the LIS lobster population, it is important that techniques which proved unsuccessful in the past not be relied on by the project proponents to address this issue. In addition, it is important that the adverse impacts associated with any of these construction techniques are evaluated fully before the NEPA process is concluded.

FA4-5 Limiting Access for Existing, Water-dependent Activities: NMFS notes the proposed safety zones that would be established around the FSRU and any tankers coming to deliver LNG would at least temporarily exclude traditional commercial and recreational uses of LIS. Commercial and recreational vessels would be prohibited from entering the permanent safety zone surrounding the FSRU and in the moving envelope surrounding approaching tankers. NMFS believes the safety zones are likely to displace commercial and recreational fishermen, particularly those operating in the eastern basin of LIS that rely on trawling or use of fixed gear. This displacement has the potential to create an

FA4-2 Section 3.2.3.2 of the final EIS has been updated to provide more detail on the Water Quality Monitoring Plan to ensure that discharges from the FSRU and LNG carriers (while berthed to the FSRU) are in compliance with SPDES permit conditions. The draft Water Quality Monitoring Plan is included as Appendix I of the final EIS. In addition, Sections 3.2.3 and 3.3 of the final EIS have been updated to provide more detail on potential biological impacts associated with water discharges.

FA4-3 The final EIS provides details regarding the YMS, pipeline interconnects, and proposed pipeline installation methods in Sections 2.1.2 and 2.1.3. Potential impacts to benthic habitats are discussed in Section 3.3.1.2 of the final EIS. This section also discusses post-construction monitoring results for several other linear projects, including areas where backfilling has been successful and those where it has not been.

FA4-4 Section 8.0 of the EFH assessment (Appendix J of the final EIS) reflects the most current information provided by NMFS regarding EFH recommendations. In addition, Section 3.1.2.2 of the final EIS has been expanded to describe potential impacts of natural and active backfilling based on the results for other linear projects in the area. Section 3.1.2.2 also includes a recommendation that Broadwater file a plan describing methods to successfully backfill the trench. The plan must incorporate interagency coordination to identify the appropriate methods for backfilling and detailed post-construction monitoring criteria to assess success.

FA4-5 The potential impacts to recreational fishing and boating are addressed in Section 3.5.5.1 of the final EIS, and impacts to commercial fishing are addressed in Section 3.7.1.4 of the final EIS. As noted in those sections, interruptions to these activities would be localized and temporary when they did occur but would occur periodically throughout the life of the Project. The associated potential for economic impacts to commercial fishing due to the proposed fixed safety and security zone around the YMS and FSRU is addressed in Section 3.6.8.1 of the final EIS. This includes potential impacts to both commercial lobster fishing and commercial trawling. In addition, Section 3.6.8.1 of the final EIS has been updated to address the potential impacts to commercial fishermen who may be affected by the proposed moving safety and security zones around LNG carriers as they enter and exit the Sound. Potential economic impacts to recreational boating and fishing are addressed in Section 3.6.8.2 of the final EIS.

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economic and social hardship for a number of fishermen. While the eastern basin and its offshore approaches would not be subjected to the permanent closure contemplated around the FSRU, lobstermen and other fishermen effectively would have to cease operations and move away to avoid a safety zone whenever a LNG tanker approached.

As indicated in the DEIS, LNG deliveries would occur on a very regular basis. This could disrupt some fishing operations to the point that they could no longer effectively tend their gear. The DEIS does not adequately assess the loss of access and economic impacts on commercial and recreational fisheries, particularly in the eastern basin and its approach. Similarly, the collateral losses that would accrue in both Connecticut and New York should recreational boating access become disrupted for the life of this project should be evaluated.

Threatened and Endangered Species

Section 7 of the Endangered Species Act of 1973 (ESA), as amended, requires federal agencies to consult with NMFS to ensure that "any action authorized, funded, or carried out by such agency . . . is not likely to jeopardize the continued existence of any endangered species or threatened species or adversely modify or destroy [designated] critical habitat . . ." (See also 50 C.F.R. part 402). In previous correspondence regarding the Broadwater LNG terminal proposal, NMFS identified several species of sea turtles listed as endangered or threatened under the ESA that are known to occur in the vicinity of the proposed LNG terminal location. NMFS also indicated that, although not present at the immediate project location, endangered right, humpback, and fin whales may be present in offshore waters where they may be impacted by LNG carriers transiting to and from the proposed terminal. Due to the presence of listed species in the action area and the potential for the proposed activities to affect these species, NMFS also indicated that section 7 consultation would be necessary for the proposed project.

FERC has indicated that portions of the DEIS have been prepared to serve as the biological assessment (BA) for purposes of section 7 consultation. NMFS acknowledges this and has reviewed the DEIS for content related to endangered and threatened species. However, the section 7 consultation process is separate from NEPA, and as such, NMFS will provide complete endangered and threatened species comments under separate cover as part of the ESA consultation process.

The DEIS identifies the following potential effects to listed sea turtles and whales due to construction and operation of the Broadwater LNG terminal:

- Vessel collisions
- Habitat impacts (water quality, water temperature)
- Acoustic disturbance and harassment
- Destruction of benthic resources (impacts to prey resources)
- Fuel spills
- Impingement and entrainment during water intake

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FA4-6 [FERC has recommended that Broadwater develop additional mitigation measures in consultation with NMFS to address acoustic effects of pile driving activity and the risk of vessel collisions with listed species. NMFS agrees with this recommendation, and suggests that further information about pile driving activity is necessary in order to develop appropriate mitigation measures. In addition, NMFS recommends that the FEIS address the potential for increased marine debris due to the presence of the Broadwater facility and the potential for sea turtles to be adversely affected by ingestion of marine debris. NMFS looks forward to working with FERC to continue evaluating the effects of the proposed project on listed species through the section 7 consultation process.

FA4-7 [

EFH Comments

As noted in the essential fish habitat (EFH) assessment included in the DEIS, LIS has been designated as EFH under the Magnuson-Stevens Fishery Conservation and Management Act [MSFCMA] for various life stages of 19 species with federal fishery management plans. The proposed project would have significant adverse effects on EFH primarily by altering many acres of benthic habitat in conjunction with pipeline installation, disrupting forage communities, operating water intake and discharge structures, and introducing chronic light and acoustic disturbances at the FSRU where presently there are none.

Our ability to assess potential impacts on EFH and associated marine resources was complicated by less than optimal information in this matter. In particular, important portions of the project have yet to be designed and their impacts analyzed. Section 305(b)(2) of the MSFCMA requires all federal agencies to consult with NMFS on any action authorized, funded, or undertaken by that agency that may adversely affect EFH. Included in this consultation process is the preparation of a complete and appropriate EFH assessment to provide necessary information on which to consult. As indicated in the foregoing discussions, NMFS finds it necessary to request additional information that we may provide final conservation recommendations. Accordingly, we are providing the following interim comments to guide FERC regarding EFH issues that remain to be addressed during the NEPA process. The following information needs are necessary:

FA4-8

1. Provide a definitive design and construction description for the YMS and pipeline interconnects for its proposed lateral between the FSRU and original IGTS pipeline.
2. Provide a description of how pipeline burial would be accomplished and an analysis of the impacts that would accrue using the proposed suite of methods. This analysis should include consideration of both physical and ecological impacts.
3. Provide a full assessment of water intake/discharge impacts on aquatic communities in LIS, including harvested species and their forage. This analysis should be extended to include a discussion of adverse effects to EFH for species with local designations. They should include any preliminary

FA4-6 Section 3.3 of the final EIS has been updated to more fully describe potential noise levels, impacts, thresholds, and measures to reduce potential impacts associated with pile-driving. Section 3.3.2.2 of the final EIS includes a recommendation that Broadwater coordinate with NMFS to identify construction and operational noise thresholds that are protective of marine resources, and any appropriate mitigation. In addition, Section 3.4.1.2 of the final EIS includes a recommendation that Broadwater continue consultations with NMFS to develop a set of whale strike avoidance measures specific to the Broadwater Project.

FA4-7 Section 3.3.4.2 of the final EIS has been modified to include a discussion of Broadwater's marine debris policy and potential impacts to marine resources.

FA4-8 The final EIS provides details regarding the YMS, pipeline interconnects, and proposed pipeline installation methods in Sections 2.1.2 and 2.1.3. A brief discussion of construction methods also is included in Section 2.1 of the EFH assessment (Appendix J of the final EIS). Potential physical impacts associated with installation of the proposed pipeline are discussed in Section 3.1.2 of the final EIS. Potential ecological impacts as a result of installation of the proposed pipeline are discussed in Sections 3.3.1.2 (benthic communities), 3.3.2.2 (fisheries), 3.3.3 (fisheries of special concern), 3.3.4 (marine mammals), 3.3.5 (avian species), and 3.4 (threatened and endangered species) of the final EIS. Potential impacts to EFH species and habitat are also discussed in Section 6.0 of the EFH assessment (Appendix J)

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- environmental requirements that have emerged to address Clean Water Act issues.
- FA4-8 4. FERC should supplement its EFH analysis to include an evaluation of all impacts that would accrue from the more advanced design criteria and also in conjunction with Broadwater's plan for meeting pipe burial, benthic restoration, and any other requirements recommended by FERC to meet NEPA objectives.
- FA4-9 In addition to the above information, we would like to alert FERC to the probability that we would include among our EFH conservation recommendations a post-construction monitoring plan. This plan would include detailed benthic topography and benthic community data. In addition, we likely would recommend that a remedial plan is developed in advance to address areas that do not meet established performance standards.
- FA4-10 These recommendations are necessary in order to supplement the EFH assessment before our NEPA coordination is concluded. When a complete assessment is received, we will provide FERC with conservation recommendations based upon the best available scientific information pursuant to Section 305(b)(4)(A) of the MSFCMA.
- Fish and Wildlife Coordination Act Recommendations**
- FA4-11 In addition to the many functions and values provided for federally managed fishery resources, the project area functions as an important migratory corridor for diadromous fishes, and as important spawning and nursery habitat for lobsters and other state-regulated aquatic resources. The DEIS should be revised to address whether or how this project could be implemented to avoid unacceptable habitat degradation. In addition, we note that project construction, installation, and operation would limit public access to the waterway and living aquatic resources. Given the significant efforts of the Federal Government, the States of New York and Connecticut, as well as interested members of the public to address environmental degradation and appropriate public use of LIS, FERC should address them in detail before concluding its NEPA assessment.
- Conclusions**
- FA4-12 In summary, NMFS recommends that FERC expand its NEPA assessment to cover key ecological and related coastal zone issues more fully. We also recommend that Broadwater be required to provide FERC with more complete project information than the present, relatively conceptual design, in order that the impacts are more fully understood before a certification decision is made. In light of the project's potential to impair habitat values and functions as well as interfere with existing water dependent uses, it is our opinion that it is premature for us to make final project recommendations until the necessary information becomes available. We look forward to our continued coordination concerning this project pursuant to both Section 305(b)(4)(B) of the MSA and 50 CFR 600.920(k), as well as Section 7 of the Endangered Species Act. Should you
- FA4-13

FA4-9 Section 3.1.2.2 of the final EIS includes a recommendation that Broadwater file a plan describing methods to successfully backfill the trench. The plan must incorporate interagency coordination to identify the appropriate methods for backfilling and detailed post-construction monitoring criteria to assess success.

FA4-10 Thank you. Section 3.3.4 and Appendix J of the final EIS present the current information provided by NMFS regarding EFH recommendations.

FA4-11 As stated in Section 3.3.1.2 of the final EIS, the proposed Project would minimize habitat degradation through use of a subsea plow as the primary means to install the proposed pipeline. This technology is recommended by NOAA for reducing damage to the seafloor and greatly reducing recovery time (NOAA 2005a). In addition, backfilling and post-construction monitoring plans would be developed in coordination with NMFS, and all construction and operation would be conducted in accordance with all federal and state regulations and permits.

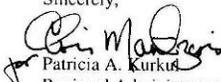
Section 3.0 of the final EIS provides substantial information on existing conditions relative to the proposed Project and our assessment of the potential environmental impacts of the Project. As described in each of the resource sections throughout Section 3.0 of the final EIS, the proposed Project – as modified by the recommendations we have included in the final EIS – would not result in unacceptable habitat degradation and would cause minor effects on commercial and recreational water-dependent uses.

FA4-12 As noted in the responses above, the final EIS has been expanded to more fully address ecological issues as well as incorporating input from NYSDOS regarding its needs for its coastal zone consistency review.

FA4-13 The final EIS has been updated to more completely address many of NMFS' concerns, including those associated with operational water intakes and active backfilling and post-construction monitoring along the pipeline route. We have updated the status of issues that continue to evolve as they are still being addressed by other federal and state permitting agencies in fulfillment of their regulatory obligations, including such topics as coastal zone consistency and water discharge monitoring.

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have any questions about this matter, please contact Diane Rusanowsky (203-882-6504) for habitat conservation and NEPA issues and Kristin Koyama (978-281-9300 x6531) for any questions regarding our protected resources coordination.

Sincerely,

Patricia A. Kurkus
Regional Administrator

cc: FERC: Gas 3, PJ-11.3
USACE - CENAN
USEPA - Region 1&2
USFWS - NYFO & LIFO
NMFS - Milford, Sandy Hook, PRD
NYSDEC - Albany & Region 1
NYSDOS -- Albany