STATE OF NEW YORK

DEPARTMENT OF STATE
ONE COMMERCE PLAZA
99 WASHINGTON AVENUE
ALBANY, NY 12231-0001

DAVID A. PATERSON
GOVERNOR

LORRAINE A. CORTÉS-VÁZQUEZ
SECRETARY OF STATE

April 18, 2008

The Honorable Kimberly D. Bose
Secretary
Federal Energy Regulatory Commission
Room 1A East
888 First Street, N.E.
Washington, D.C. 20426

Re: Electronic Filing: Docket No: CP06-54-000; CP06-55-000; CP06-56-000;
New York State Department of State Petition for Intervention and Rehearing

Dear Secretary Bose:

Enclosed is the New York State Department of State's petition for intervention and rehearing in the above-referenced proceeding, submitted by electronic filing and distributed via U.S. Mail to persons identified on the Commission's service list for this project. Please add those identified as the Department's representatives to the Commission's official service list for this project. Thank you.

Very truly yours,

Susan L. Watson
General Counsel

SLW/WLS/dw
ENCL.

UNITED STATES OF AMERICA
BEFORE THE FEDERAL ENERGY REGULATORY COMMISSION

BROADWATER ENERGY	**DOCKET NOS.**
LIQUEFIED NATURAL GAS PROJECT	**CP06-54-000**
	CP06-55-000
	CP06-56-000

NEW YORK STATE DEPARTMENT OF STATE'S
PETITION TO INTERVENE AND REQUEST
FOR REHEARING OF ORDER OF THE COMMISSION DATED MARCH 20, 2008

Pursuant to Rule 214 and 713 of the Rules of Practice of the Federal Energy Regulatory Commission ("FERC" or "Commission"), 18 C.F.R. §§ 385.214 and 385.713, and section 19(a) of the Natural Gas Act ("NGA"), 15 U.S.C. § 717r (a), the New York State Department of State ("NYSDOS") hereby moves to intervene and requests rehearing of the Commission's March 20, 2008 Order in Docket Numbers CP06-54-000, CP06-55-000 and CP06-56-000 (the "Order"), which conditionally granted the applications of Broadwater Energy LLC and Broadwater Pipeline LLC (collectively "Broadwater") to site, construct and operate a liquefied natural gas ("LNG") import terminal and associated facilities in Long Island Sound.

The names of the persons to whom communication regarding this motion should be addressed and upon whom service of all pleadings or other documents in this proceeding should be made is as follows:

Susan L. Watson
General Counsel to the New York Secretary of State
NEW YORK STATE DEPARTMENT OF STATE
One Commerce Plaza, 11th Floor
Albany, NY 12231
(518) 474-6740

William Sharp
Principal Attorney
NEW YORK STATE DEPARTMENT OF STATE
One Commerce Plaza, 11th Floor
Albany, NY 12231
(518) 474-6740

INTRODUCTION AND SUMMARY

NYSDOS moves to intervene in the Broadwater Proceeding and requests that FERC rehear its March 20, 2008 Order, which conditionally (and improperly) granted Broadwater's applications.

NYSDOS's intervention would serve the public interest in several ways. NYSDOS has unique responsibilities under Coastal Zone Management Act ("CZMA"), 16 U.S.C. § 1451 *et seq*, in reviewing activities requiring federal permits for their consistency with New York's federally approved Coastal Management Program. NYSDOS is intervening for the express purpose of ensuring compliance with the CZMA. Good cause also exists for NYSDOS to intervene at this time. It was not until FERC issued the Order on March 20, 2008, that it violated the CZMA and its implementing regulations and harmed New York State by authorizing the Broadwater Project without considering the NYSDOS consistency analysis and conclusion.

FERC should rehear the matter because the Order violates both the letter and spirit of the CZMA, which prohibits FERC from granting a license or permit to conduct any activity in a coastal zone unless and until the relevant state agency (in this case, NYSDOS) certifies that the activity is consistent with the state's federally-approved coastal zone management program. See 16 U.S.C. § 1456(c)(3)(A). Here, FERC ignored that provision of the CZMA. It granted Broadwater's application to site, construct and operate an LNG terminal and pipeline in Long Island Sound prior to NYSDOS issuing a consistency determination. Indeed, on April 10, 2008, NYSDOS concluded that the Broadwater project was not consistent with New York's federally-approved Long Island Sound Coastal Management Program ("LISCMP"). NYSDOS's April 10 consistency conclusion — a copy of which is being submitted to FERC along with this request

for rehearing — precludes FERC from approving the Broadwater project under the plain language of the CZMA and related federal regulations. See 16 U.S.C. § 1456(c)(3)(A); 15 C.F.R. §§ 930.53(d) and 930. 64. In addition, the fact that FERC approved that project on a conditional basis prior to receiving DOS's consistency analysis means that FERC did not have the benefit of the analysis of the project's impact on the coastal zone when assessing the Broadwater project, directly contrary to the purposes of the CZMA. For these reasons, the Order must be vacated.[1]

BACKGROUND

NYSDOS is a duly constituted department of the State of New York and is the New York State agency responsible under the Coastal Zone Management Act, 16 U.S.C. § 1451 *et seq.*, for determining whether federal agency activities proposed for New York's Long Island Sound coastal zone are consistent with New York's federally-approved LISCMP. The Broadwater Project, as proposed by Broadwater, would take place within Long Island Sound.

In August 2005, NYSDOS accepted FERC's invitation to become a cooperating agency for the purpose of completing the National Environmental Policy Act ("NEPA") pre-filing process for the Broadwater Project. As set forth in NYSDOS's August 22, 2005 letter accepting FERC's invitation, NYSDOS agreed to be a cooperating agency "through FERC's NEPA

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[1] Alternatively, the Commission should reopen the Broadwater Proceeding pursuant to FERC Rule 716, both because it is in the public interest to do so and because DOS's April 10, 2008 determination that the Broadwater project is not consistent with the LISCMP constitutes a change "in conditions of fact or of law" since the Order was issued. 18 U.S.C. § 385.716(c). Reopening alone will not cure the substantive and procedural flaws in the Order, but it will provide the Commission an opportunity to correct those flaws by vacating the Order.

process." NYSDOS also noted that "Federal coastal consistency obligations are independent of NEPA requirements, and therefore are not fulfilled by submission of a NEPA document."

On January 30, 2006, Broadwater filed applications with FERC seeking approval of the Broadwater Project. Concomitantly with its federal applications, Broadwater submitted consistency certifications pursuant to the CZMA. NYSDOS commenced the consistency review for this project on November 17, 2006. NYSDOS and Broadwater entered into an initial agreement to stay the running of the consistency review period and additional stays that resulted in the consistency decision being due no later than April 11, 2008.

On March 20, 2008, FERC, in advance of the NYSDOS consistency determination, issued the Order, conditionally approving the Broadwater Project. Condition 28 of the Order prohibits Broadwater from undertaking the Broadwater Project unless and until the NYSDOS concludes that the project is consistent with the LISCMP.

On April 10, 2008, NYSDOS rendered its determination objecting to the Broadwater consistency certification on the basis that the Broadwater Project is not consistent with Policies 1, 3, 6, 9, 10 and 11 of the New York's federally-approved LISCMP.

ARGUMENT

Intervention

FERC should grant NYSDOS's motion to intervene in the Broadwater Proceeding.

First, it serves the public interest for NYSDOS to participate in the Broadwater Proceeding. The Broadwater Project cannot go forward unless and until the NYSDOS confirms that the project is consistent with the LISCMP, or unless and until the U.S. Secretary of Commerce overrules the NYSDOS's conclusion that the project is not consistent with the

LISCMP. See 16 U.S.C. § 1456(c)(3)(A). Because NYSDOS has unique responsibilities in administering New York's Coastal Management Program and is uniquely empowered to make the determination under the CZMA with regard to the Broadwater Project's consistency with the LISCMP, NYSDOS's participation in this proceeding would serve the public interest by ensuring proper consideration of the LISCMP's policies and ensuring that Long Island Sound is protected from activities that are inconsistent with those policies. See 16 U.S.C. § 1456(c)(3)(A) ("No license or permit shall be granted by the Federal agency until the state or its designated agency has concurred with the applicant's certification or until, by the state's failure to act, the concurrence is conclusively presumed, unless the Secretary, on his own initiative or upon appeal by the applicant, finds, after providing a reasonable opportunity for detailed comments from the Federal agency involved and from the state, that the activity is consistent with the objectives of this chapter or is otherwise necessary in the interest of national security."); 15 C.F.R. § 930.53(d) ("No federal license or permit described on an approved list shall be issued by a Federal agency until the requirements of this subpart have been satisfied. Federal agencies shall inform applicants for listed licenses or permits of the requirements of this subpart."); Mountain Rhythm Res. v. FERC, 302 F.3d 958, 960 (9th Cir. 2002) ("FERC needed the State of Washington to certify that the projects were consistent with the states' Coastal Zone Management Program before FERC could consider the license applications.").

Second, NYSDOS seeks to intervene for the purpose of correcting a manifest problem in the Order — in contravention of 16 U.S.C. § 1456(c)(3)(A) and related regulations found at 15 C.F.R. §§ 930.53(d) and 930.64, the Order was not only issued prior to NYSDOS April 10, 2008, consistency determination, the Order is invalid because NYSDOS has concluded that the

Broadwater Project is not consistent with the LISCMP. Unless and until the U.S. Secretary of Commerce overrules the NYSDOS's determination, FERC cannot authorize the Broadwater Project. The fundamental flaw in the Order that NYSDOS now seeks to correct is also what provides good cause for NYSDOS not intervening previously. Indeed, it was not until FERC issued the Order on March 20, 2008, that it violated the CZMA and its implementing regulations and harmed New York State by authorizing the Broadwater Project without considering the NYSDOS consistency analysis and conclusion. NYSDOS had no cause to intervene until FERC issued its unlawful order.[2]

Third, NYSDOS's interests are not adequately represented by any other party to this proceeding, because NYSDOS alone is authorized to determine the consistency of the Broadwater Project under the CZMA and because the NYSDOS is the entity most familiar with that topic.

No disruption to this proceeding will result from granting NYSDOS party status and none of the existing parties will be prejudiced by, or subjected to any additional burden, by NYSDOS becoming a party.

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[2] The fact that NYSDOS previously served as a cooperating agency for the purposes of developing a final environmental impact statement ("EIS") under NEPA is no barrier to NYSDOS joining the Broadwater Proceeding at this stage and for the purpose of requesting rehearing of the Order. While FERC has indicated that it does not permit cooperating agencies to intervene in licensing and permitting proceedings "simultaneously" with the NEPA process, because of concerns about *ex parte* communications, see 94 FERC ¶ 61,076, at 61,349-52 & n.6, that policy and the concerns underlying it are not implicated here. Not only is the NEPA EIS process already over, NYSDOS's intervention is not based on the NEPA EIS process but rather on NYSDOS's own April 10, 2008 consistency determination and the plain language of the Coastal Zone Management Act, 16 U.S.C. § 1456(c)(3)(A).

Rehearing

NYSDOS requests rehearing of the Commission's Order of March 20, 2008, because FERC was without authority or jurisdiction to conditionally approve the Broadwater project without having a prior determination of consistency under the Coast Zone Management Act of 1972, as amended, 16 U.S.C. § 1451 *et seq.*

The CZMA requires federal direct, funding, and regulatory approval activities which affect land or water uses or natural resources in the coastal zone to be undertaken in a manner consistent with the enforceable policies of a coastal state's federally approved Coastal Management Program. The federal role in coastal management is to support coastal states to exercise their full authority in coastal areas following approval of state coastal management programs by ensuring consistency with the enforceable policies of the program.

Once a coastal management plan is approved by the National Oceanic and Atmospheric Administration, "any applicant for a required Federal license or permit to conduct an activity, in or outside of the coastal zone," must "provide in the application to the [federal] licensing or permitting agency a certification that the proposed activity complies with the enforceable policies of the state's approved program and that such activity will be conducted in a manner consistent with the program," and "furnish to the state or its designated agency a copy of the certification" at the same time. 16 U.S.C. § 1456(c)(3)(A). The CZMA expressly forbids a federal agency from granting a "license or permit" for a federal project in a state's coastal zone "until the state or its designated agency has concurred with the applicant's certification or until, by the state's failure to act, the concurrence is conclusively presumed, unless the Secretary, on his own initiative or upon appeal by the applicant, finds, after providing a reasonable opportunity

for detailed comments from the Federal agency involved and from the state, that the activity is consistent with the objectives of this chapter or is otherwise necessary in the interest of national security." 16 U.S.C. § 1456(c)(3)(A); accord 15 C.F.R. §§ 930.53(d) & .64.

FERC violated the CZMA by issuing its Order prior to NYSDOS's determination of consistency. Condition 28 of the Order, which provides that construction of the project may not begin before Broadwater obtains a determination of consistency with the CZMA, does not rectify the violation because a central purpose of the consistency determination is to apprise federal agencies of the effects of a proposed project on the state's coastal zone. In enacting the CZMA, Congress recognized that states are the "key" to effective coastal management and protection. 16 U.S.C. § 1451(I) and §1456. The consistency process ensures federal agency adherence to the enforceable policies of the state. The consistency determination is not simply a permit to be obtained; it must precede and inform the federal agency's decision. See Mountain Rhythm Res. v. FERC, 302 F.3d 958, 960 (9th Cir. 2002) ("FERC needed the State of Washington to certify that the projects were consistent with the states' Coastal Zone Management Program before FERC could consider the license applications."). By issuing its Order in advance of receiving NYSDOS's comments, FERC acted without the benefit of New York's views about the effects of Broadwater on its coastal zone. Congress prohibits a federal agency from granting a "license or permit" for a federal project in a state's coastal zone "until the state or its designated agency has ***concurred*** with the applicant's certification or until, by the state's failure to act, the concurrence is conclusively presumed." 16 U.S.C. § 1456(c)(3)(A) (emphasis added). By acting without the consistency determination, FERC lacked authority to issue the Order.

CONCLUSION

For the foregoing reasons, the Commission should grant NYSDOS's motion to intervene. Rehearing is required in this case because no approval for this project could lawfully have been granted before a determination of consistency with the CZMA was obtained. Based on the above, the Order should be withdrawn and Broadwater denied permission to construct its project.

Respectfully Submitted,

Susan L. Watson
General Counsel to the
New York Secretary of State
NEW YORK STATE DEPARTMENT OF STATE
One Commerce Plaza, 11th Floor
Albany, NY 12231
(518) 474-6740

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SECRETARY OF STATE

April 10, 2008

Mr. Jimmy Culp
Commercial Manager - Broadwater
Shell US Gas & Power
910 Louisiana, Room 4116B
Houston, TX 77002

Re: F- 2006-0345
Federal Energy Regulatory Commission, U.S. Army Corps of Engineers/New York District - Broadwater Energy, LLC and Broadwater Pipeline, LLC to Site, Construct and Operate a Floating Storage and Regasification Unit for LNG, a Yoke Mooring System/Tower, LNG Carrier Transits, a Pipeline and Onshore Support Facilities in Suffolk County

Dear Mr. Culp:

The New York State Department of State (DOS) has completed its evaluation of the Federal Consistency Assessment Form and certification submitted by Broadwater Energy LLC and Broadwater Pipeline LLC (Broadwater[1]) that the above proposed Project complies with, and will be conducted in a manner consistent with, New York State's approved Long Island Sound Coastal Management Program (LISCMP). Pursuant to the Coastal Zone Management Act (CZMA), its regulation at 15 CFR 930.63,and the project information and public comments submitted, the DOS objects to your consistency certification on the basis that it is not consistent with Policies 1, 3, 6, 9, 10 and 11 of the LISCMP.

The Broadwater Project would create an immense floating complex, longer than the height of the Empire State Building, that would industrialize the center of Long Island Sound. The proposed safety and security zones around the Floating Storage Regasification Unit (FSRU)

[1] Broadwater Energy LLC is jointly owned by TransCanada Pipelines Limited (TCPL) USA LNG, Inc. (a subsidiary of TransCanada Corporation) and Shell Broadwater Holdings LLC (a subsidiary of Shell Oil Company). Broadwater Pipeline LLC is owned by Broadwater Energy LLC.

and the Liquified Natural Gas (LNG) carriers would exclude the public from great expanses of New York State-owned submerged lands and waters where vessels and boats presently transit and where heavy commercial and recreational fishing is conducted. The exclusion zone around the FSRU is larger than Central Park in Manhattan. The exclusion zone surrounding transiting LNG carriers, at 2,040 acres, is larger than Caumsett State Historic Park on the North Shore in Huntington (1,750 acres) and almost 3.5 times the size of Wildwood State Park on the North Shore in Wading River (600 acres). The FSRU terminal would be located close to a busy shipping lane and may be vulnerable to catastrophic accidents. The LNG carriers berthing at the FSRU, ranging from 886 feet to 1,132 feet in length, would also be larger than 99% of the other vessels currently transiting the Sound. The size of the FSRU terminal and the giant LNG tankers that supply it would disrupt the views and character of Long Island Sound. The mortality of fish eggs, larvae and juvenile fish through entrainment and impingement on the FSRU and the LNG carriers, estimated at 270 million organisms annually, would further stress a decimated fishery. The coastal effects of the Broadwater project render it inconsistent with the LISCMP.

As a result of this objection, the Federal Energy Regulatory Commission (FERC) and the U.S. Army Corps of Engineers (Corps) cannot authorize this Project unless this objection is overridden on appeal by the U.S. Secretary of Commerce.

SUBJECT OF THE REVIEW

On January 30, 2006, Broadwater Energy LLC and Broadwater Pipeline LLC (Broadwater[2]) Broadwater filed an application with FERC under Sections 3(a) and 7(c) of the Natural Gas Act to moor and operate a floating LNG import, storage and regasification complex in Long Island Sound for a period of at least 30 years. Broadwater also proposed installing a new 21.7 mile offshore submerged natural gas pipeline to connect with the existing cross-Sound Iroquois Gas Transmission System (IGTS).[3] The average annual output of the Broadwater facility is projected at 1 billion cubic feet of gas per day. On March 20, 2008, FERC, in advance of this consistency determination, provisionally approved the Broadwater project subject to 87 conditions. Without a consistency concurrence, however, FERC's decision cannot become effective[4].

Broadwater also applied to the New York District of the Corps for authorization to

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[2] Broadwater Energy LLC is jointly owned by TransCanada Pipelines Limited (TCPL) USA LNG, Inc. (a subsidiary of TransCanada Corporation) and Shell Broadwater Holdings LLC (a subsidiary of Shell Oil Company). Broadwater Pipeline LLC is owned by Broadwater Energy LLC.

[3] One of Broadwater's two partners, TCPL and its affiliates own 44.48% of the IGTS. See www.iroquois.com/new-Internet/igts/CorporateInformation/ourpartners.asp

[4]The CZMA precludes FERC from issuing an order or license until it receives the State's consistency decision or the State fails to act during the review period. (16 U.S.C. § 1456[c][3][A]; 15 C.F.R. Sections 930.53[d] and 930.64). Additionally, the Office of Ocean and Coastal Resources Management's consistency guidance reads: "If State objects, Federal agency does not authorize the activity to commence." (Item #8, Federal Consistency Overview, August 10, 2007). Therefore, DOS objects to FERC's granting of a "conditional approval" to Broadwater prior to receipt of DOS' decision.

construct a yoke mooring system with an attached FSRU and a 30-inch, 21.7-mile subsea lateral product delivery pipeline with service connection to an existing pipeline, as well as to place fill material related to the project, pursuant to Section 10 of the Rivers and Harbors Act of 1899 (33 USC 403) and Section 404 of the Clean Water Act (33 U.S.C. 1344).

The U.S. Coast Guard is the federal agency responsible for waterway safety and maritime security in Long Island and Block Island Sounds. The Waterways Suitability Report (WSR) prepared by the Captain of the Port Long Island Sound is appended to the Final Environmental Impact Statement (FEIS) and becomes part of FERC's record. It analyzes the potential navigation safety and maritime security risks to the public from the LNG facility operations and the LNG carrier transits.[5] The Coast Guard has proposed measures in the WSR, including recommended safety and security zones for the facility and the carriers that would manage identified risks from accidents or attacks. These zones would reduce risks by limiting public access to the geographic area where a fire could occur (safety), and where the facility and the carriers could be vulnerable to an attack (security). The Coast Guard's Letter of Recommendation (LOR) to Broadwater determines whether the waterways are suitable for LNG facility operations and LNG carrier traffic. Later, the Coast Guard establishes the exact size of the safety and security zones in a separate federal regulatory proceeding that requires subsequent NEPA and the CZMA reviews.

Concomitantly with its federal applications, Broadwater submitted consistency certifications pursuant to the Coastal Zone Management Act. DOS commenced the consistency review for this activity on November 17, 2006. DOS and Broadwater entered into an initial agreement to stay the running of the consistency review period and additional stays that resulted in the consistency decision being due no later than April 11, 2008.

In an April 2, 2008 letter to the Department, Broadwater proposed commitments for the purpose of reducing the effects of the Activity on certain coastal uses and resources in Long Island Sound. Broadwater's commitments are addressed in the Policy analyses below.

THE BROADWATER PROJECT

The Broadwater Project includes:

1. **A Floating Storage Regasification Unit** (FSRU) which would be moored at a fixed offshore location in 90 feet of water near the center of Long Island Sound. Currently projected at 1,215 feet long and 200 feet wide, its deck would rise between 75 and 100 feet above the water line. FERC has observed that, for the purposes of its cryogenic design, the FSRU is essentially an LNG carrier with vaporization equipment onboard.[6] It will be moored approximately 9 miles from the nearest shoreline of Long Island in the Town of Riverhead, New York and about 11 miles from the nearest shoreline in Connecticut. Large LNG tankers would deliver up to three shipments of LNG each week. Once offloaded into the FSRU, the LNG would be stored and converted back into a gas before it is sent to the regional market via the IGTS

[5] Maritime Transportation Security Act of 2002 (46 USC § 70101, et seq and 33 CFR Part 105)

[6] Testimony of J. Mark Robinson, Director, FERC Office of Energy Projects before the Transportation and Infrastructure Subcommittee on Coast Guard and Maritime Transportation U.S. House of Representatives, Hearing on Safety and Security of Liquefied Natural Gas, May 7, 2007

pipeline which crosses Long Island Sound from Milford, Connecticut to Northport, New York. The total storage capacity of the FSRU would be approximately 350,000 cubic meters of LNG (8 billion cubic feet of natural gas).

2. **A Yoke Mooring System,** which would attach to the stationary mooring tower embedded in the Sound floor. It would consist of a jacket, mooring head and yoke. The mooring tower would be secured to the seabed by four legs. The base of the tower structure would be roughly 115 feet by 115 feet, covering a total area of 13,180 square feet, slightly larger than the size of two basketball courts. Scour protection at the base of the tower would consist of eight, 8 foot by 20 foot by 9 inch thick concrete mats, and sand bags. The mooring/tower would be connected to the FSRU and include transfer lines and connect to the subsea pipeline, communication and control lines, and a smart pig launching facility. The FSRU would pivot (weathervane) around the tower in response to winds and currents.

3. **A Subsea Pipeline**. After regasification (vaporization) and addition of nitrogen and odorant on the FSRU, the natural gas would be transported via a 21.7-mile, 30-inch diameter concrete-coated, subsea lateral pipeline to IGTS' existing cross-Sound pipeline. The pipeline would include a hot-tap subsea connection to the IGTS. The connection would include valves, a smart pig receiving facility, and undersea communication and control lines. Construction of the pipeline would require trenching and possibly dredging a previously undisturbed area of Long Island Sound.

Broadwater would trench an approximately 7-foot deep area along the length of the pipeline route via a subsea plow. An estimated 304,500 cubic yards of material would be sidecast as the plow moves along the pipeline route.

4. **LNG carriers, with cargo capacities ranging from 125,000 to 250,000 cubic meters and larger,** which would (up to 3 times per week) pick up State pilots at the Point Judith or Montauk Pilot Stations and, accompanied by Coast Guard escorts, deliver LNG to the FSRU in the center of the Sound and return. The carriers would transit from the Atlantic Ocean through one of two possible routes: either from Block Island Sound (northern route) or the Montauk Channel (southern route). The LNG carriers would be required to pass through "The Race," a famous deepwater area used by commercial shipping where about 4,000 to 7,000 commercial vessels transit annually. It also hosts commercial fishing (especially lobstering), charter and party boat operations and other recreational boating and fishing.

5. **Two Exclusion Zones**, to be established by the Coast Guard, which would preclude the public and all vessels (except ferries) from using or transiting the areas around the FSRU and the LNG carriers. The FSRU would have a fixed circular exclusion zone of about 1.5 square miles around the mooring/Tower (with a radius of 1,200 yards or 0.7 miles). The LNG carriers' moving exclusion zones of about 3.2 square miles (2,040 acres) would extend 2.3 miles in front (2 nautical miles), 1.2 miles behind (1 nautical mile) and 0.4 mile (750 yards) on each side of the vessel. When the LNG carriers are moving, all users, *e.g.*, recreational boaters, fishing vessels and commercial traffic would have to clear the area being traversed.

6. **On-shore Support and Other Associated Facilities**, at either Port Jefferson or Greenport, including office and warehouse facilities which would support activities during both construction and operation, an existing waterfront facility with berthing for up to four tugs and dockside crane capabilities during both construction and operation, and a separate 10-acre pipe storage area within an existing developed area at the Port of New York /New Jersey during construction.

STATUTORY FRAMEWORK FOR CONSISTENCY REVIEW

The CZMA authorizes a coastal state to review activities, in or outside of the coastal zone affecting any land or water use or natural resource of the coastal zone, requiring federal agency authorizations for their consistency with the enforceable policies of the state's approved Coastal Management Program (CMP) a process referred to as "consistency review".[7] An applicant seeking federal permits to conduct activities in or affecting the coastal zone must certify that its proposed use is consistent with "the enforceable policies of the state's approved [CMP]." A federal agency cannot issue a permit "until the state ... has concurred with the applicant's certification."[8]

In accordance with the consistency provisions of the federal CZMA and implementing regulations at 15 C.F.R. Part 930, the proposed Broadwater Project, which requires authorizations and approvals from multiple federal agencies and which is located in New York's Coastal Area, is subject to the consistency provisions of the CZMA and must be conducted in a manner which is consistent with the enforceable policies of New York's federally approved LISCMP and any applicable Local Waterfront Revitalization Programs (LWRP).[9]

In 2002 the U.S. Department of Commerce Office of Ocean and Coastal Resource Management (OCRM), approved designation of the Long Island Sound as a regional "special management area" under the NYCMP. The resulting LISCMP, with its 13 coastal policy standards, comprehensively focuses on the economic, environmental, and cultural characteristics of the Long Island Sound coastal region. DOS used these policy standards when making the Broadwater consistency determination.

VISION FOR LONG ISLAND SOUND

Long Island Sound is one of the most productive estuarine waters in the world. It provides valuable breeding, nesting and feeding habitats for myriad aquatic, avian and animal species, and provides commercial fishing, tourism and recreational benefits to the communities along its shoreline. The Long Island Sound region is also one of the most densely populated areas in North America; more than 8.4 million people live in the Sound's watershed. The Sound is used for recreational boating, commercial and recreational fishing and shellfishing, shipping and recreational beach-going. It is one of New York's most valuable natural resources. For these reasons, the protection of Long Island Sound is of paramount importance.

New Yorkers have begun to "turn back toward Long Island Sound as a source of pride and sustenance, supporting both our economy and ecosystems."[10] There is a continued and growing public recognition of the uniqueness and value of Long Island Sound, the North Shore, and the many open space, natural and scenic resources of the region, which is evidenced by public investment, partnerships, resource restoration, and planning for continued environmental

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[7] 16 USC § 1456(c)(3)(A).

[8] 16 U.S.C. § 1456.

[9] An LWRP is a comprehensive planning document for a municipality's coastal area. When prepared, it contains detailed inventories of land and water uses in the municipality's coastal area, a statement of applicable state or local policies and a means for implementing the program. LWRPS are authorized by Executive Law § 915 and § 916, and become part of the federally enforceable CMP.

[10] North Shore Heritage Area vision statement, Long Island North Shore Heritage Area (LINSHA) Management Plan, p. 6.

and economic improvements.

Over two decades, New York State has continued to honor the "commitment to act, " made in 1987 when Long Island Sound was designated an Estuary of National Significance, to restore and protect the environmental quality of Long Island Sound. The Sound and its watershed must be managed as an ecosystem through the active participation of government, organizations and citizens.

The federally approved LISCMP guides land use and development, ensures public access to the shore, and protects important habitats. The LISCMP articulates a vision for the Long Island Sound coastal area that "encompasses the tapestry of natural, economic, and cultural resources that make it unique – **a Long Island Sound coastal area enriched by enhancing community character, reclaiming the quality of natural resources, reinvigorating the working waterfront, and connecting people to the Sound**."[11] This vision reflects not only the value placed on the Long Island Sound ecosystem as a significant resource past and present, but looks specifically toward the future, emphasizing a trajectory of positive change. It is this vision of positive change that must guide human actions, investments, and decisions to ensure the future health of Long Island Sound. The LISCMP sets the ecosystem context for comprehensive management of actions affecting Long Island Sound to ensure a healthy coastal ecosystem that can provide the services people want and need – clean water, fisheries, recreation, commercial navigation, and scenic quality.

The trajectory of positive change envisioned by the LISCMP encompasses 20 years of assessment and mapping of habitats and natural resources – including the Northeast Coastal Area Study (1991), the Significant Habitats and Habitat Complexes of the New York Bight Watershed report (1997), the Long Island Sound Study's Habitat Restoration Initiative (established 1998), and the 2006 Stewardship Atlas – all of which contribute to the ecological integrity as well as the identity of the Long Island Sound region. New York has invested nearly $7.2 billion to clean up Long Island Sound.

As an early and visionary leader in ecosystem-based management, New York is working to innovate and expand on past planning for its oceans and coasts. New York's "commitment to act" continues today by the partnership among nine state agencies on the New York Ocean and Great Lakes Ecosystem Conservation Council.

LONG ISLAND SOUND SETTING

In 1987 Long Island Sound was designated by the federal government as an Estuary of National Significance under the Clean Water Act's National Estuary Program.[12] The Sound is shared by the states of New York, Connecticut, and Rhode Island. The New York - Connecticut boundary runs the length of Long Island Sound through its approximate center until reaching the waters of Rhode Island. The Estuary is hydrologically connected to the Atlantic Ocean at its eastern end through The Race and Block Island Sound, and to New York Harbor at its western end through the East River.

The U.S. Fish and Wildlife Service (FWS) characterizes the larger regional setting encompassing Long Island Sound as "an extensive and diverse interconnected system of sounds, bays, lagoons, coves, harbors, coastal streams, tidal rivers and shorelands extending

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[11] LISCMP, Chapter 1, p. 3.

[12] 33 U.S.C. 1330.

from the western Narrows of Long Island Sound to the islands of Monomoy and Nantucket south of Cape Cod, Massachusetts and south to Montauk Point, New York. This broad mixing zone of seawater and freshwater lying between the Atlantic Ocean and the coastal shorelands of Connecticut, Rhode Island, Massachusetts and New York, has been historically renowned for its rich fisheries, abundance of waterfowl, diverse wildlife, productive marshes, scenic beaches, and outstanding recreational opportunities."[13]

Long Island Sound has been described as an assemblage of "diverse and distinctive habitats including tidal wetlands and flats, beaches, dunes, bluffs, rocky intertidal areas, submerged aquatic vegetation (particularly eelgrass and kelp), natural and artificial reefs, the water itself and the sediment floor....Each habitat not only supports its own community of plants and animals but contributes to the productivity of the whole Sound. All of the habitats that make up the Sound are interconnected through the food web and are integral parts of the whole."[14]

Land Use Trends

Land use in Suffolk County is trending toward increased residential development, including the establishment of second homes and the conversion of seasonal housing to year-round use, particularly in eastern Long Island where the scenery and lifestyle, based on the area's small-scale agricultural and maritime uses, are a draw.[15]

Long Islanders, with the support of New York State, have enacted an array of preservation initiatives to ensure that, as land use changes, the character of the Long Island Sound setting and of the communities along the North Shore is preserved. Maintenance of parks and open space alongside residential development is a priority of North Shore communities.[16]

Industrial uses in the coastal area in both western and eastern Suffolk County account for extremely small area percentages. In the four western north shore watershed municipalities, industrial land use comprises just 0.5% of the total land use acreage,[17] while in the east end, industrial land accounts for 2% of the total area.[18] An important trend along Long Island Sound relates to clean-up and redevelopment of underutilized and former industrial sites, which has accelerated in part due to State and County incentive programs. For example, industrial uses at Mattituck Creek have been discontinued: oil storage tanks have been abandoned and there has been a phase-out and removal of various industrial uses on the west side of the creek mouth.[19] Where industrial sites have been maintained, they are being limited to existing areas, such as on the west side of Port Jefferson Harbor where regionally important transshipment, power generation, and marine service facilities exist. The Village of Port Jefferson has also been active in removing obsolete and non-water-dependent industrial uses along its waterfront, replacing

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[13] Northeast Coastal Areas Study 1991.

[14] The Long Island Sound Study Comprehensive Conservation and Management Plan (LISS CCMP, 1994) Long Island Sound in Perspective, p. 2.

[15] LISCMP, Chapter 3 Findings and Recommendations, p. 14.

[16] Suffolk County Dept. of Planning, Population Analysis - Suffolk County North Shore Watershed Management Program, January 2005, p. 12.

[17] Suffolk County Dept. of Planning, April 2004, p. 14.

[18] Suffolk County Dept. of Planning, July 2000, p. 11. The majority of industrial acreage in eastern Suffolk County documented in this report is comprised of the 2,900 acre former Calverton Naval Weapons Facility in Riverhead.

[19] LISCMP, Vol. 2, p. 30.

them with recreational and public access uses.[20]

Scenic Resources

The scenic resources of Long Island Sound are a major contributor to the character of the region and its communities. As noted in the LISCMP, scenic resources are the primary basis for public appreciation of the Sound's landscape.[21] The extensive land/water interface and diversity of views, including vast expanses of open water, create the generally high scenic quality. The LISCMP found that "scenic quality is an important part of a community's character and sense of place" and the program recommended that scenic resources within the Long Island Sound coastal region be protected (Recommendation #9).

In 1998, the New York State Legislature designated the North Shore of Long Island for inclusion in the State Heritage Area System as a place where unique qualities of geography, history, and culture create a distinctive identity. As part of management planning, the Long Island North Shore Heritage Area (LINSHA) Planning Commission conducted an inventory of heritage and scenic resources, which included "distant views of water and land, over Long Island Sound and other water" and "panoramic views over Long Island Sound and Great Peconic Bay" as two of the four types of scenic resources compiled.[22] Broadwater's FSRU and the attendant LNG tankers would be visible by land and water in this panoramic viewshed.

Suffolk County, through its Open Space Acquisition Policy Plan, released in 2007, also emphasizes the protection of scenic vistas, in particular the views of its waterways, among its open space goals:

> "Preservation of **scenic vistas and open areas** - Open space in rural and semi-rural areas helps to preserve a rural way of life. Scenic vistas from high elevations and scenic roadways are also important to preserve. Protecting special views of the County's waterways is important to our unique maritime environment... A scenic community entranceway may symbolize the character of the community and attract people to spend time there."[23] (emphasis added)

Protected Species in the Area of the Project

The Long Island Sound ecosystem includes more than 1,200 species of invertebrates and 170 species of fish, in addition to the sea birds, sea turtles and marine mammals that are present for all or part of the year.[24] Protected species using the waters of Block Island Sound, Long Island Sound and Fishers Island Sound include the federally and New York State-endangered roseate tern (*Sterna dougallii dougallii*), which breeds only at a few Long Island colonies; federally and New York State threatened loggerhead sea turtle (*Caretta caretta*), which migrates through Plum Gut; federally and New York State endangered Atlantic ridley sea turtle (*Lepidochelys kempii*), which uses Long Island's waters for development during the early stages of life (2-5 years); and the federally and New York State-endangered marine mammals including the northern right whale (*Eubalaena glacialis*), finback whale (*Balaenoptera physalus*), and

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[20] Suffolk County Dept. of Planning, Incorporated Village of Port Jefferson Marina-Waterfront District Study, June 2006.

[21] LISCMP Policies p. 74.

[22] LINSHA Management Plan, Oct. 2006, App. p.116.

[23] Suffolk County Dept. of Planning, June 2007, p. 42.

[24] Long Island Sound Resource Center (a partnership between the Connecticut Department of Environmental Protection and the University of Connecticut).

humpback whale (*Megaptera novaeangliae*) which migrate through the area and feed near shore throughout most of the year.[25]

Critical Habitats in the Area of the Project

Stratford Shoal and Middle Ground Complex is an important underwater habitat in Long Island Sound. The Stratford/Middle is a large topographic rise that influences patterns of water flow, sediment erosion and sediment deposition. A deep valley separates the northern and southern parts of the shoal where the east-west tides flow back and forth. The crest of the shoal is a reef that is surrounded by course sand and gravel sediments, a rare area of hard substrate, that hosts colonies of finger sponges, northern star coral, blue mussels, and erect bryzoans.[26] The area attracts significant seasonal populations of striped bass and bluefish.

Fisheries Resources

The area proposed for the Broadwater Project, including the open water location for the LNG facility, the pipeline locations and the waters in Long Island Sound and off eastern Long Island through which the LNG carriers would transit, are rich in fish species, and, therefore, attract commercial and recreational users from the Mid-Atlantic and New England regions.

The National Marine Fisheries Service (NMFS) designated Essential Fisheries Habitat (EFH) occurs in the area of the LNG facility and pipeline for various lifestages of 19 species, with nine species (ocean pout, red hake, winter flounder, windowpane flounder, scup, Atlantic mackerel, king mackerel, Spanish mackerel, and cobia) requiring habitat in these areas for every lifestage. Designated EFH also occurs within the LNG carrier transit route for various lifestages of 30 species, and eight species (bluefish, summer flounder, silver hake (whiting), Atlantic cod, yellowtail flounder, Atlantic sea scallop, monkfish, and Atlantic butterfish) have designated EFH in these waters for every lifestage.[27]

The Race, located off eastern Long Island between Plum Island and Fishers Island, and through which the LNG carriers would pass, is also a state-designated Significant Coastal Fish and Wildlife Habitat under the NYCMP, characterized by deep, turbulent waters and shoals that combine to generate a productive and diverse habitat for marine fishes. The habitat area represents a physical environment unusual to New York State. Significant concentrations of many fish species forage in this area, including striped bass, bluefish, tautog, summer flounder, and scup. The Race is also one of two primary migration corridors for striped bass, which move into Long Island Sound in spring en route to their breeding grounds.

As a result of the abundant fisheries resources there, The Race is a nationally renowned sportfishing area and supports an extensive recreational fishery. Much of this activity is by charter and party boats from Greenport, Montauk Harbor, and Connecticut. In addition to

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[25] NYS Department of Environmental Conservation (DEC) Endangered Species Program; NYS Significant Coastal Fish and Wildlife Habitat (SCFWH) documentation; U.S. Dept. of Commerce National Oceanic and Atomospheric Administration national Marine Fisheries Service NOAA NMFS letter in Broadwater's EIR-1.

[26] Long Island Sound Resource Center. See http://www.lisrc.uconn.edu/lis_uwtour/news.asp.

[27] FEIS, App. E, EFH Report, p. E-21.

sportfishing, The Race also supports a commercial lobster fishery of regional significance.[28]

Commercial and Recreational Fishing and Boating

Commercial fishing has been an integral part of the history and economy of Long Island Sound for over 300 years. More than 45 species of finfish, crustaceans, and shellfish are currently caught in Long Island Sound. Ninety-five percent of all finfish species sought by anglers and commercially licensed seafood producers are comprised of bluefish, striped bass, winter flounder, summer flounder, scup, tautog, and weakfish.[29] Commercial fishing operations in New York originate from six locations: the western end of the Sound, Huntington Harbor, Northport Harbor, Port Jefferson and Setauket Harbors, Mount Sinai Harbor and Mattituck Harbor. Commercial fishery statistics for Long Island Sound from 2006 record 182 individual New York based harvesters, making more than 4,400 trips; the ten most valuable seafood species (ranked in order of value 2004-2006) to the Long Island Sound fishery are lobster, summer flounder, scup/porgy, striped bass, black sea bass, tautog, bluefish, butterfish, channeled whelk, and loligo squid.[30]

Commercial lobstering and finfishing are central to the traditional maritime character of communities on the Sound. In 1994, New York State's Historic Centers of Maritime Activity Act designated 17 "historic maritime communities" along Long Island Sound to recognize the special heritage these communities possess, arising from their tradition of maritime and water-related activities. Eleven of these communities are located on the north shore of Long Island (Port Washington, Glen Cove, Oyster Bay, Huntington Harbor, Northport Harbor, Port Jefferson, Mattituck, Stony Brook, Setauket, Cold Spring Harbor, and Orient - Oyster Ponds).

This traditional maritime livelihood contributes to both local and regional economies. Commercial fishery landings in the State in 2005 were $56 million, up from $47 million in 2004, with Montauk being the single largest New York fishing port, with 10.9 million pounds of commercial landings, worth $16.8 million, in 2006.[31] Montauk fishermen derive a portion of their catch from waters in The Race and areas to the east where LNG carriers would transit. Based on 2003-2006 data, there is an estimated average annual harvest of $3 million in commercial landings by New York fishermen within Long Island Sound.[32] This is down significantly from pre-1999 lobster die-off data. Prior to 1999, the annual value of the bi-state lobster catch ranged from $18 to $40 million.

American lobster has been important to the Long Island Sound commercial fishing industry for decades. Lobster was among the ten largest volume and value species in both 1967 and 1999, but its relative importance to New York's commercial fishing industry increased significantly over that period. In 1967, lobster was the species with the third highest value of landings, accounting for 7 percent of the total; in 1999, it was the most valuable commercial species, and accounted for 36 percent of the total.[33]

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[28] The Race SCFWH narrative. See http://www.nyswaterfronts.com/waterfront_natural_narratives.asp

[29] LISS Sound Health 2006.

[30] DEC, 2007, Anderson P. "A Financial Analysis of Long Island Sound Commercial Finfish and Crustacean Fishery 2004-2006."

[31] NOAA NMFS Commercial Landings. See www.st.nmfs.noaa.gov/st1/commercial/

[32] DEC, 2007, Anderson P. "A Financial Analysis of Long Island Sound Commercial Finfish and Crustacean Fishery 2004-2006."

[33] The Economic Contribution of the Sport Fishing, Commercial Fishing, and Seafood Industries to New York State, Prepared by TECHLAW for New York Sea Grant,

Lobster remains the most commercially valuable species, accounting for more than a third of total annual value harvested from Long Island Sound for each of the past three years.[34] This lobster fishery persists despite a catastrophic die-off in 1999. The bi-state Steering Committee for Lobster Disease Research documents:

> "State and federal landings data indicate that prior to the die-off, bi-state commercial lobster harvests ranged from 7 to 11.7 million lbs. annually, valued at $18 to $40 million. Twelve hundred resident commercial lobster licenses were issued in 1998; in 2002, fewer than 900 lobstermen remained licensed. Commercial harvests of Long Island Sound lobsters totaled about 1.6 million lbs. in 2004, worth slightly less than $7 million."[35]

More than $10.8 million has been invested by partners including NMFS, the U.S. Environmental Protection Agency (EPA), Connecticut Sea Grant, New York Sea Grant, and the states of Connecticut and New York to advance research, resource monitoring, and outreach related to the impact of the lobster mortality event on the Long Island Sound Commercial fishing industry.[36] While surveys subsequent to the die-off documented a decreased abundance of legal size lobsters for harvest in Long Island Sound, "an abundance of small lobsters indicate that the industry is likely to rebound".[37] However, because two-thirds of all lobster larvae captured for genetic study across all Long Island Sound originate from resident adults, "over the long term, stock rebuilding and stock stability will depend principally on an increase in the production and/or survival of local adult lobsters."[38] Protecting the existing Long Island Sound adult lobster population, including the availability of appropriate habitat, is critical to this endeavor. Broadwater notes that "nearly all of the western two-thirds of the Sound, including the area being considered for the FSRU and pipeline, are classified as a high-use lobster fishery area".[39] The Atlantic States Marine Fisheries Commission management plan for the Southern New England lobster fishery (which encompasses the Sound) seeks to restore stocks to a level greater than the abundance target reference point by 2022.[40]

In addition to the commercial sector, recreational fishing and boating are also significant, both economically and culturally. In 2006, nearly 10% of the 55 million marine recreational fishing trips that occurred in all of the U.S. Atlantic were taken in New York waters, accounting for more than 14 million pounds of landings.[41] There is a large recreational boating community on Long Island Sound, derived in part from the approximately 126,000 boats registered in Suffolk, Nassau

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NYSGI-T-01-001, April 2001, p. 29.

[34] DEC, 2007, Anderson P. "A Financial Analysis of Long Island Sound Commercial Finfish and Crustacean Fishery 2004-2006."

[35] Responding to a Resource Disaster: American Lobsters in Long Island Sound, 1999 - 2004, N. Balcom and P. Howell, CTSG-06-02, p. 1.

[36] Balcom and Howell, CTSG-06-02, Table 1, p. 1.

[37] The Economic Contribution of the Sport Fishing, Commercial Fishing, and Seafood Industries to New York State, Prepared by TECHLAW for New York Sea Grant, NYSGI-T-01-001, April 2001, p. 29.

[38] Balcom and Howell, CTSG-06-02, p. 11.

[39] Broadwater EIR-19, Marine/Land Use Compatibility Assessment, April 2006 p. 7.

[40] Atlantic States Marine Fisheries Commission, Addendum XI to Amendment 3 to the American Lobster Fishery Management Plan, May 2007.

[41] NOAA NMFS Office of Science and Technology Fisheries Statistics Division, Fisheries of the United States - 2006, July 2007, p. 21.

and Westchester Counties,[42] and the 180,000 recreational vessels registered statewide in Connecticut.[43] The Coast Guard's Ports and Waterways Safety Assessment (PAWSA) also notes that the major volumes of small craft occur around Stratford Shoal/Middle Ground, and seasonally in The Race.[44]

Stratford Shoal/Middle Ground is widely regarded by recreational fishermen as a top fishing spot in the western Sound, and one of the best places to find striped bass and bluefish. Data collected weekly by Connecticut reflects the importance of the Stratford Shoal/Middle Ground as fishing location.[45]

Recreational boating, including commercial charter and party boats for recreational fishing, is a major economic contributor in the region. Sport fishing contributed $3.6 billion to New York's economy in 1996, 37% of which was derived from the marine sport fishing.[46] Charter and party boats provide on-water access to recreational fishermen who do not own boats. These operations work primarily from May through November, and operate during both the day and night (targeting nocturnal-feeding striped bass).[47] Within the Long Island Sound region, there are an estimated 100 charter and party boat enterprises operating out of City Island, Port Washington, Huntington, Northport, Port Jefferson, Mount Sinai and Mattituck. Many charter and party boats operating out of ports in the western Sound are traveling with greater frequency to the eastern Sound due to declining fish populations in their area.[48]

In 2003, direct, trip-related expenditures by recreational boaters were estimated at $162 million in the New York City-Long Island metropolitan area. Indirect expenditures, such as boat purchases and insurance, were estimated at $907 million in the downstate region, and additional economic effects associated with recreational boating were estimated at $843 million.[49]

A variety of other on-water events also showcase Long Island Sound's maritime culture, including regattas, parades, fireworks and power boat races. The Coast Guard identified 92 registered marine events held in 2005. Most occur close to shore, but larger sailing events and power boat races transit through central Long Island Sound, across the Sound, run out through The Race, and continue on to Block Island Sound and around Block Island.[50]

Commercial Shipping and Transportation

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[42] NYS Office of Parks Recreation and Historic Preservation (OPRHP), 2006 Recreational Boating Report, 2007, pp. 20-21.

[43] WSR p. 33.

[44] WSR Appendix B - Final PAWSA Report p. 17.

[45] Connecticut Department of Environmental Protection "Weekly Fishing Report", http://www.ct.gov/dep/cwp/view.asp?a=2696&q=322752&depNav_GID=1630, accessed 3/20/08.

[46] Economic Contribution of the Sport Fishing, Commercial Fishing, and Seafood Industries to New York State, Prepared by TECHLAW for New York Sea Grant, NYSGI-T-01-001, April 2001, p. 82. See, Broadwater Cons. Cert. App. F (Table F-4-8), p. 55.

[47] Telephone communication between Captain Robert Busby, President, North Fork Captain's Association, and DOS staff, August 13, 2007.

[48] LISCMP, Vol. 2, pp. 216-217.

[49] Connelly et al., 2004, "Recreational Boating Expenditures in 2003 in New York State and Their Economic Impacts", NYSGI-S-04-001, September 2004. See http://www.seagrant.sunysb.edu/CoastalGeo/BoatingReport-FINAL.pdf

[50] WSR, pp. 35-37.

The area of Long Island Sound where Broadwater's FSRU is proposed is a busy waterway supporting significant levels of transiting commercial activity, including the movement of freight, bulk materials and fuels. The LISCMP states that the 200 existing water-dependent uses on Long Island Sound are vital to the economic health of the Region.[51] These water-dependent uses include "...tug and barge combinations, bulk carriers, general dry cargo, passenger ships, refrigerated tank ships, tank vessels, towing vessels, naval vessels (including submarines), other government vessels, ferries, commercial fishing vessels, charter fishing and tour boats, and recreational vessels."

Commercial vessel traffic contributes a substantial volume of the overall on-water presence, with the total annual commercial vessel traffic movements increasing over each of the last three years.[52] Between 2003 and 2005, Long Island Sound ports received an average of 2,300 commercial vessel arrivals originating outside the Sound, and again, these numbers appear to be increasing.[53] The Coast Guard estimates that 2,000 to 4,000 commercial vessels through-transit (passing through but not stopping) Long Island Sound annually, mainly traveling mid-Sound.[54]

Vessels transit along standard, well-known routes, including a central east-west channel down the middle of Long Island Sound, and a route close to the Connecticut border from western Long Island Sound into Bridgeport and New Haven. Regular north-south cross-sound routes also connect New Haven and Bridgeport, Connecticut to Northport, Port Jefferson, and Riverhead (Northville), New York. The Coast Guard identifies two major commercial shipping routes that pass close to the proposed FSRU site, with the predominant east-west traffic route passing on the south side.[55] Currently, there are no moored structures located in this busy east-west thoroughfare.

Commercial vessels transiting Long Island Sound can be destined for ports in Connecticut and Long Island as well as other ports in New England, New York and New Jersey.[56] The majority of industrial uses and port activity in Long Island Sound itself, however, are sited not in New York, but in Connecticut.

Shipping routes to shore are also concentrated in Connecticut coastal waters. Coast Guard data on port arrivals demonstrate that a large majority of the commercial vessel traffic into Long Island Sound arrives in Connecticut ports, including New Haven, Groton, and Bridgeport. Between 2003 and 2005, Connecticut ports in Long Island Sound received more than 2.5 times the number of arrivals as did the Long Island Sound New York ports (2,537 compared to 1,014).[57]

The LISCMP identifies existing maritime industrial centers on the North Shore of Long Island serving as destinations of commercial vessel traffic, including other fuel shipping, receiving and distributing facilities that support industrial and power generation uses. The LISCMP also specifically recognizes the existing offshore oil offloading platforms in Riverhead (located 1 mile offshore) and in Northport (located 1.8 miles offshore).

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51 LISCMP Vol. 2, p. 187-188.

52 FEIS p. 3-188, Table 3.7.1-2.

53 WSR p. 21, Table 2-1.

54 WSR p. 21. (Analysis of AIS transponder data estimates 1,607 annual through transits - FEIS p. 3-191).

55 WSR p. 33.

56 WSR p. 21.

57 Data from 2003 through April 21, 2005, FEIS p. 3-190.

Commercial vessels also arrive, and briefly remain, at lightering zones, anchorages, and fuel offloading areas. The Coast Guard identifies six lightering zones within Long Island Sound: off of Niantic, New Haven, and Bridgeport in Connecticut, and off Riverhead, Northport and Port Jefferson in New York.[58]

The largest commercial vessels currently operating on the Sound are deep draft vessels in excess of 800 feet in length, generally carrying liquid petroleum and coal.[59] However, only 81 vessels of this size were recorded in Long Island Sound by the Coast Guard between 2003 and 2005.[60] During this time frame, only 1,006 vessels between 500 and 900 feet in length (the maximum recorded) transited in Long Island Sound, compared to 6,031 vessels under 500 feet in length.[61] A total of 307 vessels transiting Long Island Sound during this time frame were longer than 700 feet in length.[62] For comparison, the FSRU structure will be 1,215 feet long, and all of the 104 to 156 LNG carriers that would arrive at the FSRU would be longer than 700 feet.

The economic value of commercial shipping on Long Island Sound is significant. In 2000, 311.5 million tons of land and water-borne freight moved through the Sound region, representing $797.6 billion worth of goods. Of this, approximately 62 million tons, or 20% of the total freight volume, was moved by water. Regional transportation plans, such as the Long Island Sound Waterborne Transportation Plan and the Port Inland Distribution Network, are already planning to fully develop the region's opportunities for waterborne transportation and shipping, including increasing cargo arrivals at Bridgeport, Connecticut[63] and expanding ferry services to better move people throughout the Sound.[64]

LONG ISLAND SOUND INVESTMENT

In its consistency review process, DOS considered the trend of focused public investment and effort in improving Long Island Sound to evaluate whether the proposed Broadwater Project supports these efforts and furthers the goals and objectives of these many programs. For more than 30 years, the federal government, the states of New York and Connecticut, regional groups, and local governments have invested significant effort and funds in a variety of studies, plans, programs and projects to improve water quality, preserve and maintain habitat and open space, enhance public access, balance competing uses, and responsibly manage the resources of Long Island Sound.

As early as 1973, the New England River Basins Commission, a partnership including the federal government and the states of New York and Connecticut, developed the Long Island Sound Regional Study to protect, conserve and wisely develop the Sound as a major economic and life-enriching resource for the region.

In 1985, the federal EPA and the states of New York and Connecticut formed the Long Island Sound Study (LISS), a bi-state partnership to research, monitor, and assess the water quality of Long Island Sound, which, at the request of the two states, was officially designated an

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58 WSR p. 42.

59 WSR, p. 25.

60 WSR, p. 25, Table 2-3: 2003-2005 Long Island Sound Commercial Vessel Arrivals sorted by length.

61 WSR, p. 25, Table 2-3.

62 WSR, p. 25, Table 2-3.

63 Broadwater FEIS p. 3-198.

64 See Long Island Sound Waterborne Transportation Plan, prepared by Cambridge Systematics, November 2005.

Estuary of National Significance under the federal Clean Water Act's National Estuary Program in 1987. The Management Conference for the LISS, convened in 1988, focused on the priority concerns of water quality and habitat protection, supported by the recognition that land use, social, institutional, economic, and political choices impact the estuary as a whole.

Key resulting management goals included: ensuring that opportunities for water-dependent recreational activities are maximized without conflict with ecosystem management; and ensuring that social and economic benefits associated with the use of the Sound are realized to the fullest extent possible, consistent with social and economic costs. The LISS CCMP was approved by the Governors of Connecticut and New York in 1994. Federal funding through the LISS has provided more than $54 million in water quality improvement grants.

Certain Long Island Sound communities have also invested substantial effort in the development and adoption of LWRPs as a further refinement of the NYCMP and the LISCMP at the local level of government. An LWRP reflects and implements the unique vision that each community has for managing its coastal uses and resources. Smithtown, through which the pipeline would pass, and Southold, which would be in proximity to LNG carrier traffic, both have approved LWRPs. Greenport, one of the two sites where onshore facilities could be located, also has an approved LWRP.

New York State, through the Environmental Protection Fund Local Waterfront Revitalization Program (EPF LWRP), has invested over $17 million in Long Island Sound projects to advance the goals and objectives of the LISCMP and LWRPs by enhancing public access and recreation, promoting coastal education, redeveloping deteriorated waterfronts, and advancing harbor management, habitat restoration, water quality improvement, and preservation of scenic and historic resources. New York also provided $345 million for water quality improvements in Long Island Sound through New York State's 1996 Clean Water/Clean Air Bond Act and other EPF programs. In addition, since establishment of the Clean Water State Revolving Fund in 1990, the New York State Environmental Facilities Corporation has spent approximately $6.7 billion on Long Island Sound, almost entirely for Sewage Treatment Plant projects, but also including a small amount of stormwater management and other water quality-related projects.

Thus, since 1990, $7.2 billion has been invested to implement federal and state plans and programs that protect and restore Long Island Sound habitat, key species, and water quality; increase public access, use and enjoyment of the Sound's coast and waters; and improve local, state and regional economies that are linked to the Sound's unique heritage and resources.

POLICY ANALYSIS

DOS has determined that Broadwater is not consistent with the following applicable LISCMP Coastal Policies:

- Foster a pattern of development in the Long Island Sound coastal area that enhances community character, preserves open space, makes efficient use of infrastructure, makes beneficial use of a coastal location, and minimizes adverse effects of development. (Policy 1)

- Enhance visual quality and protect scenic resources throughout Long Island Sound. (Policy 3)

- Protect and restore the quality and function of the Long Island Sound ecosystem. (Policy 6)
- Provide for public access to, and recreational use of, coastal waters, public lands, and public resources of the Long Island Sound coastal area. (Policy 9)
- Protect Long Island Sound's water-dependent uses and promote siting of new water-dependent uses in suitable locations. (Policy 10)
- Promote sustainable use of living marine resources in Long Island Sound. (Policy 11)

Applicable Policies and Policy Analysis

Policy 1: Foster a pattern of development in the Long Island Sound coastal area that enhances community character, preserves open space, makes efficient use of infrastructure, makes beneficial use of a coastal location, and minimizes adverse effects of development.

1.1: Concentrate development and redevelopment in or adjacent to traditional waterfront communities.

1.2: Ensure that development or uses take appropriate advantage of the their coastal location.

1.4: Maintain and enhance natural areas, recreation, open space, and agricultural lands.

1.5: Minimize adverse impacts of new development and redevelopment.

LISCMP Policy 1 fosters " a development pattern that provides for beneficial use of the Sound's coastal resources. The primary components of the desired development pattern are: strengthening traditional waterfront communities as centers of activity, encouraging water-dependent uses to expand in maritime centers, enhancing stable residential areas, and preserving open space."[65]

The area in which Broadwater proposes a new industrial complex is a busy thoroughfare for transiting commercial vessels in North Shore coastal waters as well as an open space area recognized in management plans approved by state and federal governments (after extensive public input) as a place of high natural resource value and scenic quality.[66] Although Broadwater asserts that "the Sound has been 'industrialized' for quite some time,"[67] the majority of the maritime industrial activities they describe occur both onshore and in Connecticut. The LISCMP articulates enforceable policies for development in the region, paying particular attention to identifying and protecting established, active ports and maritime centers, protecting the traditional maritime activities and industries they support, and preserving and restoring the publicly-valued scenic and natural resources that define the region's character. New York,

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[65] LISCMP Chapter 4, p. 72.

[66] These attributes and planning efforts are described above under "Long Island Sound Setting" and "Long Island Sound Investment."

[67] Broadwater fact sheet: "Broadwater: Just the Facts", http://www.broadwaterenergy.com/pdf/Broadwater_Fact_and_Fiction.pdf.

through its LISCMP, has established where, what types and the manner in which new industrial uses should be developed in Long Island Sound's coastal area. The industrial scenario proposed by Broadwater - which includes construction of permanent, private industrial facilities in the center of the Sound's open space area, and frequent transit of LNG carriers and their mammoth, exclusionary security zones through traditional fishing grounds and recreational areas - differs markedly from the parameters of New York's straightforward, established policies for development of the Long Island Sound coastal area.

The LISCMP describes the community character the intended development pattern is designed to foster:

> Suffolk County offers a wide variety of scenic appeal in its north shore coastline. The attractions of recreational boating harbors with their maritime ambience contrast with the many kinds of highly scenic natural areas ranging from wetlands, ponds and beaches, to high bluffs, dunes, islands, and upland forests. While the western and middle parts of the county's shoreline are highly developed with mostly residential uses, the terrain and the large, wooded lots hide much of the development and give many areas a scenic, semi-rural feeling. The significant amounts of agricultural lands remaining in the eastern part of the county, sometimes with historic farmhouses, lend a captivating rural atmosphere to the coastal landscape. There are many places with extensive, long views over land and water, sometimes across the Sound to Connecticut.[68]

Preservation of community character, comprising the interrelated elements of natural and scenic resources, traditional uses, and open space, including the open waters of Long Island Sound, is a central tenet in a suite of local and regional plans for Long Island's North Shore coastal area.

The New York State Legislature has included the North Shore in the State Heritage Area System and identified it as a place where unique qualities of geography, history, and culture create a distinctive identity (LINSHA Management Plan). The Heritage Area includes the waters of the Sound north to the Connecticut line within its boundary, viewing this resource as an integral component of area heritage: "Long Island Sound is our Heritage Area's central, defining element."[69] Preservation of heritage in this region, therefore, requires preservation of Long Island Sound as a scenic landscape feature, and a component of historic and cultural protection and promotion. The LINSHA Management Plan envisions a day when North Shore communities "turn back toward Long Island Sound as a source of pride and sustenance, supporting both our economy and ecosystems."[70]

Other local programs arrive at the same conclusion. The Town of Riverhead's Comprehensive Plan discusses community character as something that includes scenic, environmental and open space attributes, stating that "[e]conomic development and environmental conservation should be balanced; to not only sustain expansion of Riverhead's strong economic base, but also promote livable communities, preserve farmland and agricultural activity, and protect Riverhead's natural, historic, and scenic resources."[71] The Town describes its identity as intrinsically linked to its coastal resources:

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68 LISCMP Vol. 2, pp. 27-30.
69 LINSHA MP, Oct. 2006, Section 1.4.4., p. 16.
70 LINSHA MP, Oct. 2006, Section 1.2.5, p. 6.
71 Town of Riverhead Comprehensive Plan, 11/2003, p. 2-1.

> Riverhead is a coastal community, bounded by water on much of its perimeter. In addition to its waterfront along the Peconic Estuary system (which includes the Peconic River, Flanders Bay and the Great Peconic Bay), Riverhead is bounded to the north by Long Island Sound. Many of the shoreline and coastal areas in Riverhead are scenic - particularly the Sound waterfront, with its picturesque bluffs - and all of them have distinctive plant and animal communities. Finally, the Town is an agricultural community, where natural resources play an important role in the livelihood of residents, property owners, and businesspeople.[72]

The Town further notes that this coastal identity is not just intrinsically important, but is also linked to local economic issues including jobs and tax revenue:

> Water resources are important economic assets to the community. In Riverhead, local fishermen depend upon the water for their livelihood; fish and shellfish must be safe to eat and must occur in high enough abundance so that fish populations are sustainable. Because of the scenic beauty of the Town's water bodies, many of the waterfront areas in Riverhead attract water sports enthusiasts, as well as hikers, bikers, motorists, and tourists. Thus, from the point of view of the tourism industry, water bodies serve as attractions that draw potential customers. Residential property values are also tied to water resources and their quality. Coastal property is generally valued higher, because of the views.... According to research commissioned by the Long Island Sound Study (LISS), more than $5 billion is generated annually in the regional economy from boating, commercial and sport fishing, swimming and beachgoing associated with the Sound. The ability of the Sound to support these activities depends on the quality of its waters, living resources and habitats – all of which are affected by the amount and type of development that occurs along the borders of the Sound and throughout its watershed. Communities, like Riverhead, along the north shore of Long Island are closely tied to the Sound and its overall health and visual character.[73]

The LISCMP requires the State to maintain and enhance aesthetic values associated with community character, which is defined in New York as the "natural environment, land use patterns, and scenic and cultural resources."[74] Scenic resources - open water vistas in particular - are the primary basis for public appreciation of the Sound's landscape.[75] The extensive land/water interface and diversity of views, including vast expanses of open water, contribute to the generally high scenic quality. The LISCMP finds that "scenic quality is an important part of a community's character and sense of place"[76] and it requires the State to protect scenic resources.

Broadwater's industrial operation does not fit into this context. As a visual feature on the horizon, it is discordant – at variance with the existing visual character of Long Island Sound, which is open water transited by vessels. It is a stationary interruption of the open water vista. Broadwater's permanent industrial complex contravenes and does not advance the goals and policies of State and local governments. All are aligned in their desire to preserve the open space and high scenic quality that forms the basis of the Long Island Sound setting's unique character, and the character of their localities and the region. The proposed industrial operation

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72 Town of Riverhead Comprehensive Plan, 11/2003, p. 4-2.
73 Town of Riverhead Comprehensive Plan, 11/2003, pp. 4-3 - 4-4.
74 LISCMP Vol. 2, p.16.
75 LISCMP Vol. 1, p.74.
76 LISCMP Vol. 1, p. 19 (Recommendation #9).

would interrupt the open space of the Sound, fragmenting the open water with a permanent fixed structure, thereby eliminating a key element of the setting's appeal, which centers on the integrity of the open water experience, its unimpeded access and uninterrupted views. For these reasons, the effects of this new development in the middle of Long Island Sound could not be minimized to the extent that it could be found consistent with Policy 1 and Subpolicy 1.5.

Broadwater states the Project would be consistent with Policy 1 in general because "introduction of a new, reliable natural gas supply will sustain and promote growth that is consistent with the objectives of enhancing community character, preserving open space, maximizing use of infrastructure, and minimizing adverse effects of development."[77] Broadwater also states that a new supply of natural gas "is paramount" to sustaining historic and current development patterns that establish community character. This indirect linkage of imported natural gas to enhanced community character is not supported by the completed inventories and plans and overlooks the direct and immediate effects on community character uses that can not be mitigated and that are not consistent with Policy 1.

The proposed industrial facility would irrevocably distort the connection that Long Islanders, their town and village communities, and visitors have with the marine resources, natural landscapes and open water vistas from the North Shore. According to the LISCMP:

> The need to ease the limitations on the general public's ability to exercise its rights of physical and visual access to the Sound coast is reflected in the theme for the public coast: **Connect people to the Sound and its public resources by improving visual and physical access and providing a diversity of recreational opportunities**....there are a variety of ways by which this theme can be advanced. These include: ...establishing travelways to and through public open spaces and public trust lands and waters; maintaining and creating visual access to the Sound and to significant land and water vistas that define the Sound's unique qualities;...and reasserting and guaranteeing the public's rights and interests in the waters and foreshore of the Sound and its natural and scenic resource base.[78]

Located outside the context of existing shoreline development, Broadwater would create a drastically different visual profile of the mid-Sound area, altering the visual quality of that open water expanse. Its size and permanence would constantly remind the public that public trust submerged land, the water column and navigable waters are being occupied by a private, large industrial use that is obstructing and excluding existing traditional public and commercial water-dependent uses, currently available to the general public. This potential affront to the character of the region is stated by the East Hampton Town Commercial Fisheries Advisory Committee: "[Broadwater] callously suggests that the lobstermen and trawl fishermen receive monetary compensation for their losses. This proposed mitigation measure is inadequate because it fails to consider the impacts on Montauk harbor, our economy and, most important, it ignores the character of our community and our way of life."[79]

The LISCMP also requires that new development remain concentrated in areas of existing development. Broadwater would not be located in a maritime center or another area of concentrated infrastructure, but in the middle of a vast open water expanse, nine miles offshore.

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77 Broadwater Cons. Cert. p. 2.

78 LISCMP Vol. 2, p. 147.

79 Written Comments from East Hampton Town Commercial Fisheries Advisory Committee (LA-10), FEIS Appendix N RTC Part 7. (Emphasis added0

Although Broadwater asserts that Long Island Sound is "industrialized," they also acknowledge that the majority of industrial uses and port activity in the Sound are sited in Connecticut's coastal area and not on the North Shore of Long Island:

> . . . the Connecticut ports receive significantly more traffic than the New York ports. Bridgeport is the most active commercial port in the Sound, with over 10,000 vessels per year. New London registers 5,000 vessels per year, and New Haven approaches 2,000 vessels per year. Typical cargo for these ports includes oil, other petroleum products, bulk chemicals, and containerized goods.[80]

Shipping routes to shore are also concentrated in Connecticut coastal waters:

> The main shipping route extends in a generally east-west direction through the center of the Sound, on a straight course from deepwater areas in the eastern Sound inside the Race through to the Stratford Shoal area. From this main route, vessel traffic branches to the north and south to enter ports throughout the Sound. Due to the greater port development in Connecticut, more routes branch toward Connecticut than New York." [81]

The FEIS presents Coast Guard port arrival data from 2003 to 2005 (ending April 21, 2005).[82] It includes barges, freight ships, passenger ships, tank ships, and towing vessels, but does not include ferry traffic. The majority of the commercial vessel traffic into Long Island Sound arrives at Connecticut ports. In 2003, the Connecticut ports received 1,212 arrivals to New York's 388. In 2004, Connecticut received 799 arrivals to New York's 465. In 2005 (up to April 21), Connecticut received 526 to 161 for New York.[83]

Further, more than 80% of the marine oil facilities on Long Island Sound regulated by the Coast Guard are located in Connecticut (28 out of 34). Connecticut hosts all nine marine facilities located in eastern Long Island Sound, while New York hosts the only facility in central Long Island Sound at Riverhead, and five others in western Long Island Sound. The remaining 19 facilities in western Long Island Sound are located in Connecticut.[84]

The LISCMP does plan for continuing transshipment uses: it identifies two offshore areas on the North Shore where fuel transshipments - at a much smaller scale than that proposed by Broadwater - should occur. These are the existing oil platforms off Riverhead, noted above, and Northport. In addition, the program recommends that the offloading and loading facilities in Port Jefferson be re-located outside the harbor to protect the environment and promote inland storage.[85] These are the only three discrete existing offshore areas identified in the LISCMP for transshipment of fuel. The Broadwater proposal is not consistent with this plan; the LISCMP does not sanction siting a transhipment, industrial vaporization and storage facility in an offshore open water area.

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[80] Broadwater Cons. Cert. App. E, The Marine/Land Use Compatibility Assessment, p. 21.

[81] FEIS p. 3-187 (emphasis added).

[82] This table was derived from the USCG's Ports and Waterways Safety Assessment (PAWSA) Vessel Arrival Data.

[83] FEIS p. 3-190.

[84] WSR Table 2-7, p.38.

[85] LISCMP Vol. 1, p. 66, Recommendation # 43.

Broadwater's proposed large-scale shipping and offloading activities are also out of character with the current activities at the existing Riverhead offshore platform. Between 2003 and 2005, the Coast Guard recorded 307 vessels greater than 700 feet arriving into Long Island Sound. During those same years, 124 vessels greater than 700 feet arrived at Riverhead's offshore platform, or on average slightly more than 41 vessels per year. Annually, between 104 to 156 LNG carriers greater than 700 feet in length would berth, offload and deberth in Riverhead's open waters if the LNG facility were placed there. This would result in a 253% to 380% increase in the number of vessels greater than 700 feet arriving in Riverhead. In addition, Riverhead presently hosts less than one vessel per week; Broadwater proposes up to 3 LNG carriers per week.

The LISCMP reserves the Sound's open waters for commercial shipping, commercial and recreational fishing, recreational boating and, as discussed above, it protects the long, extensive water views from the shoreline. The presence of an industrial structure in the open waters of the middle Sound, far from the identified maritime centers and other developed areas, and requiring new supporting infrastructure, would not be consistent with LISCMP Policy 1 and Subpolicy 1.1. According to the LISCMP Policy 1, the existence of Broadwater's industrial facility and its associated infrastructure could effectively require the State to concentrate additional, similar uses in proximity, forever altering the character of the offshore, open water setting. This is a consequence not envisioned, planned for, or provided for in the LISCMP.

Policy 1 also requires that any new development and new uses make beneficial use of a coastal location. This should be viewed as adding value, improving conditions, and capitalizing on the most valued resources and features. The resources and features that are valued by the federal, state, and local governments, their many partners throughout the region and the public, are "the tapestry of natural, economic, and cultural resources that make it unique—**a Long Island Sound coastal area enriched by enhancing community character, reclaiming the quality of natural resources, reinvigorating the working waterfront, and connecting people to the Sound**."[86]

The LISCMP supports the current land use trend on the North Shore, requiring consolidation in maritime centers of the remaining commercial and industrial uses that have comprised 2-4% of overall land uses during the past 50 years. Broadwater's new industrial center would be located outside Connecticut's major ports and New York's maritime centers in undeveloped open water near a major east-west corridor currently used primarily by transiting commercial vessels and recreational boats. The Project neither adds value to, nor improves the conditions of, nor fits discreetly into the existing coastal fabric.

Broadwater is the first applicant to propose converting the coastal waters of the Long Island Sound Estuary to a potentially non-stop LNG shipping, berthing, offloading, deberthing and industrial operation (storage, regasification, addition of nitrogen and odorant and send-out) that would directly displace and interfere with commercial shipping, recreational and commercial finfishing, lobstering, trawling and recreational boating. To maximize Broadwater's benefit, it takes advantage of an undeveloped open water site that is held in trust for the benefit of New Yorkers. It also requires that existing uses, as well as established goals for the region (protection of open space and scenic resources, re-establishment and growth of the lobster and fishing industries, planning for waterborne transit) be modified to accommodate its parameters. This is not consistent with Policy 1 and Subpolicies 1.1 and 1.2.

In an effort to diminish the perception of its Project as a discordant use, Broadwater identifies "an unmistakable pattern of mixed commercial, residential, recreational, and industrial

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[86] LISCMP Vol. 1, p. 3.

uses within Long Island's coastal communities and the Sound,"[87] noting that "linear industrial infrastructure in the Sound already includes several cables, existing pipelines and other utilities that traverse the seafloor and provide energy and communications to businesses and residents throughout the region."[88] Broadwater also reminds us that "vessel traffic within the Sound has long included waterborne transportation for a substantial portion of the region's energy supply, including petroleum and coal."[89] These statements, while correct, fail to account for critical differences between existing, permitted uses and the Project.

As a fixed, permanent, above-water structure, the FSRU would be fundamentally different than any other visible, above-water uses currently encountered in the middle of the Sound, all of which consist of transient vessels. The FEIS acknowedges:

> Although there are existing industrial and commercial uses of the Sound, approval of the Project would result in an industrial/commercial use of the Sound that would differ from most existing industrial or commercial uses for two reasons. First, the Project would be a permanent visible structure as opposed to most current industrial applications conducted on the shoreline, below the surface of the water, or as a transient activity on the surface of the water. Second, it would be farther offshore than the two petrochemical transfer stations currently in operation.[90]

The LISCMP planned for continued operation at the two petrochemical transfer stations. It does not support development of industrial structures and zones in the center of Long Island Sound. Broadwater, therefore, conflicts with Policy 1 and Subpolicy 1.1.

The other identified difference between Broadwater and existing industrial and commercial uses - its permanence and visibility - is also a cause for concern. Unlike any previously approved pipeline project, the above-water FSRU disrupts both the physical use of the area, and its visual character. The FEIS notes that because "[t]he primary visual difference between the FSRU and existing commercial traffic would be its "lack of movement," there will result "a moderate, long-term impact to visual resources in a limited portion of Long Island Sound and along the associated shorelines."[91] Further, the Project, unlike a transient industrial vessel, permanently changes a 950 acre area, currently valued as public open space and used for water-dependent commercial and recreational uses, into a private industrial zone. This conversion is not consistent with Policy 1 and Subpolicy 1.4.

Once established, this industrial zone itself becomes a justification for siting additional industrial uses in proximity in order to comply with LISCMP Policy 1 and Subpolicy 1.1. The FEIS maintains that the Project "is unlikely to represent a new trend in offshore industrial development of the Sound" because of the unique nature, constraints and cost of such projects, and because upon approval "most of the fuel needs in the region would be met for the near future." [92] This analysis, however, is flawed.

The Department acknowledges Broadwater's agreement in Commitment #2 to not expand beyond the proposed FSRU footprint. Broadwater's Commitment is confined to the "joint

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87 Broadwater Energy LLC and Broadwater Pipeline LLC Response to Comments on Broadwater's Petitions and Application for Easements Over New York State Lands, (Response to Comments) January 2008, p. 42.

88 Response to Comments, January 2008, p. 43.

89 Response to Comments, January 2008, p. 43.

90 FEIS, p. 3-134.

91 FEIS p. ES-9.

92 FEISp. 3-134.

venture partners," who would agree to not construct other in-water, offshore regasification facilities in Long Island Sound, contingent on receipt of a conditional concurrence from DOS. This limited Commitment, however, evidences that Broadwater understands DOS' concern with the precedent-setting nature of its Project.

Additionally, as Broadwater has noted, it is not such a unique enterprise that subsequent, similar proposals are hard to foresee. FERC notes on that as of March 2008 "[t]here are about 40 LNG terminals that are either before FERC or being discussed by the LNG industry for North America. Six terminals are already operating on the East Coast, Puerto Rico and Alaska."[93] FERC highlights the complex forces driving LNG proposals: "The market ultimately determines whether an approved LNG terminal is ever built. Even if an LNG terminal project receives all of the federal and state approvals, it still must meet complicated global issues surrounding financing, gas supply and market conditions."[94] With this knowledge, it is not possible for the FEIS to realistically anticipate the future conditions driving industrial development proposals, including offshore energy facilities, for the Sound.

It is also not unreasonable to anticipate future energy facility proposals that are prompted by energy consumption as it grows beyond the needs of the "near future". Like Broadwater and FERC, DOS acknowledges New York's need for new energy supplies. Broadwater itself is proposed as a response to identified growth in energy needs: "Our analysis indicated that the proposed natural gas supplies are needed as a replacement fuel for existing coal and oil-fired facilities, and to support the future growth projected by government and private analyses."[95] It is for exactly this reason - the growing need for energy supplies to serve the expanding New York City metropolitan market - that DOS is gravely concerned about the consequences of allowing a precedent-setting industrial facility and use in the center of this Estuary of National Significance.

The FEIS acknowledges how an approval for Broadwater could serve as a "permitting template"[96] for additional, similar activities. As noted above, LISCMP Subpolicies 1.1 and 1.4 would require concentration of new, industrial uses around the industrial zone created by the Broadwater facility, if constructed. The federal Coastal Zone Management Act also requires, to the extent practicable, that new energy facilities be built or installed adjacent to existing facilities:

> Priority consideration [should be] given to coastal-dependent uses and orderly processes for siting major facilities related to.. Energy,... and the location, to the maximum extent practicable, of <u>new commercial and industrial developments in or adjacent to areas where such development already exists</u>.[97] (emphasis added)

The presence of existing submerged pipelines and Broadwater's business relationship with IGTS may have induced it to propose its facility in the Sound. These existing natural gas pipelines, presently located in Long Island Sound on State-submerged land that DOS previously found consistent with State coastal polices, are energy facilities. A pipeline component, however, is only one part of Broadwater's proposed energy facility. The effects on coastal uses and resources from Broadwater's precedent-setting industrial facility in the Sound are more significant by orders of magnitude than the effects from the existing submerged pipelines that DOS previously found consistent with coastal policies. Given the CZMA language requiring consolidation of energy facilities, if DOS were to find Broadwater consistent, it is foreseeable that

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93 FERC website: http://www.ferc.gov/industries/lng.asp (3/26/08).
94 FERC website: http://www.ferc.gov/industries/lng.asp (3/26/08).
95 FEISp. 5-7.
96 FEISp. 3-134.
97 16 U.S.C. §1452 (2)(D).

other similar LNG import facilities and pipelines would also expect placement in the Sound. This would result in additional subsequent, adverse effects on coastal uses and resources.

Broadwater's new industrial use proposed for the open water of the Sound would convert public open space and natural and recreational areas into a private industrial zone, would disrupt existing water-dependent uses, would set a precent for other industrial and energy facilities and pipelines to locate here, and would result in substantial adverse effects to community character. For these reasons, Broadwater is not consistent with Policy 1 of the LISCMP and its Subpolicies 1.1, 1.2, 1.4 and 1.5.

Policy 3: Enhance visual quality and protect scenic resources throughout Long Island Sound.

3.1: Protect and improve visual quality throughout the coastal area.

3.2: Protect aesthetic values associated with recognized areas of high scenic quality.

Policy 3 explains that "[v]isual quality is a major contributor to the character of the Long Island Sound region and its communities, and the primary basis for public appreciation of the Sound's landscape."[98] The elements comprising the impressive visual qualities of the Sound's near shore coastline include a range of natural landscapes such as bluffs, beaches, bays and inlets, and characteristic coastal flora and fauna, as well as human uses including boating, residences, parkland, agriculture, harbors, historic villages and commercial activities in defined maritime centers. The mid and far-shore visual landscapes of Long Island Sound are valued for their sweeping open water vistas, with views to the distant landform of the Connecticut shore, and the transient passage of freighters, ferries, commercial fishing vessels, boats and sailboats. Policy 3 and its Subpolicies repeatedly emphasize protection and improvement of these scenic qualities. A new, fixed, permanent industrial structure that would be visible 80% of the time from approximately 44 miles of North Shore coastline[99] would not be consistent with the long-established, well-articulated goals of the many federal, state, regional and local governments and their partners who have decades of investment in the Sound, its resources, and its communities.

Broadwater correctly notes that Long Island Sound is not a designated Scenic Area of Statewide Significance. However, the Sound is recognized for its aesthetic and scenic value under a wide array of governmental designations, and therefore, is an aesthetic and visual resource of significant national, regional, State and local importance and must be protected as described under Policy 3 and its Subpolicies 3.1 and 3.2. These recognitions include the Clean Water Act's National Estuary Program, the Long Island Sound Coastal Management Program, New York State Heritage Area Program, New York State Scenic Byways Program, the Town of Southold Local Waterfront Revitalization Program, and the Town of Riverhead Comprehensive Plan.

As stated by the Long Island Sound Study:

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98 LISCMP p. 74 (emphasis added) .

99 Broadwater FEIS, p. 3-152, p. 3-147: "The data suggest that those Project components would be visible from at least one onshore location between 76 and 83 percent of the time. For the purposes of this EIS, we have assumed that the proposed FSRU, YMS, and LNG carriers in Long Island Sound would be visible about 80 percent of the time."

> Long Island Sound is a national treasure, to be prized for its beauty, abundant and diverse resources, and recreational and commercial opportunities. For many, it is a source of inspiration and renewal. For others, it is the basis of economic survival. In spite of differing perspectives, people share a conviction that Long Island Sound (the Sound) is worthy of preservation, restoration, and protection.[100]

As discussed in the Policy 1 analysis, the North Shore is also a designated Natural Heritage Area. A required inventory of heritage and scenic resources included "distant views of water and land, over Long Island Sound and other water" and "panoramic views over Long Island Sound and Great Peconic Bay" as two of the four types of scenic resources compiled.[101] A total of 309 scenic resources were identified and more than half rated 3 or higher on the 5-point quality rating scale. The plan documents 39 distant views, 12 scenic overlooks, and 104 panoramas, stating: "The scenic resources of the Long Island North Shore Heritage Area are the essence of the area and reflect the character of the area."[102]

The LINSHA Management Plan recommends developing a special corridor plan for the Scenic and Historic Route 25A corridor, with the intention of eventual nomination of the road as a New York State Scenic Byway, National Scenic Byway, and All-American Road. Route 25 between Southold and Orient Point is already designated under the New York State Legislature's 1992 Scenic Byways Program as the "North Fork Trail Scenic Byway." The character of the route is inseparable from its pastoral, coastal setting. The Byway application states: “Water views comprise a major component of the scenic experience in Southold. These views range from very long vistas across the Long Island Sound to smaller-scale views of the many roads that meander around the Town’s marine inlets.”[103]

The Town of Riverhead’s Comprehensive Plan requires protection of the scenic vistas of its major water bodies and requires the town to “[m]aintain and increase waterfront access and views,” explaining that “Riverhead is a community in many ways defined by its proximity to significant water features. Access to and views of the water are important in determining and maintaining the Town's overall quality of life. Public access to and views of water currently exist at certain points throughout Riverhead. The Town should work to increase public access to and views of water even further."[104]

Although public appreciation of the Long Island Sound visual landscape is important, perhaps more tangible is the role it plays in regional and local economies. Tourism and recreation sectors depend on the area's scenic attributes. Tourism-related employment on Long Island encompassed nearly 122,000 jobs in 2001.[105] "The visitor industry is an important economic sector on Long Island (Nassau-Suffolk Primary Metropolitan Statistical Area), accounting for 107,000 jobs and a payroll of $2.2 billion in mid-2002, according to statistics gathered by the New York State Department of Labor."[106]

Local plans also make this link between the Long Island Sound setting, in particular its scenic character, and their economies. The Town of Riverhead says: “Because Riverhead's

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100 See http://www.longislandsoundstudy.net/ccmp/intro.html

101 LINSHA Management Plan, Oct. 2006, App. p.116.

102 LINSHA Management Plan App. p. 122.

103 The North Fork Trail: Farmlands and Seascapes, Hamlets and Heritage, application for Designation as a NYS Scenic Byway, Town of Southold, Ferrandino & Assoc., November 2000.

104 Town of Riverhead Comprehensive Plan, 11/2003, p. 5-12.

105 LINSHA Management Plan App. p. 41.

106 LINSHA Management Plan App. p. 42.

scenic character helps maintain the Town's economic vitality and overall quality-of-life, it is important to understand the factors that contribute to the scenic character....Major water bodies and their shorelines or banks serve as scenic vistas in and of themselves: Long Island Sound, Flanders Bay, the Great Peconic Bay, and the Peconic River."[107]

Collectively, these public plans and documents demonstrate the high scenic quality of Long Island Sound and the value placed on the Sound by citizens and governments. Subpolicy 3.2 requires that aesthetic values be protected and impairments to scenic quality, such as locating a large industrial facility in the middle of the public and open waters of the Sound be rejected.

Broadwater claims that it is simply another among the existing industrial uses and activities discussed in and even promoted by the LISCMP. However, Broadwater, as a new, permanent, fixed, above-water industrial structure out in the open waters of the Sound is fundamentally different from existing uses that are either transiting vessels, or underwater pipelines and located on the sea floor out of view. The transiting commercial and industrial vessels provides dynamic, visual interest because they do not permanently alter the setting or the character of Long Island Sound as a recognized, scenic open water resource. They, instead, contribute and improve the visual quality of Long Island Soundbecause of their dynamic nature.

The LNG carriers berthing at the FSRU, ranging from 886 feet (125,000 cubic meter capacity) to 1,132 feet (250,000 cubic meter capacity) in length, would also be larger than 99% of the other vessels currently transiting the Sound. The largest commercial vessels currently operating on the Sound are deep draft vessels in excess of 800 feet in length, generally carrying liquid petroleum and coal.[108] However, only 81 vessels of this size were recorded in the Sound by the Coast Guard between 2003 and 2005.[109] This represents about 1% of the total vessels recorded during this period (7,079). Between 2003 and 2005, only 1,006 vessels between 500 and 900 feet in length (the maximum recorded) were recorded, compared to 6,031 vessels that were under 500 feet in length.[110] A total of 307 vessels transiting the Sound during this time frame were greater than 700 feet in length.[111] The LNG carriers with spherical (Moss) design are characterized by distinctive, dome-shaped Moss tanks that rise above the main deck and are higher in profile than membrane tanks, used by some LNG carriers. These would be large, visually distinctive ships that are highly distinguishable from other transiting vessels.

Broadwater proposes large-scale shipping and offloading activities that are out of character with the current activities at the existing North Shore facilities. Between 2003 and 2005, the Coast Guard recorded an annual average of 102, and 307 total, vessels greater than 700 feet arriving into Long Island Sound. All of the 104 to 156 LNG carriers proposed to arrive at the FSRU would be longer than 700 feet resulting in a 100% to 150% increase in the number of vessels of that size arriving in the Sound on an annual basis.

In Riverhead, during this same period (2003-2005), only 124 vessels greater than 700 feet arrived at the offshore platform, an average of just over 41 vessels per year. If the proposed project is constructed, between 104 and 156 LNG carriers greater than 700 feet in length would berth, offload and deberth each year in Riverhead's open waters - an increase of 253% to 380%. Riverhead presently hosts an average of less than one vessel per week; the Broadwater facility

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107 Town of Riverhead Comprehensive Plan, 11/2003, p. 5-2.

108 WSR, p. 25.

109 WSR, p. 25, Table 2-3: 2003-2005 Long Island Sound Commercial Vessel Arrivals sorted by length.

110 WSR, p. 25, Table 2-3.

111 WSR, p. 25, Table 2-3.

will increase this number more than 300%, up to three LNG carriers per week. Both in the Sound overall, and at the Riverhead facility in particular, this increase equates to a substantial change in the existing visual landscape.

Despite repeated assertions as to the mixed character of the Long Island Sound coast and waters, Broadwater acknowledges that the majority of industrial uses and port activity in the Sound are sited in Connecticut's coastal area and not on the North Shore of Long Island, where, as documented above, it is prized as an open space resource with high scenic quality. As analyzed in Policy 1, significantly more commercial vessel traffic arrives in Connecticut ports than in New York ports; shipping routes are concentrated in Connecticut waters; and more than 80% of the marine oil facilities on Long Island Sound regulated by the Coast Guard are located in Connecticut (28 out of 34).

Also, as discussed under Policy 1, the activities that would be conducted on the permanent, FSRU structure (LNG storage, addition of nitrogen and odorant, vaporization and send out) are not water-dependent, because they can be carried out on land. Therefore, the FSRU can not be included under Subpolicy 3.1 as a water-dependent use that should be protected for the value of its visual interest.

The LISCMP, and its policies and policy explanations, clearly document the vision of the State and its federal, regional and local partners for development of any new industrial uses. This includes requiring that new industrial and working waterfront uses be concentrated near similar existing uses (Subpolicy 1.1), which also serves to preserve the open space visual element and provide visual organization; and prohibit the conversion of the valuable open space, recreational space, and open water habitat of Long Island Sound into industrial use (Subpolicy 1.4). The proposed project is not consistent with these specifications, and therefore cannot be counted among those industrial activities viewed by the LISCMP as in keeping with the existing character of the Sound. Broadwater would introduce a new industrial facility in the middle of the open water of the Sound that will not enhance existing scenic character. As an industrial facility that is not in character with the open public trust waters of Long Island Sound, and which would be visible 80% of the time from 44 miles of the North Shore waterfront, much of which is recognized for its scenic beauty by the federal, State, regional and local plans discussed above, the Project is not consistent with Policy 3 and its Subpolicies 3.1 and 3.2.

The importance placed on the scenic quality of Long Island Sound is highlighted through the LISCMP's emphasis on not just preservation of the existing high quality features, but also on restoration and removal of deteriorated and degraded scenic elements. This emphasis clearly delineates the boundaries of acceptability for visual impacts: it is not acceptable to create new, adverse visual impacts; and projects, uses and activities must either preserve the existing high scenic quality, or improve the quality of existing, degraded scenic elements. In this context, even a moderate adverse visual impact [112] is not acceptable, and is not consistent with Policy 3 and Subpolicies 3.1 and 3.2.

Aspects of the FSRU will be visible a majority of the time approximately 25 miles in any direction: "[P]otential viewing locations are distributed along approximately 44 miles of Long Island coastline and 92 miles of Connecticut coastline, all of which are within 25 miles of the proposed location of the FSRU."[113] Thus, in addition to the physical disruption of open water, there are also few views of the Sound and within the Sound that would not be affected by the presence of Broadwater. This is a critical difference between the project and the existing, ongoing industrial uses in the region to which Broadwater likens itself, such as the two offshore

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[112] FEIS p. ES-9

[113] FEIS p. 3-147.

petroleum transfer platforms identified in the LISCMP and the FEIS. However, these facilities, which are the only industrial structures in Suffolk County analogous in use (not in scale) to the proposed project, have minimal visual impact on the vast open space of the Sound because they are located less than 2 miles offshore, are significantly smaller in size, and are affiliated with nearby, onshore, working waterfronts. The Broadwater project, which would result in a permanent, large, visible structure, is not grouped or oriented to preserve the Sound's open space visual element, and is therefore not consistent with Policy 3 and its Subpolicy 3.1.

There is high visitorship at North Shore public areas, such as the many New York State park sites along the shore. Immediately south of the proposed project, Wildwood State Park is visited by an average of 300,000 people annually. Other north shore state parks, including Caumsett, Sunken Meadow, Nissequogue, and Orient Beach had over 2.4 million visitors in 2006/2007.[114] A survey by the Long Island Sound Study (LISS) found that 79% of north shore residents visit the Sound at least one a year simply to sit, picnic and enjoy the view.[115] This view, one of sweeping open water vistas across the Sound to Connecticut, would be altered by the presence of Broadwater and associated LNG carrier berthing operations. On-water viewers, including significant numbers of recreational boaters, fishermen, and ferry riders, would have an even closer view.

There are acknowledged adverse visual impacts that will be caused by the project,[116] and affect public lands, including an array of New York State and local park sites, therefore, it is not consistent with Policy 3 and Subpolicy 3.1.

FERC concludes Broadwater would result in a moderate impact to visual resources[117] that they deem acceptable. However, this "moderate impact" to the scenic quality of Long Island Sound would be experienced by millions of residents, recreational boaters and visitors. It would result from the introduction of a large, permanent, incongruous visual feature into a recognized scenic resource, physically and visually disrupting the wide open water area by its presence near the center of the waterbody. It would take the use of public land and open water away from the public and disrupt treasured views from the many public parks, beaches and wildlife reserves along the shore. In keeping with the repeated recognition of the Sound as a significant scenic resource by the federal, state, regional and local programs discussed above, the LISCMP has developed a coherent plan for the protection of the Sound's many resources, noting that scenic quality is of primary importance in the public's valuation of the resource. The Department acknowledges Broadwater's agreement in Commitment #1 to use a blue-gray color scheme and best lighting practices to dim lights at night on the FSRU and investigate other design changes to lower its profile in the water. These changes would minimize discordant features as required by Subpolicy 3.1. However, the LISCMP Policy 3, does not emphasize minimizing visual impact, rather it requires protection and enhancement of the Sound's scenic value. Therefore, it is not consistent with Policy 3 and Subpolicies 3.1 and 3.2.

Policy 6: Protect and restore the quality and function of the Long Island Sound ecosystem.

6.1: Protect and restore ecological quality throughout Long Island Sound

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114 NYS OPRHP, North Shore Parks Attendance Data 2007.

115 Public Perception Survey of Long Island Sound Watershed Residents, U.S. EPA Region 2, Final Report, November 16, 2006.

116 FEIS, Executive Summary p. ES-9.

117 FEIS, Executive Summary p. ES-9.

6.4: Protect vulnerable fish, wildlife and plant species, and rare ecological communities.

Broadwater would affect the Long Island Sound ecosystem through entrainment and impingement and potentially affect an ecologically-important shoal that supports a prime fishing area. The natural resources of Long Island Sound are recognized as important to the region and the nation by several federal, state and regional programs, and must be protected as described under Policy 6 and its Subpolicies.

The "coastal habitats of Long Island Sound have historically been an exceptionally productive and biologically diverse ecosystem important to the economic and ecological integrity of the Northeast and the nation"[118] and "Long Island Sound is recognized as a National treasure of great cultural, environmental, ecological and economic importance."[119]

The LISCMP was developed to manage the Sound's resources on a regional scale. The program emphasizes protection of not just discrete significant habitat areas but those natural resources, species and communities that support the ecological integrity of the system as whole:

> In addition to specifically identified discrete natural resources, the quality of the Sound ecosystem also depends on more common, broadly distributed natural resources, such as the extent of forest cover, the population of overwintering songbirds, or benthic communities. These more common natural resources collectively affect the quality and biological diversity of the Sound ecosystem.[120]

Policy 6 and Subpolicy 6.1 require that the quality and functions of Long Island Sound's fragile estuarine ecosystem be protected and restored. Long Island Sound has been designated as an Essential Fish Habitat (EFH) under the Magnuson Stevens Fishery Conservation and Management Act (MSFCMA) for various life stages of 19 species with federal fishery plans. According to the National Marine Fisheries Service (NMFS) there would be major adverse effects on benthic habitats and marine species from Broadwater. These include:

> . . . 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.[121]

A major concern raised by NMFS is the impact on benthic habitat and communities all along the proposed 21.7-mile pipeline route from pipeline construction. Broadwater has verbally accepted the recommendation to backfill the entire length of the pipeline trench with native material but the FERC conditions are ambiguous. FERC Condition 16 requires Broadwater to coordinate with the U.S. Army Corps of Engineers, the EPA and the NMFS "to identify the conditions under which backfilling would be required." Contrast this language with Condition 17

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[118] LISS Policy Committee MOU on Restoration of Coastal Habitats of Long Island Sound, September 28, 2006. Signed by the Regional Administrators for USEPA New England Region and Region 2, and the Commissioners of Connecticut Department of Environmental Protection and New York State Department of Environmental Conservation.

[119] LISS Policy Committee MOU on Long Island Sound Stewardship, September 28, 2006. Signed by the Regional Administrators for USEPA New England Region and Region 2, and the Commissioners of Connecticut Department of Environmental Protection and New York State Department of Environmental Conservation.

[120] LISCMP p. 79.

[121] NMFS, DEIS Comments 1/23/2007. p. 5.

which requires "a backfilling plan for the 2-mile-long pipeline section closest to the FSRU." It is also unclear whether backfilling would result in re-establishment of important benthic communities in the Sound. Through Commitment #17, Broadwater agreed to monitor the pipeline, restore areas impacted, and report on those restoration efforts.

In particular, significant adverse effects on benthic habitat and communities would occur at Stratford Shoal Middle Ground where approximately 4,000 feet of pipeline travels to its interconnection with the IGTS pipeline.[122] During construction, the pipeline trenching is expected to result in temporary suspension of large amounts of sediment in the water column and affect the benthic communities. Thirteen to 20 days of mechanical dredging could be required to cross the Complex. Broadwater, in Attachment 2, page 21 of its April 2, 2008 submission to DOS has agreed to "develop an approach and plan for returning the material removed from Stratford Shoal to its original location to ensure that any native hard-bottom habitat remains in Long Island Sound rather than ending up at a distant open-water or upland disposal facility."

DOS acknowledges Broadwater's commitment to restoration at the Stratford Shoal/Middle Ground, but returning material removed is not guaranteed restoration. Policy 6, therefore, requires the pipeline be re-routed south or one of the other routes be chosen to avoid trenching and potential dredging at this area. Further, Policy 6 states that New York must "[P]rotect and restore the quality and function of the Long Island Sound ecosystem." Protection can be achieved by routing around the shoal, which is acknowledged in the FEIS. The stated reasons for not rerouting the pipeline were that: it would be 0.8 mile longer; complex engineering would be required to cross existing cables; and the presence of an historic dump site.[123]

The Stratford Shoal/Middle Ground is a "large topographic rise that influences patterns of water flow, sediment erosion and sediment deposition. This unique feature significantly influences the distribution of sedimentary habitats and the organisms that use them."[124] It provides the "northern boundary for incoming oceanic bottom water"[125] and its geomorphology plays an important role in the "classical estuarine circulation"[126] of saline and fresh waters in the Sound. Researchers note the fragile balance of ecosystem characteristics present at this unique site: "We hypothesize that the accelerated flows over the shoal maintain suspension feeding epibenthic communities (i.e., sponge, coral and bryozoan species) and enhance prey/food particle delivery while keeping particulates from smothering these organisms."[127] Suspension feeding organisms filter food, such as plankton and organic detritus, that drifts by as a result of water flow and are sensitive to disturbances, such as activities that scrape them off the substrate or bury them with sediment.

A recent study found Stratford Shoal/Middleground's "central transect, as well as southernmost transect which followed the proposed route for the Broadwater natural gas pipeline, were also characterized by finger sponge dominated communities and coral was

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122 FEIS. p. 3-31.

123 FEIS, p. 4-48.

124 Office of Long Island Sound Programs, Dept of Env. Protection and National Undersea Research Center and Associate Research Professor, Department of Marine Sciences, University of Connecticut at Avery Point. "OSV Bold Survey Report. Benthic Habitat Characterization of the Stratford Shoal Region of Long Island Sound. (OSV Bold Survey Report) May 29 to June 2, 2007", Final Report July 17. 2007, p. 3.

125 Vieira, Mario E.C. "The Long-Term Residual Circulation in Long Island Sound, " Estuaries, Vol. 23, No. 2, pp. 199-207 at p. 205.

126 Vieira, Mario E.C., Estuaries, Vol. 23, No. 2, pp. 199-207, at p. 207.

127 OSV Bold Survey Report p. 18.

observed along both transects."[128] This study also identified high densities of American lobster and other burrowing organisms in sampling areas both west and east of Stratford Shoal.[129] The researchers documented forests of finger sponge (*Haliclona oculata*) and populations of the unique, cold-water northern star coral (*Astrangia poculata*). Professor Sean Patrick Grace, a researcher at Southern Connecticut State University and an expert on cold-water scleractinian corals, has noted the unique characteristics of this cold-water species, and its presence in Long Island Sound:

> "One unique temperate coral that has been found recently in Long Island Sound is the scleractinian (hard) coral *Astrangia poculata*. It is unique in that it is one of four corals known world-wide to exhibit a facultative symbiosis with its zooxanthellae (single-celled plants living within the coral host). Most tropical corals die or "bleach" when they lose their zooxanthellae, however, this coral can be found subtidally existing both with and without....The Sound represents a unique habitat for this coral, in that constant freshwater input would seem to put this coral at a disadvantage. This input results in salinity changes and increased sedimentation (particles suspended into the water column) which could interfere with coral feeding (tentacular) by smothering the coral."[130]

The FEIS, citing a recent article on Dr. Grace's research, incorrectly characterizes the northern star coral community as fundamentally different from tropical, reef-building species, and hardy and plentiful in Long Island Sound.[131] The article referenced by the FEIS actually states that the cold-water corals have the same attributes and structure as Caribbean corals, and their very hardiness in the face of extremely cold conditions results in unique ecological adaptations that make the Long Island Sound population worthy of study.[132]

Further, the coral and sponge communities identified by the OSV Bold survey occurred primarily in hard substrate areas, as opposed to other sediment types,[133] as is typical of cold-water scleractinian species globally.[134] The FEIS depicts the rarity of hard substrate in Long Island Sound, with the linear outcropping of bedrock and gravel that comprises Stratford Shoal immediately visible on Figure 3.1-1, "Distribution of Surficial Sediment in Long Island Sound."[135] With only a small percentage of appropriate substrate available to support them, these rare ecological communities in Long Island Sound are clearly subject to the protection of Subpolicy 6.4, and should not be disrupted by the construction of the Broadwater pipeline.

Additionally, unlike warm-water corals, cold-water corals grow, mature and recruit much more slowly, generally at rates between 4 - 25 mm/year, as compared to shallow tropical corals that grow up to 150 mm/year. These characteristics make cold-water corals highly susceptible to anthropogenic and natural disturbances, and regeneration and recovery might take decades to

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[128] OSV Bold Survey Report p. 17-18.

[129] OSV Bold Survey Report p. 14-15.

[130] 2007-2008 University Research Grant Proposal from S.P. Grace, PhD, Department of Biology, Southern Connecticut State University.

[131] FEIS p. 3-67.

[132] Grace, S. P. 2006. The Skeletons of Long Island Sound. February 2006. Available online at http://www.southernct.edu/faculty/paffairs/news/?file=view.php&id=679

[133] OSV Bold Survey Report p. 17.

[134] Freiwald, A., Fosså, J.H., Grehan, A., Koslow, T., Roberts, J.M. 2004. Cold-water Coral Reefs. UNEP-WCMC, Cambridge, UK, p. 21.

[135] FEIS p. 3-16.

centuries for a damaged reef.[136] Reef communities, particularly cold-water reefs, are frequently damaged by activities such as oil and gas exploration and drilling, mineral mining, cable laying and other activities that increase turbidity and sedimentation.[137]

The physical characteristics and the resulting presence of a unique benthic community, described above, make the Stratford Shoal/Middle an important fishing area in Long Island Sound, and as such, NMFS raises a second concern with the Broadwater Project. DOS agrees with NMFS and disputes the FEIS' cursory analysis of the importance of the Stratford Shoal/Middle habitat, and the inadequate discussion of potentially significant effects on fish, wildlife and other living resources that would be caused by pipeline construction.

Species richness and abundance of the fish community is notably higher in a cold-water reef as compared to the off-reef seabed. [138] The cold-water corals and erect sponges, like those found on Stratford Shoal/Middle Ground, as well as the unique physical structure of the Shoal itself, enhance habitat value by providing microhabitat for diverse fish and invertebrate assemblages, including juvenile life stages of commercially important fisheries species. The structural features of the coral and sponge community provides enhanced feeding possibilities among aggregating species, a hiding place from predators, a nursery area for juveniles, and substrate for invertebrates.[139]

The reef communities located on Stratford Shoal/Middle Ground would be adversely affected by pipeline trenching: "The communities of northern star coral and dead man's fingers located along the proposed pipeline route across Stratford Shoal would be impacted by construction of the proposed pipeline."[140] The pipeline route selected "requires complex dredged trenching and engineered fill to cross the Stratford Shoal Middle Ground Complex."[141]

In the event that test plowing across Stratford Shoal/Middle Ground using Broadwater's preferred technique is unsuccessful, Broadwater proposes a contingency plan involving

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[136] See Table 1 in Freiwald, A., Fosså, J.H., Grehan, A., Koslow, T., Roberts, J.M., 2004. Cold-water Coral Reefs. UNEP-WCMC, Cambridge, UK, p.11.

[137] "Cold-water coral ecosystems are long lived, slow growing and fragile, which makes them especially vulnerable to physical damage. Regardless of the depth at which these reefs occur, the impact of human activities is evident in almost every survey undertaken. Bottom fisheries, especially using trawls and heavy gear, have already destroyed or scarred several reefs, and represent one of the major threats to cold-water corals. Other documented and potential sources of impact are hydrocarbon and mineral exploration and production, cable and pipeline placement, repair and dumping." Frejwald, A., Fossa, J.H., Grehan, A., Koslow, T., Roberts, J.M. 2004. Cold-water Coral Reefs. UNEP-WCMC, Cambridge, UK, P. 21.

[138] The United Nations Environment Program - World Conservation Monitoring Centre (UNEP-WCMC) notes:

"One of the most obvious features when diving with a submersible over a cold-water reef is the species richness and abundance of the fish community compared with the off-reef seabed (Costello et al., in press; Husebø et al., 2002)....Reefs may be attractive for fish in several ways. The complex three-dimensional reef provides enhanced feeding possibilities, hiding places and nursery areas (Fosså et al., 2000)."

[139] NOAA National Marine Fisheries Service Ecosystem Assessment Division, see http://www.nmfs.noaa.gov/habitat/ead/coldwatercorals.htm.

[140] FEIS, p. 3-70.

[141] Memorandum from Drew Carey, Ph.D to Save the Sound dated 1/22/07 citing Broadwater's Resource Report-1, Appendix C Stratford Shoal Contingency Plan.

excavation of a trench 26 to 54 feet wide, extending up to 4,000 feet in length prior to laying the pipe and resulting in greater turbidity and sedimentation. A heavy-duty excavator would remove between 3,000 to 5,000 cubic yards of sediment per day for approximately 13 days. The overall trench volume would be 40,000 cubic yards. If the excavator used in the dredging operation were unable to replace sediment to the required depth of cover, then rock, concrete mats or sand bags would be used atop the seafloor to protect and stabilize the pipeline.[142] The contingency dredging plan in the application records would require disposal of dredged material upland or in an open-water site in Long Island Sound.

There are several feasible alternatives to the proposed pipeline route that Broadwater did not adequately explore, including a North Route, a Stratford Shoal Reroute, and a South Route.[143] For example, the FEIS describes the Stratford Shoal Reroute:

> The Stratford Shoal Reroute Alternative follows the same alignment as the proposed pipeline route for most of its length (see Figure 4.5-1). In the vicinity of the Stratford Shoal, this alternative deviates approximately 2.5 miles south of the proposed route to traverse an area south of Stratford Shoal, where sandy and silty sediments are present (USGS 2000, 2005b). While the Stratford Shoal Reroute Alternative would avoid the need to install a pipeline through the hard ground of the Stratford Shoal, a pipeline constructed along this route would be 0.8 mile longer than the proposed pipeline. This alternative also would require that the pipeline be installed through a historic dredged material disposal site offshore of Port Jefferson. However, Broadwater's investigations of the historic dump indicated that contamination problems are not likely.[144]

Broadwater asserts problems associated with the proposed route crossing the Flag Atlantic-North fiber optic cable at two locations as described in the FEIS and the Corps permit application. However, proper engineering has allowed successful cable crossings at many other sites in New York. Further, the 0.8-mile increase in pipeline length for this reroute alternative is minimal. The elimination of this alternative, and the other route alternatives, coupled with the assertion that no natural resource value is present at Stratford Shoal/Middle Ground along the proposed route, indicates that the examination of feasible alternatives is deficient.

Both the proposed trenching and the contingency dredging plan would impose significant adverse effects on the ecological communities found on Stratford Shoal/Middle Ground that are rare in Long Island Sound, and consequently on their associated fish and invertebrate habitat and species assemblages. The destruction of these communities during construction of the pipeline would result in a long term, if not permanent, loss, due to the unique physical structure of the shoal, the slow growth rate of northern star coral, and, potentially, the existing stress and impairment generally present in the Long Island Sound aquatic environment. Long term or permanent loss of these communities would subsequently alter the highly valued and heavily used lobster and fin fishery at Stratford Shoal/Middle Ground.

Another major effect on living resources in Long Island Sound would result from the FSRU's and LNG carriers' withdrawal of an average 28.2 million gallons per day of seawater for ballasting, power generation and other uses.[145] As this water is drawn into the FSRU, it would be treated with chlorine as an antifouling agent. Based on this volume of water intake, the FEIS estimates that the FSRU alone will impinge or entrain (or kill as a result of application of biocide)

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142 FEIS p. 3-31 to 3-32.
143 FEIS p. 4-47 to 4-49.
144 FEIS p. 4-48.
145 FEIS p. 3-90.

from 49.8 to 101.9 million eggs (the most valid estimate is stated to be 53.1 million),[146] and also from 67.4 to 173.1 million larvae (the most valid estimate is stated to be 78.4 million).[147] Collectively, this represents the mortality of an estimated 131.5 million organisms annually. The FEIS notes that, with respect to impacts caused by LNG carriers, "[e]ntrainment of fish eggs and larvae would be possible during transit from withdrawal of water for vessel engine cooling."[148] However, no numerical estimates have been provided. LNG carriers would cause higher mortality of eggs, larvae and juvenile fish than will the FSRU because of their substantially higher water needs.

Estuaries like Long Island Sound are critical settings for fisheries reproduction, and serve as home to the fragile larvae and juvenile fish that support the sustainability of their parent populations. The Long Island Sound estuary already hosts an array of facilities that impose equal and greater impacts to aquatic species as a result of impingement, entrainment and the use of biocide to prevent fouling of infrastructure. State and federal agencies are currently increasing their efforts to reduce or eliminate the ecological impacts of these water withdrawals by existing uses. Allowing additional, incremental increases in larval and juvenile mortality in these stressed, ecologically and commercially important populations further exacerbates this situation, conflicts with the goals of New York and its partners, described previously, with regard to protection and restoration of these populations and would not be consistent with Policy 6.

Of the mortality totals cited above, the annual losses of EFH-managed species (which include bluefish, flounders, mackerels, whiting, cod and scallop) [149] from Broadwater are estimated to be approximately 3.5 million eggs and 5.3 million larvae, or approximately 3% of the ichthyoplankton losses for the overall finfish community.[150] NMFS states: "[e]ntrainment of fish or invertebrate eggs and larvae as well as small prey items is likely to be lethal and have consequences for both aquatic resources on both the Connecticut and New York sides of LIS."[151]

DEC also highlighted the potential effects of entrainment/impingement on the State's fisheries resources. Focusing on the potential higher range estimates observing that over 270 million eggs and larvae, and an unknown number of (Young of Year) (YOY) and small adult fish, could be potentially entrained by the FSRU and LNG carrier operations, DEC has stated:

> "The Department restates its opinion that the loss of 274 million eggs, larvae and juveniles from impingement and entrainment into the intake systems of the Floating Storage and Regasification Unit (FSRU) and the LNG carriers, is a significant adverse impact to the aquatic ecology of Long Island Sound. The FEIS incorrectly concludes that these impacts are of minimal importance to the Sound."[152]

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146 FEIS p. 3-90.

147 FEIS p. 3-90.

148 FEIS p. 3-93.

149 FEIS, App. E, EFH Report, p. E-21.

150 FEIS p. 3-99.

151 U.S. Dept of Commerce, NOAA, National Marine Fisheries Service (NMFS). Re: OEP/DG2E/Gas Branch 3; Broadwater LNG Project, Docket No. CP06-54-000, CP06-55-000. Received by FERC on January 30, 2007. FERC generated pdf of 20070207-0013.

152 See letter from John Ferguson, DEC Project Manager, Division of Environmental Permits to Kimberly D. Bose, Secretary, Federal Energy Regulatory Commission Re: Broadwater LNG Project - Final Environmental Impact Statement Docket Nos. CP06-54-000, et al. Issued January 11, 2008, dated March 17, 2008 at p. 2 (DEC March 2008 letter).

DEC has made several recommendations regarding the intake structures to reduce impingement and entrainment and prevent fish mortality from exposure to chlorine. In Commitment #15, Broadwater states it would work with DEC to minimize impacts using Best Technology Available (BTA). According to DEC, "even with these design changes, however, the project will result in the death of approximately 210 million eggs and larvae and an unknown number of YOY and small adult fish, through entrainment in the LNG carriers' intake systems. This would be a significant adverse effect on the LIS aquatic environment and fishery, caused as a direct result of the Project's operations."[153]

DOS concurs with DEC and NMFS that the potential loss of eggs, larvae, and other young and small fish from Broadwater would represent a significant adverse effect on coastal fisheries resources and the ecosystem. These resources are precisely the "more common, broadly distributed natural resources"[154] upon which the food web of Long Island Sound depends, and that are targeted for protection under Policy 6. DOS acknowledges Broadwater's Commitments #15 and #16 to comply with the Clean Water Act, and develop and finance stocking programs for commercial fisheries.

Because of the above-described effects on vulnerable fish and wildlife, particularly adverse effects to the base of the food chain through impingement and entrainment,[155] and the devastation to the rare cold-water coral and sponge community present on the unique and fragile Stratford Shoal and Middle Ground complex, both construction and operation of the Broadwater industrial facility including transiting and berthed LNG tankers, would not protect or restore ecological quality in Long Island Sound as directed by LISCMP Policy 6 and its Subpolicies 6.1 and 6.4.

Policy 9: Provide for public access to, and recreational use of, coastal waters, public lands, and public resources of the Long Island Sound coastal area.

9.1: Promote appropriate and adequate physical public access and recreation throughout the coastal area.

9.3: Preserve the public interest in and use of lands and waters held in public trust by the state, New York City, and towns in Nassau and Suffolk counties.

9.4: Assure public access to public trust lands and navigable waters.

The tidal waters of the State, the bottomlands they overlay, and the natural resources contained within are held in trust by the State for use by the general public. While an array of public and private uses may be allowed in public waters, depending on their impact and level of public benefit, it is the State's responsibility to protect public trust lands against unreasonable and unnecessary obstruction and encroachment to the detriment of the public's rights. This is particularly important for Long Island Sound, a waterbody recognized as an Estuary of National Significance for its outstanding ecological, cultural, commercial, and recreational values.

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[153] See letter from John Ferguson, DEC Project Review Coordinator to Murray Sondergard (Broadwater) Re: Broadwater Energy Project DEC No. 1-4799-0007/00001, Notice of Incomplete Application dated December 26, 2007 at p.11 (DEC December 2007 letter).

[154] LISCMP p. 79.

[155] FEIS p. 3-90.

Long Island Sound has historically and judicially been considered inland waters [156] of the states of New York and Connecticut, which divide jurisdiction of the waters and submerged lands along the center of that waterway.[157] The State of New York holds title to the navigable waters and submerged lands of Long Island Sound within state boundaries, not otherwise conveyed away,[158] in trust for the use and enjoyment of the public.

The LISCMP describes the public trust and the public interest in this location as follows:

> Under the public trust doctrine [advanced by Policy 9], the foreshore and underwater lands are held in trust by the sovereign for the benefit of the public. In the colonial era, the English king exercised sovereign authority, both proprietary and governmental, over Long Island Sound. Following the Revolutionary War, New York succeeded to the crown's rights in the waters, soils, and shores of Long Island Sound...New York courts have long upheld the principle stated in Illinois Central Railroad v. Illinois, 146 U.S. 387 (1892)...that the state's title to underwater land: "...is a title different in character from that which the state holds in lands intended for sale...It is a title held in trust for the people of the state that they may enjoy the navigation of the waters, carry on commerce over them, and have liberty of fishing therein freed from the obstruction or interference of private parties."[159]

During its expected life, Broadwater's proposed FSRU will occupy, and physically limit public access to and recreation in, a substantial portion of the waters and underwater lands of Long Island Sound that is held in public trust by the State of New York.

The FSRU would be moored in 90 feet of state navigable waters approximately 9 miles from the nearest shoreline of Long Island in the Town of Riverhead, Suffolk County, New York.[160] As recommended by the U.S. Coast Guard, the safety and security exclusion zone surrounding the FSRU would extend approximately 1,210 yards from the center of the mooring tower, removing 1.5 square miles (950 acres) of waters from the public trust and precluding all other vessels from using or transiting the water column and surface waters around the FSRU.

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[156] United States v Maine, 471 US 375, 375 (1985). In Natural Resources Defense Council v Calloway, 524 F.2d 79, 84 (2d Circuit, 1975), the Second Circuit stated, "Long Island Sound has been deemed by the government to be inland waters, both in nautical charts and under a definition found in § 3(b) of the Marine Protection, Research, and Sanctuaries Act of 1972, Pub.L. 92-532, 86 Stat. 1052."

[157] See NY State Law § 2. In 1879, New York and Connecticut agreed to a boundary line running down the center of the Sound. C. 213, New York Laws of 1880; Connecticut Special Acts and Resolutions No. 67, 8 Sp. Acts 1880. p. 377. Congress ratified that boundary line agreement in 21 U.S. Statutes at Large, 351, Feb. 26, 1881, Chapter 81. State Law § 2 codifies the current boundary line, established by C. 352, New York Laws of 1912 and C. 18, New York Laws of 1913.

[158] See NY Public Lands Law § 4 (all State lands owned by or vested in the crown of Great Britain as of July 9, 1776 belong to the State) and NY State Law § 7-a (describing New York's ownership and jurisdiction over submerged lands and the sub-adjacent waters). The Submerged Lands Act of 1953 did not affect the State's ownership interests of the submerged land or waters.

[159] LISCMP Vol. 2, p. 180.

[160] In 1881, town jurisdiction (but not ownership) of lands beneath Long Island Sound was extended northerly to the New York - Connecticut state line by act of the State Legislature. (Laws of 1881, Chapter 695).

Additionally, for each LNG carrier, a 2,040 acre moving safety and security zone is currently proposed, extending 2 nautical miles (2.3 miles) in front, 1 nautical mile (1.2 miles) to the rear, and 750 yards (about 0.4 mile) to each side of the vessel during inbound and outbound transits from the FSRU.[161] This moving exclusion zone would be slightly larger than Caumsett State Historic Park on the North Shore in Huntington (1,750 acres), almost 3.5 times the size of Wildwood State Park on the North Shore in Wading River (600 acres), and 2.5 times the size of Central Park in Manhattan. Though temporary, this large, recurring exclusion would last up to 40 hours for each LNG delivery.[162] LNG carriers would be somewhere in Long Island Sound or Block Island Sound for 6 out of every 7 days.[163] During these constant deliveries and departures, other recreational and commercial uses of Long Island Sound waters would be prevented within the moving exclusion zone around each carrier; in addition to their exclusion from the zone surrounding the FSRU, where all other uses would be prohibited at all times. When moving through a narrow waterway, such as The Race, recreational boaters, fishing vessels and commercial traffic would have to clear the area. Furthermore, these moving safety and security zones would effectively exclude the public from State-submerged land, the water column and State navigable waters throughout the entire path to the FSRU.

Broadwater points approvingly to the FEIS's observation that:

> Many other commercial and industrial uses of the Sound have been approved by the responsible agencies, including eight power cables, three fiber optic cables, two natural gas pipelines, three active dredge disposal sites, two oil transfer platforms, many ferry services, extensive commercial shipping, and commercial vessel lightering. We believe that implementation of the proposed Project with our recommended measures would meet the energy needs of the region with minimal impacts and would therefore be in the public interest.[164]

However, the proposed Broadwater facility is different both in scope and scale from the installation of a subsea pipeline, a fiber optic cable or a power cable, none of which involve exclusion of the public from the use of navigable waters.

Also, despite Broadwater's assertion that analogous safety and security zones already exist in Long Island Sound,[165] the exclusion zones associated with the proposed Project are different in size and nature from others cited. The existing safety and security zones[166] that are associated with stationary, permanent facilities are all for facilities that are located onshore (the Groton Naval Submarine Base, General Dynamics Electric Boat Shipyard, Dominion Millstone Nuclear Power Plant, all in Connecticut). Offshore security zones cited by Broadwater are the temporary, 100-yard radius[167] exclusion areas around anchored Coast Guard vessels (an area of 6.5 acres), and the temporary, annual exclusion areas around specified fireworks barges, ranging in size from 600-foot to 1200-foot radii around the barge (from 26 to 104 acres), which are enforced only between 8 p.m. and 11 p.m. for those days the barge is in place.[168]

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161 FEIS p. 3-127.

162 WSR p. 56. This would include transiting each way, berthing, offloading and deberthing.

163 WSR and FEIS.

164 FEIS p. 3-157

165 Broadwater fact sheet, "Broadwater: Just the Facts".

166 The "Broadwater: Just the Facts" fact sheet references WSR, p. 41. The reference is actually at WSR, p. 42.

167 33 CFR §165.154(a)(2)

168 33 CFR 165.151

Finally, with respect to offshore platforms, Broadwater has made reference to the 500-yard radius safety zone (163 acres)[169] at the Riverhead (Northville Industries) Offshore Platform.[170] This vessel safety zone is, in fact, temporary, being in effect only when an LNG vessel is moored at the platform. The platform does not currently receive LNG and the safety zone is not consistently enforced.[171]

Existing recreational activities such as fishing, boating and diving would be significantly disrupted should Broadwater's proposal be realized. The FEIS documents the many recreational uses of the Sound, noting the trend towards increased recreational use over the previous decade.[172] Broadwater's proposal, if approved, would disrupt and discourage these public recreational activities on public trust lands, which have grown in popularity and cultural-economic importance in recent years.

The disruptions to public recreational use are primarily associated with the recommended safety and security zones for the Project, which would exclude current and future users of the public waters of Long Island Sound. As noted in the Executive Summary of the FEIS:

> commercial and recreational activity would not be allowed within the fixed safety and security zone around the proposed FSRU throughout the life of the Project....Up to 12 fishermen trawl and up to five lobstermen set pots in the area that the Coast Guard has proposed to establish as the fixed safety and security zone; these fishermen would be excluded from using the area within the fixed safety and security zone for the life of the Project. In addition, commercial fishermen using waters along the proposed LNG carrier routes may experience occasional use conflicts and gear damage.[173]

While Broadwater has offered to compensate the affected commercial fishermen (Commitments #12 and #13 in the April 2, 2008 submission), no agreements have been reached at this time. Moreover, the exclusion of commercial fishing from these waters would prohibit all other fishermen from fishing these areas in the future, negatively impacting a heritage industry supported through generational transfer of knowledge and resources. Also, compensation provided to affected commercial fishermen will not mitigate the disruption of current and future recreational use by the public. The continuous disruption posed by these LNG shipments would deprive the public of the beneficial use of its trust resource, and is an important reason that the Project is not consistent with Policy 9.

The FEIS also notes that "[t]he proposed safety and security zone around each LNG carrier would affect recreational boaters, especially in the Race...[where] recreational vessels...may experience up to a 15-minute delay as an LNG carrier and its proposed safety and security zone pass by."[174] In addition, "[a]nchored or drifting vessels would need to temporarily move from areas in the path of an approaching LNG carrier and its associated moving safety and security zone, with a potential time of up to 40 to 60 minutes required from the start of relocation to a return to the original location."[175] It should be noted that the passage of Navy vessels in The Race are also associated with security mandates, and these, combined with LNG carrier transits, could result in the frequent clearing of The Race in its entirety.

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169 33 C.F.R. §165.155 - safety zone. A security zone was not established.
170 Broadwater's Submission to OGS, pp. 40-41.
171 WSR p. 93, footnote 180.
172 FEIS pp. 3-137 - 3-138.
173 FEIS Executive Summary, p. ES-9
174 FEIS p. ES-9
175 FEIS p. ES-9

Although temporary and possibly limited to nighttime transits, these access restrictions would cause disruptions along the transit route up to 6 out of every 7 days. The USCG notes the "significant recreational fishing and commercial charter fishing presence during the summer months, typically between May and October" in The Race.[176] Charter and party boats operate during the day and night (targeting nocturnal-feeding striped bass).[177] During periods of peak usage, especially the identified peak recreational months, the exclusion zones associated with the Broadwater Project would be a burdensome disruption to existing public recreation and use of public trust lands and waters, and must be considered as part of the project-related loss of public land and waters in Long Island Sound.

Subpolicy 9.1 focuses on protecting and maintaining existing public access and water-related recreation. The direct exclusion of the public from 950 acres of navigable waters and submerged lands that would result from the placement of Broadwater's private industrial use on State-submerged land in open water, and from the 2,040 acre moving safety and security zone surrounding its associated LNG carriers, as described above, would disrupt and interfere with public access to and recreational use of the Sound's trust resources, including an array of identified, existing uses such as fishing, boating, sailing and diving. For these reasons, the Broadwater project is inconsistent with Policy 9 and Subpolicy 9.1.

The Public Lands Law authorizes the New York Office of General Services (OGS) to convey easements and grants of underwater land in certain instances where the conveyance furthers public trust purposes or does not interfere with public use of trust resources. Within these parameters, OGS has the authority to grant or deny Broadwater's request for easements to moor the FSRU, to install and maintain the pipeline on State-owned lands beneath Long Island Sound, or to displace the public from the use of navigable waters. In keeping with the State's sovereign responsibility, Policy 9 and its Subpolicy 9.3 also require that public interest in public trust lands and waters be protected by limiting grants, easements, permits, or lesser interests in lands underwater to "those instances where they are consistent with the public interest in the use of public trust lands," making conveyances only under "exceptional circumstances."[178]

Broadwater's consistency certification states that the public interest would be served by the introduction of a new source of natural gas, reduced price volatility, and enhanced reliability of the natural gas pipeline system and electrical power system into the New York City, Long Island and southern Connecticut regions. In its FEIS, FERC also states that the New York metropolitan region needs and will continue to need additional sources of natural gas to supply growth in core customer demand as well as to facilitate the growth in electric power generation fueled by natural gas. DOS agrees that there is a need for a significant new source of natural gas serving the New York City and Long Island markets; however, this is not the only public concern.

The LISCMP recognizes economic benefits derived from public recreational and commercial use of New York's coastal land and water resources as follows:

> The use of trust lands by the public generates billions of dollars for the state economy. The foreshore and underwater lands of Long Island Sound are used for recreation, boating, fishing, swimming, and visual enjoyment of the Sound's environment. The tidal areas provide habitat and breeding areas for shellfish and

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[176] WSR p. 80

[177] Telephonic communication between Captain Robert Busby, President, North Fork Captain's Association and Department of State staff, August 13, 2007.

[178] LISCMP Chapter 4, p. 83

finfish of commercial and recreational importance. Private actions that interfere with these activities diminish the public's use and enjoyment of these commercially and recreationally productive areas.[179]

Broadwater's proposal would privatize more than 950 acres of submerged lands, water column and water surface of Long Island Sound, removing these publicly owned resources from the public realm. Additionally, LNG carrier transits would regularly, if temporarily, prevent public access and use of large areas of the Sound and The Race. A conveyance by the State for the Broadwater Project which would exclude or interfere with the public in such a large area would significantly impair, and possibly eliminate, the public interest in and benefit from use of underwater lands and waterways for public access, recreation, and other public trust purposes.

Therefore, the private interest of Broadwater, even if it is associated with some public benefit (a new source of natural gas), does not trump the general public interest, and cannot be permitted to exclude the public from the Project area.

The public trust doctrine also prohibits the government from surrendering large tracts of public trust resources to a private entity. Any attempt by the State to relinquish its dominion and control over a public resource can be invalidated under the doctrine, as an abdication of sovereignty.

Broadwater's safety and security zones would exclude the public from a large area of both the surface waters and submerged lands of Long Island Sound. The FSRU exclusion zone, at 950 acres, is larger than Central Park in Manhattan (843 acres), and far larger than any existing offshore safety and security zones described above. It would occupy and prevent public use of the water column and water surface that is currently used for vessel transit, recreational boating, commercial lobstering and fish trawling, among other public trust activities. This would not be consistent with State's sovereign right, and responsibility, to protect the public interest. Finally, there is no evidence that the Broadwater Project exemplifies an "exceptional circumstance," given the approximately 52 existing and proposed North American LNG terminals described as of March 24, 2008 by FERC in its industry materials.[180] For these reasons, the proposed project would be inconsistent with Policy 9 and its Subpolicy 9.3.

The goal of Subpolicy 9.4 is to guarantee continued public access to public trust lands and navigable waters of Long Island Sound. In its state consistency analysis submitted to OGS, Broadwater contends that, under Subpolicy 9.4, "obstructions to public access" in Long Island Sound, such as the Coast Guard-imposed safety and security zones around the FSRU/YMS or transiting LNG carriers, are allowed "when necessary for the operation of water-dependent uses and their facilities." It contends that because the Broadwater Project "results in significant benefits to the public at-large, the Coast Guard's safety and security zones are consistent with the public trust doctrine and the LISCMP because they will only restrict access to modest portions of the Sound to the extent necessary to protect public safety."[181]

The Coast Guard's WSR for the proposed Broadwater Project concludes that it would only be suitable with additional safety measures to manage risks to navigation safety or maritime security associated with LNG marine traffic and the operation of the FSRU. These measures, including the 950 acre permanent security zone around the FSRU, will necessarily exclude the public's use and enjoyment of public trust lands and waters. Compounding the stationary

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[179] LISCMP Vol. 2, p. 183.

[180] FERC website, accessed on 3/26/08: http://www.ferc.gov/industries/lng/indus-act/terminals/exist-prop-lng.pdf.

[181] Broadwater's Submission to OGS, January 2008, par. 78, p. 41

displacement of the public from the waters surrounding the FSRU, the 2,040 acre moving safety and security zones of the transiting LNG carriers would also routinely restrict access to public trust lands and waters along the transit route. Since the safety and security zone around the facility will create an area where, for at least 30 years, no commercial vessels could transit and no commercial or recreational fishing would occur, it is disingenuous to characterize the exclusion zones as mere "obstructions to public access."

Subpolicy 9.4 also requires mitigation in cases where substantial interference or obstruction of public use of public trust lands and navigable waters occurs. Broadwater has proposed mitigating the effects of the establishment of the safety and security zones by financially compensating affected commercial fishermen (Commitments #12 and #13 of the April 2, 2008 submission). FERC has recommended that the compensation agreements be filed with the Commission before the project is initiated, however, no agreements have been reached at this time. The exclusion of commercial fishing and lobstering from these waters, even if compensated, would prohibit access to all other fishermen who might want to fish these areas in the future. The Long Island Sound fishing and lobstering industries are a critical component of the region's cultural heritage, and have been propagated through time through generational transfer of knowledge and resources. Finally, compensation provided to affected commercial fishermen will not mitigate the disruption of current and future access and use by the public at-large. This poses significant "public trust" concerns for current and future residents of the region who wish to enjoy, recreate, and make a living on the waters of Long Island Sound.

In the FEIS, another mitigation measure is advanced that would allow the Cross Sound ferry to transit across the moving safety and security zones surrounding LNG carriers: "The Coast Guard has determined that, if the Project is approved for operation and if the threat to the environment of the Project Waterway remains at its current level, it would permit ferries to transit through the proposed moving safety and security zone around the LNG carriers."[182] By allowing only select users, such as the Cross Sound ferry, restricted access to the moving exclusion zone while denying other users similar access, this mitigation measure fails to mitigate or alleviate the exclusion of the general public from the Broadwater project.

DOS acknowledges Broadwater's agreement in Commitments #4 through #11 of its April 2, 2008 submission to reduce conflicts with other traditional users and independently study and analyze ways to reduce the safety and security zone sizes and methods to allow other traditional users to enter them with Coast Guard permission. The Coast Guard, however, must review and approve these proposed changes in the Letter of Recommendation. In addition, the changes to the recommended safety and security zones must be implemented in a subsequent Coast Guard direct regulatory action. At that time, the Coast Guard would provide DOS with its coastal consistency determination using this Policy analysis as a guide. Coast Guard approval is by no means assured.

No strategy has been proposed that would enhance public access within the Long Island Sound region to mitigate loss of public lands and waters. In the absence of mitigation measures that would compensate the public for the loss of physical access to the 1.5 square miles of Long Island Sound around the FSRU, and in the 2,040 acre moving safety and security zone that are part of Broadwater presently under review by DOS, and for the reasons described above, the proposed Project is inconsistent with Policy 9 and its Subpolicy 9.4.

The bed and waters of Long Island Sound in New York are held in trust for and belong to the citizens of New York State, and the placement of Broadwater's private industrial use on these lands is in violation of the public trust doctrine. The safety and security zones associated with the

[182] FEIS p. 3-207.

Broadwater Project would significantly limit an array of existing public uses such as fishing, boating, sailing and diving, and other types of physical public access, use and recreation in 950 acres of navigable waters around the FSRU and additional submerged lands, and from the 2,040 acre moving safety and security zone surrounding the Project's LNG tankers The Broadwater Project would not provide, promote, preserve or assure public access to or public use of submerged lands, the water column and navigable waters, nor would it preserve the public interest in these resources. Therefore, Broadwater is inconsistent with Policy 9 and Subpolicies 9.1, 9.3, and 9.4.

Policy 10: Protect Long Island Sound's water-dependent uses and promote siting of new water-dependent uses in suitable locations.

10.1: Protect existing water-dependent uses.

10.3: Allow for development of new water-dependent uses outside of maritime centers.

10.5: Minimize adverse impacts of new and expanding water-dependent uses, provide for their safe operation, and maintain regionally important uses.

10.6: Provide sufficient infrastructure for water-dependent uses.

10.7: Promote efficient harbor operation.

The Policy 10 analysis addresses Long Island's existing water-dependent uses. The LISCMP states the 200 existing water-dependent uses on Long Island Sound are vital to the economic health of the Region.[183] Water-dependent uses are businesses or activities which can only be conducted, in, on, over or adjacent to a waterbody because such activity requires direct access to that waterbody, and which involves, as an integral part of such activity, the use of the water.[184] These water-dependent uses include "...tug and barge combinations, bulk carriers, general dry cargo, passenger ships, refrigerated tank ships, tank vessels, towing vessels, naval vessels (including submarines), other government vessels, ferries, commercial fishing vessels, charter fishing and tour boats, and recreational vessels. Commercial vessels transiting both LIS and BIS can be destined for ports in Connecticut and Long Island as well as other ports in New England, New York and New Jersey."[185] Broadwater would create both moving and stationary obstacles for existing water-dependent uses on Long Island Sound.

Among an array of risk factors related to vessel traffic, the Coast Guard identifies two that are unique to Broadwater: recreational and commercial vessels queuing to transit The Race after LNG carrier transit, or pushing to transit prior to LNG carrier passage; and the proposed location of the FSRU in the open water of the Sound. The Project would change the mix and provenance of water-dependent uses found in the Sound, increase the volume of foreign-flagged vessel traffic on Block Island Sound and Long Island Sound by approximately 20 to 30 percent, and introduce a new type of vessel on these waters, i.e., LNG carriers.[186]

Broadwater has agreed to advise its LNG carriers to give other non-carrier traffic priority transiting The Race, to use only the northern route, to transit only at night and to avoid transits in

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183 LISCMP Vol. 2, p. 187-188.
184 LISCMP p. 93.
185 WSR p. 21.
186 WSR p. 121.

The Race at slack tide for one hour before and after. (See, Commitments #4 through # 7 of its April 2, 2008 submission to DOS). All of Broadwater's Commitments, however, are subject to Coast Guard approval, which is by no means assured. For the purposes of the Policy 10 and 11 analyses, therefore, DOS is constrained to review and analyze the effects on coastal uses from the Project as originally proposed. Further, even if the Coast Guard would eventually approve the commitments, the Project would not be consistent with Policy 10 for the reasons described below.

The Coast Guard determined the FSRU is an offshore structure or facility, not a vessel.[187] The facility and its fixed 1.5 square-mile exclusion zone (larger than Central Park in Manhattan) would eliminate, obstruct or divert existing commercial navigation at the site in the open water of Long Island Sound. In contrast to the FSRU's location in the open water of Long Island Sound, the existing safety and security zones in Long Island Sound are all located at on shore facilities in Connecticut at the Naval Submarine Base in New London, the General Dynamics Electric Boat Shipyard and at Dominion Nuclear Power Plant.[188]

The proposed FSRU area is currently traversed "by a variety of waterway users,"[189] and according to the Coast Guard:

> . . . it is evident that the proposed location of the FSRU is in the vicinity of a commercial vessel thoroughfare. There is a concentration of commercial vessel traffic in the following areas relative to the proposed location of the FSRU. First, there is a predominance of east-west transits to the south of the proposed location. Much of this east-west traffic is either through traffic, transiting to or from the Port of New York, or is heading towards Bridgeport, CT or Port Jefferson, NY. In addition, there is a concentration of north-south traffic to the east of the proposed facility. The majority of this traffic is tug and barge traffic transiting to or from the Riverhead Offshore Platform.[190]

These waterway users are protected under Policy 10 and Subpolicy 10.1. As explained in the Subpolicy 10.6 guidance, "existing commercial navigation [takes priority] in determining rights to navigable waters." Thus, Broadwater is not consistent with Policy 10.

Also, heightened scrutiny is required for any new use that affects the Sound's commercial fishing fleet. The myriad ways Broadwater would irrevocably alter the Long Island Sound fishing fleet, adversely impacting a traditional occupation that is a central component of the character of Long Island Sound and its communities, is outlined separately in the Policy 11 analysis below.

Subpolicy 10.1 requires avoiding actions "which would displace, adversely impact, or interfere" with existing commercial water-dependent uses of the Sound. The movement of freight, bulk materials and fuels on Long Island Sound is a significant and growing commercial activity representing a substantial amount of the overall on-water traffic. Annual commercial navigation and vessel traffic movements increased from 137,850 in 2003 to 196,773 in 2004 to nearly 294,000 in 2005, including vessels within New York's East River.[191] The Coast Guard

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187 WSR p. 14.
188 WSR p. 42.
189 WSR p. 104.
190 WSR p. 33.
191 FEIS p. 3-188, Table 3.7.1-2.

estimates that 2,000 to 4,000 commercial vessels annually through-transit Long Island Sound (passing through but not stopping), mainly mid-Sound.[192]

Another way of analyzing this economic activity is that in the year 2000, 311.5 million tons of freight moved through the Sound region, representing $797.6 billion worth of goods. Of this, approximately 62 million tons of goods (20% of the volume) were moved by water. Petroleum and coal products, building supplies, consumer goods, food, and chemical and allied products make up 98.9% of all marine tonnage. Petroleum and coal products alone make up 46 million annual tons, or 74%, of the top regional commodities transported by water.[193]

The region is already planning for a managed increase in commercial vessel use of Long Island Sound over the next two decades to meet local and state sustainability goals.[194] There is a particular focus on waterborne transportation for people, to help manage regional traffic congestion. The ability to conduct safe and efficient navigation must be protected to facilitate these existing and anticipated commercial uses.

Broadwater's LNG carriers and their exclusion zones would regularly disrupt and impede commercial navigation in the Sound. About 2,040 acres of open water surrounding each LNG carrier transiting the area between the pilot station and proposed FSRU would be converted to a restricted use area.[195]

In particular, "the transit of LNG carriers through The Race would be the most navigationally constrained portion of transit to and from the FSRU."[196] The most constricted portion of the general area referred to as The Race is the 1.4-mile wide (2,465-yard wide) area between Race Rock and Valiant Rock. More than half this distance (1,500 yards, or 750 yards on each side of the carrier) would be occupied by the LNG carrier and its security zone during transit through this constricted area.[197] As acknowledged by the FEIS, this area is the preferred route for all deep-draft vessel traffic: "The proposed LNG carrier route through The Race is within the transit lanes commonly used by commercial shipping."[198]

Under ideal conditions, LNG carriers would transit at speeds between 12 and 15 knots. At this rate it would take about 15 minutes for the moving exclusion zones around the LNG carrier to pass a given point. There is considerable vessel traffic through The Race since it is the main entrance to the Sound from the east used by commercial deep draft, tug and barge traffic, commercial ferries, charter fishing boats, recreational vessels and military and Coast Guard vessels. The FEIS notes that approximately 4,000 to 7,000 commercial vessels transit The Race annually.[199] Seasonal use of The Race varies dramatically, with significant recreational fishing and commercial charter and party boat fishing and high speed ferry service concentrated during the months of May through October.[200] Notwithstanding the 15-minute transit estimate, weather,

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192 WSR p. 21. (Analysis of AIS transponder data estimates 1,607 annual through transits - FEIS p. 3-191).

193 Long Island Sound Waterborne Transportation Plan Task 2 – Baseline Data for Transportation Plan Development, September 30, 2003.

194 See Long Island Sound Waterborne Transportation Plan, Port Inland Distribution Network.

195 FEIS 3-132.

196 WSR p. 77.

197 FEIS 2.4.3.1, p. 2-38.

198 FEIS 3-170.

199 FEIS 3-170.

200 WSR p. 80.

sea state and vessel traffic congestion would require the LNG carrier to reduce its own vessel speed resulting in increased transit times for all vessels.[201]

Additionally, even if the LNG carrier and its exclusion zones were to take 15 minutes to pass a certain point, a commercial vessel or recreational fishing boat could be displaced for 40 to 60 minutes. These vessels would need time to weigh anchor, move to the edge of The Race, wait for the LNG carrier and its exclusion zone to pass, return to the original location, and reset the anchor.[202] Larger commercial vessels attempting to pass through The Race at the same time as an LNG carrier could wait up to 30 minutes.[203] The FEIS estimates that 210 vessels per year would experience displacement when attempting to approach or transit The Race at the same time as an LNG carrier.[204] Based on the volume of vessel traffic transiting through The Race, the estimate of 210 vessel displacements seems low; no explanation for how this number was derived is included, making the estimate unverifiable.

There are alternative routes through The Race available to smaller vessels, including the passage between Valiant Rock and Little Gull Island which is approximately 2.4 miles wide.[205] This route is already heavily used by recreational and charter fishing boats, and occasionally by ferries traveling between Orient Point, New York and New London, Connecticut. It is not available to Navy vessels, large cargo vessels and tankers, which all transit The Race using the primary route between Race Rock and Valiant Rock.[206] A shift in vessel traffic from the primary route to the Valiant Rock/Little Gull Island route will increase congestion in a passage already subject to high use.

For 30 years Broadwater would disrupt existing commercial water-dependent uses and operations in the paths of the transiting LNG carriers in Long Island Sound , in Block Island Sound (BIS) and in the Montauk Channel up to 6 times each week (3 times each way) due to their frequent arrivals and departures. The LNG transit time could be up to 40 hours per carrier as travel from either the Point Judith or Montauk Pilot Stations.[207] An LNG carrier, therefore, could be present and affecting existing commercial navigation in either Long Island Sound or BIS up to 312 days each year.[208]

In addition to conflicts with commercial vessels, marine events including regattas, parades, fireworks and power boat races occurring throughout Long Island Sound would also be affected by the LNG carriers and LNG facility. The Coast Guard identified 92 registered marine events in 2005.[209] These included 22 regattas and 26 boat races in The Race and eastern, central and western Long Island Sound. At least 11 major boating events would overlap with a segment of the anticipated LNG carrier route.

There are three major differences between Broadwater's LNG carriers and the existing water-dependent vessel traffic on Long Island Sound. First, the LNG carriers at 1,132 feet in length, would be much larger in size than most vessels presently arriving in and transiting the

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201 WSR p. 78.
202 FEIS p. 3-140.
203 FEIS p. 3-202.
204 FEIS p. 3-170.
205 FEIS p. 3-202.
206 FEIS p. 3-202.
207 WSR p. 56. This would include transiting each way, berthing, offloading and deberthing.
208 This calculation is based on 3 LNG deliveries per week and includes the time the LNG carrier would be berthed at the FSRU (about 21 hours).
209 WSR p. 37, Table 2-6.

Sound. Existing coal and oil carriers and barges are among the largest commercial vessels currently operating there and during the 3-year time period between 2003 and 2005 the Coast Guard recorded 1,000 vessels between 500 and 900 feet in length arriving in Long Island Sound.[210] Of this number, however, only 306 vessels or an average 102 vessels per year were greater than 700 feet in length.[211] Broadwater's operations would result in a 100-150% increase in the size of the largest commercial vessels presently transiting the Sound.[212] Second, their effects on commercial navigation would be exacerbated by the size of their moving exclusion zones, effectively extending the lengths of the LNG carriers to 2.3 statute miles in front and 1.5 miles behind and extending their widths by 0.4 miles on each side. Third, LNG carriers could arrive and depart up to 6 times a week (3 arrivals and 3 departures) or up to 312 times a year (156 arrivals and 156 departures) at all times of the year. These three factors lead to the inexorable conclusion that existing commercial navigation on the Sound would be displaced, adversely impacted and interfered with by Broadwater's operations and therefore, Broadwater would not be consistent with Policy 10 and Subpolicy 10.1.

Additionally, although Subpolicy 10.3 allows new development outside maritime centers under four criteria, as the Policy 1 analysis indicates, the proposed open water area in the middle of Long Island Sound is not suitable or appropriate even for Broadwater's water-dependent components.

Further, Subpolicy 10.6 provides the following applicable guidance to facilitate an efficient operating system in Long Island Sound for existing water-dependent uses:

- avoid shore and water uses which would impede navigation;
- give priority to existing commercial navigation in determining rights to navigable waters;
- provide for services and facilities to facilitate commercial, industrial and recreational navigation; and
- foster water transport for cargo and people.

Allowing Broadwater's FSRU and LNG carriers, and their respective exclusion zones, would not be consistent with this Subpolicy 10.6 guidance because navigation, as discussed above, would inevitably be impeded. Broadwater would require that their operations take priority over existing commercial navigation - also in direct conflict with the requirements of Subpolicy 10.1 - and as a result existing commercial, industrial and recreational navigation would be adversely affected, and existing water transport for cargo and people could not be fostered.

Both Subpolicies 10.6 and 10.7 promote efficient harbor operations in Long Island Sound. Broadwater, however, would increase congestion and conflict among uses, impede navigational safety, obstruct coastal waters, pose a public boating safety hazard, intrude and encroach on navigation channels. Thus the project is not consistent with these Subpolicies and their guidance.

Moreover, Broadwater would require a substantial and dramatic change in the Coast Guard's law enforcement presence and workload in Long Island Sound. Presently "[t]here are

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210 WSR p. 25.

211 WSR p. 26.

212 The FSRU - at 1,215 feet in length - would be 25% longer than the largest vessels presently transiting the Sound.

no formally designated traffic separation schemes or traffic lanes in Long Island Sound or Block Island Sound."[213] Nor has the Coast Guard established any Vessel Traffic Service (VTS) areas, an action that would dramatically alter the existing informal traffic patterns, and ability of mariners to anchor their vessels anywhere in the Sound where navigational aids indicate there are no natural features or obstructions.[214]

On an average annual basis the Coast Guard Long Island Sector presently:

- responds to 1,300 marine distress cases;
- conducts 100 marine accident investigations;
- inspects over 75 foreign vessels, 500 U.S. vessels (commercial towing, fishing and passenger vessels) and 50 tank facilities;
- responds to 160 pollution cases;
- ensures maritime safety and security in many recreational marine events including fireworks displays, marine demonstrations, regattas, and marine festivals such as Operation Sail CT.[215]

The Coast Guard determined that Long Island Sound would not be suitable for Broadwater unless certain risk mitigating measures, including Coast Guard enforcement of LNG safety and security zones, were implemented.[216] Therefore, in addition to the existing duties noted above, Broadwater would require the Coast Guard to undertake many new responsibilities outlined in the WSR. This increase in needed law enforcement and navigation management does not assist in protecting or improving existing water-dependent activities in Long Island Sound, including their associated navigation lanes and other infrastructure, and is, therefore, not consistent with the goals of Policy 10. As outlined below, these additional duties could also have dangerous ramifications.

One of these duties would be to accompany the LNG carriers and enforce their exclusion zones as the carriers transit to and from and berth at the FSRU. These deployments would require use of up to 11 Coast Guard vessels per LNG carrier trip, and between 900 to 1,800 hours for the 104 to 156 arrivals per year.[217] The additional expense for the Coast Guard to police Broadwater could range from $18 million to $38 million.[218] According to the WSR,

> Based on current levels of mission activity, the Coast Guard Sector Long Island Sound currently does not have the resources required to implement the measures that have been identified as being necessary to effectively manage the potential risk to navigation safety and maritime security associated with the Broadwater

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213 WSR p. 27.

214 WSR p. 27.

215 http://www.uscg.mil/d1/units/seclis/info.html; also, the WSR lists the marine events at pp. 34-36 and states new ones are occurring every year.

216 WSR p. 162-164.

217 WSR p. 156.

218 This is based on DOS' analysis of the required staff time and equipment described in the WSR at page 156 (Table 7-1) and the Coast Guard's published reimbursement rates for services provided to non-governmental entities found in Commandant Instruction 7310.1J regarding Standard Rates. See, http://www.uscg.mil/directives/ci/7000-7999/CI_7310_1J.pdf.

> Energy proposal. Obtaining the required resources would require either curtailing current activities within the Sector, reassigning resources from outside of the Sector, or for the Coast Guard to seek additional resources through the budget process.[219]

If the Coast Guard Long Island Sound sector were required to curtail the activities that currently protect existing water-dependent uses of the Sound or take resources currently used to protect the Port of New York and New Jersey, efficient harbor operations in New York would be severely compromised. Additionally, the Coast Guard determined that the third option noted above, a federal budget request, is also not available to police Broadwater as stated in the Department of Homeland Security's (DHS) following written response to a recent U.S. Government Accountability Office (GAO) Report recommendation:

> **Recommendation 1.** *The GAO recommended that the Secretary of Homeland Security direct the Commandant of the Coast Guard to develop a national resource allocation plan that will balance the need to meet new LNG security responsibilities with other existing security responsibilities and other Coast Guard missions. This plan needs to encompass goals and objectives, timelines and impacts on other missions, roles of private sector operators, and use of existing state and local agency capacity.*
>
> **DHS Response:** Concur with comments. The Coast Guard appreciates the need to address forecast resource demands brought about by new LNG imports. However, LNG is just one of a number of Certain Dangerous Cargoes (CDCs) that add risk to the maritime environment. Although the Coast Guard will not speculate about future funding needs, we recognize the need to plan for new facilities projected to come on line. As no additional resources were requested in either the FY07 or FY08 budget proposals, the Coast Guard is analyzing how to best meet security needs for not just LNG carriers, but for CDCs as a whole, and will examine how to best address the risk through potential resource requests, revisions to operation Neptune Shield (ONS) as well as revised guidance to field commanders who review LNG terminal applications.[220]

Admiral Thad Allen, Commandant of the U.S. Coast Guard, in response to questions about the Broadwater Energy proposal at a March 5, 2008 Congressional hearing, clearly stated a reluctance to subsidize private enterprises with public resources that are critically needed for harbor management for the benefit of the public:

> "...if the requirement that the Coast Guard provide the security resources was a condition of operating LNG facilities, I would recommend we not approve another permit....What I would like to see is a national discussion about security of dangerous cargoes in the entire context of what moves in the marine transportation system. In sectioning out LNG for this discussion and especially looking at potential Coast Guard resources being applied to it, you are in effect providing a subsidy to that sector against their cost of doing business."[221]

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[219] WSR pp. 156-157.

[220] Government Accountability Office (GAO) "Maritime Security: Federal Efforts Needed to Address Challenges in Preventing and Responding to Terrorist Attacks on Energy Commodity Tankers", December 2007. GAO-08-141, pp. 92-93.

[221] Unofficial transcript of the March 5, 2008, House Appropriations Subcommittee on Homeland Security hearing, "Coast Guard Budget – Impact on Maritime Safety, Security, and Environmental Protection" provided by Congressman Timothy Bishop in a letter dated

Thus, it is reasonably foreseeable that unfunded Coast Guard responsibilities to police Broadwater in Long Island Sound could adversely affect other water-dependent uses in the Sound and potentially the Port of New York and New Jersey, and would not promote boating or navigational safety from a harbor management perspective as required by Subpolicies 10.6 and 10.7. DOS acknowledges Broadwater's Commitment #3 to fund State and local costs as part of the Emergency Response Plan. Its agreement to fund Coast Guard costs, however, is contingent on the Coast Guard exhausting all other options first and on receipt of a conditional concurrence from DOS.

Broadwater's LNG shipping and offloading components represent new water-dependent uses on the Sound with significant adverse effects on existing commercial navigation that can not be adequately mitigated to make the activity consistent with Policy 10. As noted above, these effects would be exacerbated by the required LNG carrier exclusion zones.

Additionally, with respect to the FSRU's storage components, the Subpolicy 10.5 guidance promotes inland storage of transshipped petroleum product to protect natural coastal resources. The Subpolicy 10.5 guidance does not promote on-water storage of transshipped energy product. As the Policy 1 analysis concluded, the Long Island SoundCMP allows only two existing nearshore sites for unloading petroleum. Given the Project's significant adverse effects on commercial navigation, the open water of Long Island Sound cannot be viewed as an appropriate or suitable location for either transshipment or storage of LNG.

As a result of the FSRU's mid-Sound location and the effects of associated LNG tanker traffic route, the Broadwater Project would significantly and adversely affect existing water-dependent uses in the Sound. Also, the FSRU terminal would be located close to a busy shipping lane and may cause conflicts with commercial navigation. For these reasons, the proposed Project is not consistent with LISCMP Policy 10, and Subpolicies 10.1, 10.3, 10.5, 10.6, and 10.7.

Policy 11: Promote sustainable use of living marine resources in Long Island Sound.

11.1: Ensure the long-term maintenance and health of living marine resources.

11.2: Provide for commercial and recreational use of the Sound's finfish, shellfish, crustaceans, and marine plants.

11.3: Maintain and strengthen a stable commercial fishing fleet in Long Island Sound.

11.4: Promote recreational use of marine resources.

Commercial fishing has been an integral part of the history and economy of Long Island Sound since humans first inhabited the area. The LISCMP strongly promotes measures that will ensure long-term sustainability of this heritage industry. This requires that decision makers both support the commercial and recreational fishing and related uses and activities, and the populations of living resources upon which they depend. The LISCMP explains:

March 19, 2008.

> "Continued use of the Sound's living resources depends on maintaining long-term health and abundance of marine fisheries resources and their habitats, and on ensuring that the resources are sustained in usable abundance and diversity for future generations....Allocation and use of the available resources must: (1) be consistent with the restoration and maintenance of healthy stocks and habitats, and (2) maximize the benefits of resource use so as to provide valuable recreational experiences and viable business opportunities for commercial and recreational fisheries."[222]

Reflecting the diverse habitat of Long Island Sound, the LNG carrier route, pipeline route and FSRU site support an array of benthic, finfish, ichthyoplankton, and plankton communities displaying seasonal variations in abundance and distribution.[223] As described in the Policy 6 analysis above, the FSRU's and LNG carriers' withdrawal of an average 28.2 million gallons per day of seawater for ballasting, power generation and other uses[224] would have detrimental effect on these living marine resources. As this water is drawn in, it would be treated with chlorine as an antifouling agent. Based on this volume of water intake, the FEIS estimates that the FSRU alone will impinge or entrain (or kill as a result of application of biocide) from 49.8 to 101.9 million eggs (the most valid estimate is stated to be 53.1 million), and also from 67.4 to 173.1 million larvae (the most valid estimate is stated to be 78.4 million).[225] Collectively, this represents the mortality of an estimated 131.5 million organisms annually. The FEIS notes that, with respect to impacts caused by LNG carriers, "[e]ntrainment of fish eggs and larvae would be possible during transit from withdrawal of water for vessel engine cooling."[226] However, no numerical estimates have been provided. The LNG carriers will cause even higher mortality of eggs, larvae and juvenile fish than will the FSRU, because of their substantially higher water needs.

DEC also highlighted the potential effects of entrainment/impingement on the State's fisheries resources. Focusing on the potential higher range estimates observing that over 270 million eggs and larvae, and an unknown number of YOY (Young of Year) and small adult fish, could be potentially entrained by the FSRU and LNG carrier operations, DEC has stated:

> "The Department restates its opinion that the loss of 274 million eggs, larvae and juveniles from impingement and entrainment into the intake systems of the Floating Storage and Regasification Unit (FSRU) and the LNG carriers, is a significant adverse impact to the aquatic ecology of Long Island Sound. The FEIS incorrectly concludes that these impacts are of minimal importance to the Sound."[227]

DEC has made several recommendations regarding the intake structures to reduce impingement and entrainment and prevent fish mortality from exposure to chlorine. Broadwater proposed design changes[228], however, DEC has concluded that the project will result in the

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222 LISCMP Vol. 1, p. 86.

223 FEIS pp. 3-64 to 3-101.

224 FEIS p. 3-90.

225 FEIS p. 3-90.

226 FEIS p. 3-93.

227 See letter from John Ferguson, DEC Project Manager, Division of Environmental Permits to Kimberly D. Bose, Secretary, Federal Energy Regulatory Commission Re: Broadwater LNG Project - Final Environmental Impact Statement Docket Nos. CP06-54-000, et al. Issued January 11, 2008, dated March 17, 2008 at p. 2 (DEC March 2008 letter).

228 Response to Comments on Broadwater's Petitions and Application for Easements Over New York State Lands, January 2008. See also, Broadwater's recent submission to DEC dated April 8, 2008.

death of approximately 210 million eggs and larvae and an unknown number of YOY and small adult fish, through entrainment in the LNG carriers' intake systems. This would be a significant adverse effect on the LIS aquatic environment and fishery, caused as a direct result of the Project's operations."[229]

Additionally, NOAA NMFS designated EFH occurs in the area of the LNG facility and pipeline for various lifestages of 19 species, with nine species (ocean pout, red hake, winter flounder, windowpane flounder, scup, Atlantic mackerel, king mackerel, Spanish mackerel, and cobia) requiring habitat in these areas for every lifestage. Designated EFH also occurs within the LNG carrier transit route for various lifestages of 30 species, and eight species (bluefish, summer flounder, silver hake (whiting), Atlantic cod, yellowtail flounder, Atlantic sea scallop, monkfish, and Atlantic butterfish) have designated EFH in these waters for every lifestage.[230] NMFS states: "[e]ntrainment of fish or invertebrate eggs and larvae as well as small prey items is likely to be lethal and have consequences for both aquatic resources on both the Connecticut and New York sides of LIS."[231] According to the FEIS, "annual losses of EFH-managed species during operations of the proposed Project would total approximately 3.5 million eggs and 5.3 million larvae. The loss of EFH-managed species would compose approximately 3 percent of the ichthyoplankton losses for the overall finfish community (both eggs and larvae)."[232] Subpolicy 11.1 directs decision makers to "[p]rotect, manage, and restore sustainable populations of indigenous fish, wildlife species, and other living marine resources."[233] The Broadwater Project will not advance the protection or restoration of sustainable populations of these resources, and therefore is not consistent with Policy 11 and Subpolicy 11.1.

Subpolicy 11.2 requires that uses and activities promote "a valuable recreational resource experience and viable business opportunities for commercial and recreational fisheries," while Subpolicy 11.4 directs decision makers to "promote recreational use of marine resources" including party and charter boat businesses.[234] Efforts to maintain and increase these commercial and recreational uses, however, will be adversely impacted by the construction and operation of the Broadwater Project. DEC notes in its comments on the Project that "[T]he FEIS inadequately considers the project's displacement of traditional commercial and recreational water-dependent uses in Long Island Sound."[235] Broadwater notes that "nearly all of the western two-thirds of the Sound, including the area being considered for the FSRU and pipeline, are classified as a high-use fishery area."[236] Fishing for any of the approximately 21 species of recreational and commercial fish and shellfish species found in Long Island Sound[237] would be eradicated from the 950 acre exclusion zone around the FSRU, and LNG carrier operations would exclude and divert commercial and recreational fishing elsewhere along the transit routes up to six times a week.

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229 See letter from John Ferguson, DEC Project Review Coordinator to Murray Sondergard (Broadwater) Re: Broadwater Energy Project DEC No. 1-4799-0007/00001, Notice of Incomplete Application dated December 26, 2007 at p.11 (DEC December 2007 letter).

230 FEIS, App. E, EFH Report, p. E-21.

231 U.S. Dept of Commerce, NOAA, National Marine Fisheries Service (NMFS). Re: OEP/DG2E/Gas Branch 3; Broadwater LNG Project, Docket No. CP06-54-000, CP06-55-000. Received by FERC on January 30, 2007. FERC generated pdf of 20070207-0013.

232 FEIS p. 3-99.

233 LISCMP Vol. 1, p. 86.

234 LISCMP Vol 1. p. 86, p. 87.

235 DEC March 2008 letter.

236 Broadwater EIR-19, Marine/Land Use Compatibility Assessment, April 2006, p. 7.

237 FEIS p. 3-100.

In Commitments #12 through #17 of its April 2, 2008 submission, Broadwater agreed to compensate direct impacts and losses of the affected commercial fishermen using a process devised by Broadwater; to study, and if a causal link is shown, to compensate secondary impacts and losses; to facilitate re-establishment of the affected fishing industries at some future date; and to develop and finance fisheries programs to support the fisheries resource. Because there is no agreed-upon compensation agreement in place between Broadwater and affected fishermen, nor agreement among DOS, DEC and business representatives on mitigation for the fisheries industry and the fisheries resource, DOS is constrained to consider the original Project as proposed in this Policy 11 analysis. Further, even if all agreements were in place, the Project is not consistent with Policy 11. The charter and party boat fishing industry is not included in the proposed compensation package. Broadwater also discounts the potential for secondary impacts, noting that during the lobster die-off, restaurants were able to meet demand by buying lobster from northern New England and Canada. New York's objective is to preserve, strengthen, and expand its commercial fisheries industry.

The disruptions caused by the Broadwater Project will occur at the site of the FSRU and along the LNG carrier route, including The Race. The Race is a popular area for charter and party boat operators who access it from marinas and boat launching areas on eastern Long Island, Fishers Island and Connecticut. In the summer boating season (May through October) particularly at peak times during weekends and holidays, heavy recreational fishing in or near The Race results in marine traffic congestion.[238] The USCG's Ports and Waterways Safety Assessment (PAWSA) also notes that the major volumes of small craft occurring in the Project area are found around Stratford Shoal/Middle Ground, and seasonally in The Race.[239]

Under ideal conditions, the LNG carriers would transit The Race in approximately 15 minutes. Weather, sea state and other vessel traffic, however, would require the LNG vessels to reduce speed and this would increase their transit times through the Sound. Broadwater acknowledges that "[t]he greatest potential for marine conflict would arise from the operation of the FSRU and the ingress and egress of LNG carriers, particularly in the area of the Race, the eastern entrance to Long Island Sound and a critical waterway connecting Long Island Sound to Block Island Sound."[240] The Coast Guard also recognizes that "[t]he transit of LNG carriers through The Race will be the most navigationally constrained portion of the vessel transit to and from the FSRU."[241]

Despite admitting the "potential for marine conflict," Broadwater mischaracterizes the availability of alternatives for commercial and fishing vessels when their LNG carriers monopolize The Race:

> "Page 129 of the Coast Guard's Waterways Suitability Report on Broadwater...states that 'there would be approximately 425 yards on each side of the safety zone where small craft could operate while LNG carriers were transiting through The Race.' Further, pages 78 and 79 describe two additional passageways on either side of the Race that boat traffic uses. These two passageways cannot be used by commercial ship traffic (such as Broadwater and cargo ships) because the depths are too shallow."[242]

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238 FEIS p. 3-92.
239 WSR Appendix B - Final PAWSA Report p. 17.
240 Broadwater Cons. Cert. App. E, p. 24.
241 WSR p. 77.
242 Broadwater fact sheet: "Broadwater: Just the Facts."

While some "small craft" may remain unaffected, the cascading effects of LNG carrier transit on other vessels remain problematic. Broadwater appears to be suggesting that conflicts will be mitigated if the existing population of charter and fishing vessels move either into the area between Race Rock and Fishers Island, or into Plum Gut - the two alternatives discussed in the WSR that are unsuitable for commercial traffic. This conclusion is not supported by theWSR analysis. The Coast Guard notes: "The area between Race Rock and Fishers Island is only suitable for recreational craft,"[243] and, more importantly, "Plum Gut, located between Orient Point and Plum Island, is also an alternate passage for smaller vessels and recreational boaters to Gardiner's Bay and Block Island Sound from Long Island Sound, but caution is recommended when using this passage."[244] (emphasis added).

In suggesting that 425 yards on each side of the safety zone will remain available, Broadwater fails to adequately consider the difficult navigational conditions created by this unique area. The Coast Guard states: "The area in the immediate vicinity of Valiant Rock experiences heavy swirls and rips, and is recommended to be avoided by deep-draft vessels and preferably by all vessels. The recommended transit areas for passing north of Valiant Rock is approximately 0.7 miles northeastward of Valiant Rock Lighted Whistle Buoy...."[245]

The Coast Guard also describes the heavy existing usage of the alternate, commercial vessel passage between Valiant Rock and Little Gull Island:

> "While the area between Race Rock Light and Valiant Rock is the preferred route for deep draft vessel traffic, the route between Valiant Rock and Little Gull, an area approximately 2.4 miles wide, is frequently used for smaller tankers and tug-barge combinations as an alternate to The Race. This route relieves much of the traffic from the deeper passage between Race Rock Light and Valiant Rock. The passage between Race Rock Light and Valiant Rock is the route that would be utilized by LNG carriers. The least depth of this route is 48 feet, a rock area located just to the eastern side of the COLREGS demarcation line. The recommended transit area between Valiant Rock and Little Gull Island is approximately 1 mile northeastward of Little Gull Island Light. This is also a frequented recreational vessel route and is heavily used by recreational fishing vessels as well as charter fishing vessels. Occasionally, the ferries running between Orient Point, New York and New London, Connecticut, discussed infra in Section 3.2.6.2.1, will also utilize this route if conditions in Plum Gut prohibit safe transit."[246] (emphasis added)

The Coast Guard does not recommend any other passages for commercial ship traffic through The Race, stating: "The waters located between Plum Island and Little Gull Island, known as the Sluiceway, is not considered a possible alternate route for commercial traffic. This waterway has several known dangers and a very irregular bottom. This area is generally regarded as hazardous for transit without local knowledge."[247]

The North Fork Captains Association describes the effects on commercial and recreational fishing vessels that will result as commercial and other vessels deviate from their current, preferred routes to comply with the transiting LNG carrier exclusion zone:

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243 WSR p. 78.
244 WSR p. 79.
245 WSR p. 78.
246 WSR, p. 78-79.
247 WSR p. 79.

> "The security zone of 0.5 miles on either side of the tanker will force other heavy marine commercial vessels to take a route to the south of the tankers. The safety zone will cause barges and large commercial vessels to pass to the west of the Valiant Rock buoy in The Race. These large vessels will not only force our fishing fleet and that of the Connecticut fishing industry to leave the area but, it will also seriously disrupt fishing for substantial time due to the passage of such large vessels right over some of the most prime fishing grounds in Long Island Sound."[248]

As this makes clear, recreational fishing and charter boats would not only be forced to vacate the LNG carriers' large exclusion zones (2.3 miles in front, 1.2 miles behind and 0.4 miles on each side, or 2,040 acres) when they come through The Race, but would also be disrupted by other transiting commercial vessels that have vacated the exclusion zone as it transits through the deep draft vessel passage between Valiant Rock and Race Rock. This represents a significant use conflict in an important recreational and commercial fishing area.

This use conflict involves not just available surface water, but the existing, daily schedule for the several user groups in The Race. Broadwater states that due to strong tidal currents in The Race, most commercial and recreational fishing vessels likely cross The Race during slack tide. Broadwater has agreed in its April 2, 2008 submission to DOS (Commitments #5, #6, and #7) to schedule LNG carrier traffic through The Race outside of slack water periods, to transit The Race during nighttime hours when there is less traffic present in The Race area, and to use the northern route. However, these commitments depend on future decision making by the Coast Guard. Coast Guard approval is by no means assured. Even if Broadwater were to schedule tanker transits as described, the Project would not be consistent for the reasons stated in this analysis of Policy 11.

Prohibiting LNG carrier traffic from passage during slack tide does not, however, eliminate use conflicts in The Race. While lobstermen work The Race during slack tide (as described above), commercial charter and party boats operate during tidal exchanges. They head into the tidal flow, and let their boats drift with the tide, passing through The Race and over the shoal and then repeating this process. Also, these boats host both day and nighttime trips, to take advantage of nocturnal feeding of striped bass.[249] Therefore, the various existing recreational and commercial fishing users, including commercial lobstermen and charter or party boat operators, occupy The Race and other prime fishing grounds during the full, 24-hour daily cycle during the summer months. Thus, there is no timing scenario that can adequately mitigate the disruption by the LNG carriers and their exclusion zones as they transit Long Island Sound and, in particular, The Race. These disruptions would have adverse effects on boating and fishing uses along all portions of the LNG carrier transit routes, but would substantially burden recreational and commercial fishing activities and businesses in The Race. Broadwater, therefore, is not consistent with Policy 11 and its Subpolicies 11.2 and 11.4.

The Broadwater Project also conflicts with Subpolicy 11.3, which protects the existing, stable commercial fishing fleet in Long Island Sound. Commercial lobstering and finfishing contribute to local economies along the Sound, and are traditional, heritage livelihoods that are valued as part of the overall character of the region, and the identity of individual North Shore communities.

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[248] Letter from Ken Holmes, North Fork Captains Association, January 23, 2008.

[249] DOS Staff telephone conversation with Captain Robert Busby, President of the North Fork Captain's Association on August 13, 2007.

Commercial fishing on the North Shore is centered in six locations: the western end of the Sound, Huntington Harbor, Northport Harbor, Port Jefferson and Setauket Harbors, Mount Sinai Harbor and Mattituck Harbor. The industry provides fish and seafood products to markets worldwide, and creates revenue and employment.[250] Commercial fishery landings in NYS in 2005 totaled $56 million, up from $47 million in 2004, with Montauk being the single largest NY fishing port, accounting for 10.9 million pounds of commercial landings, worth $16.8 million, in 2006.[251] DEC estimates that over the past three years, an average annual harvest of $3 million in commercial landings in New York come from Long Island Sound.[252] This is significantly down from the pre-1999 Long Island Sound lobster die-off. However, New York State and Connecticut have made investments to improve the ecosystem health of the Sound so commercial fishing, including lobsters, will be strengthened.

One of the conflicts resulting from construction and operation of the Broadwater Project is associated with the culturally and economically significant Long Island Sound lobster fishery. The FEIS documents that "[t]he proposed FSRU and pipeline would be located in a dense lobster fishing area; and construction and operation of the proposed FSRU and pipeline could affect the abundance of lobster within the footprint of these components, especially during active construction."[253]

Lobster remains the most commercially valuable species in Long Island Sound, accounting for more than a third of the total annual value harvested for each of the past three years.[254] This fishery persists despite the catastrophic lobster die-off in 1999. According to the bi-state Steering Committee for Lobster Disease Research:

> "State and federal landings data indicate that prior to the die-off, bi-state commercial lobster harvests ranged from 7 to 11.7 million lbs. annually, valued at $18 to $40 million. Twelve hundred resident commercial lobster licenses were issued in 1998; in 2002, fewer than 900 lobstermen remained licensed. Commercial harvests of LIS lobsters totaled about 1.6 million lbs. in 2004, worth slightly less than $7 million."[255]

More than $10.8 million have been invested by partners including the NOAA NMFS, EPA, Connecticut Sea Grant, New York Sea Grant, and the states of Connecticut and New York to advance research, resource monitoring, and outreach related to the impact of the lobster mortality event on the Long Island Sound commercial fishing industry.[256] While surveys subsequent to the die-off documented a decreased abundance of legal size lobsters for harvest in Long Island Sound, "an abundance of small lobsters indicate that the industry is likely to rebound."[257] However, because two-thirds of all lobster larvae captured for genetic study across all Long Island Sound originate from resident adults, "over the long term, stock rebuilding and

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250 LISCMP Vol. 2, p. 213.

251 NOAA NMFS Commercial Landings. See www.st.nmfs.noaa.gov/st1/commercial/

252 DEC, 2007, Anderson P. "Financial Analysis of the Long Island Sound Commercial Finfish and Crustacean Fishery 2004-2006."

253 FEIS p. 3-101.

254 DEC, 2007, Anderson P. "A Financial Analysis of LIS Commercial Finfish and Crustacean Fishery 2004-2006."

255 Responding to a Resource Disaster: American Lobsters in Long Island Sound, 1999 - 2004, N. Balcom and P. Howell, CTSG-06-02, p. 1.

256 Balcom and Howell, CTSG-06-02, Table 1, p. 1.

257 The Economic Contribution of the Sport Fishing, Commercial Fishing, and Seafood Industries to New York State, Prepared by TECHLAW for New York Sea Grant, NYSGI-T-01-001, April 2001, p. 29.

stock stability will depend principally on an increase in the production and/or survival of local adult lobsters."[258] Protecting the existing Long Island Sound adult lobster population, including the availability of appropriate habitat, is critical to this endeavor.

The size of the commercial lobster industry, and welfare of commercial harvesters, are inextricably linked to the lobster population. Jim King, a Mattituck lobsterman, notes the decrease in the number of lobstermen operating out of Mattituck from 25 harvesters 10 years ago, to 5 harvesters today. Mr. King emphasizes that the number of lobstermen is a function of lobster availability, and believes that a recovery of this industry in Long Island Sound is possible if the lobster population rebounds - and if the obstacles faced by the industry can be overcome.[259]

Lobstermen enter the Sound from various locations on Long Island, including Greenport, Mattituck Inlet, Mt. Sinai and Port Jefferson and move their boats as they set or haul in pots. Although lobstermen presently working in the commercial navigation channels are sometimes disrupted by passing commercial vessels, this disruption is viewed by harvesters as manageable, in contrast to the anticipated disruptions that will result from the much larger LNG carriers and their 2,040 acre exclusion zones.[260]

The disruption is exacerbated in The Race, where commercial lobstermen work only during periods of slack water.[261] Total slack-water time from the two daily tidal cycles in The Race is less than 4 hours per day. Lobstermen tending their lines and placing or pulling up pots in The Race would be forced to abandon them, possibly mid-line, to move outside the exclusion zone, if an LNG carrier were to enter The Race during this process. These lobstermen would need time to leave the area and return, resulting in a 40-60 minute disruption in their work just to weigh anchor, move out of the exclusion zone, wait for carrier passage, move back to their fishing spot, and reset anchor.[262] Lobstermen working their lines would probably need to return to the beginning rather than to the point on the line at which they were forced to abandon. This layover would preclude working a line of lobster pots in The Race for at least one of the two daily slack water periods whenever an LNG carrier is transiting. As a result, both the personal incomes of commercial lobster fishermen and the commercial lobster fishing industry in the Sound would be negatively affected by Broadwater.

In addition, because all available productive bottomland in Long Island Sound is currently being used, those lobstermen permanently displaced by Broadwater from their current harvest territory would not be able to shift to other locations.[263] Mount Sinai Harbor, located three miles east of Port Jefferson, is home port to a productive lobster fleet of about 15 active lobster boats, tending 10,000 to 20,000 pots per year.[264] Generally, the Mount Sinai fleet operates in the area between Shoreham and Crane Neck Point to the west, in the vicinity of the FSRU exclusion zone. Each commercial lobster harvester from the Harbor has staked out his own territory, none of which would be available to displaced lobstermen.

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258 Balcom and Howell, CTSG-06-02, p. 11.

259 Telephone communication between DOS staff and lobsterman Jim King, March 21, 2008.

260 Telephone communication between DOS staff and lobsterman Jim King, March 21, 2008.

261 Lobsterman John Whittaker's comments on the DEIS dated January 22, 2007.

262 FEIS p. 3-140.

263 DEC comments on the DEIS dated January 23, 2007.

264 LISCMP Vol. 2, p. 212.

Although Broadwater agrees to a future compensation package that will reimburse the losses of displaced commercial lobstermen, the estimated value of this fishery has been grossly underestimated. Broadwater calculates the net present value of displaced lobstering at the FSRU site to be $390,000 over 30 years by estimating there are 790 pots at the site.[265] This calculation is based on an assumption that each trap yields an average of only 7 pounds of lobster per year. This number, however, reflects the dramatic post-1999 decline in yields. As previously noted, almost $11 million have been invested in research and projects related to the impact of the lobster mortality event on the Long Island Sound commercial fishing industry, and restoration of the fishery.[266] The Atlantic States Marine Fisheries Commission management plan for the Southern New England lobster fishery (which encompasses the Sound) seeks to restore stocks to a level greater than the abundance target reference point by 2022.[267] Therefore, it is reasonable to anticipate increases in lobster population size, the number of commercial harvesters, and lobster yields during the 30 years of Broadwater's proposed operation.

DOS believes trap densities as high as 1,000 per square mile are possible in the vicinity of the FSRU exclusion zone, resulting in the potential for 1,500 traps. Historic lobster yields are also as high as 21 pounds per trap. Thus, in contrast to Broadwater's low estimates, DOS finds that the present value of dockside losses for the lobster industry from the FSRU exclusion zone only is valued at over $2.3 million over 30 years. This number reflects the direct, dock-side value of harvested lobster, and not the secondary economic activity on land derived from harvesting local lobster. Using a multiplier of 2.0, the full value of the loss, from displacement of lobstering at the FSRU site only, and including both the value of harvested lobster as well as the secondary economic value, is estimated at $4.6 million over 30 years.[268]

Broadwater would also adversely impact the Long Island Sound commercial fishing industry as a result of the potential displacement of up to 30% of a trawling lane located directly north of the FSRU site. There are two trawling lanes for commercial fishing in Long Island Sound next to the stationary exclusion zone. In the early 1980s lobstermen and trawlers established these areas specifically for commercial trawling, and fixed gear such as lobster and conch traps are not set in these designated trawl lanes. The southernmost trawl lane located just north of the proposed project is approximately 0.5 miles wide and 15 miles long, or 4,800 acres.[269] The second trawl lane is located north of the affected lane. The exclusion zone would preclude use of 413.42 acres,[270] and would partition the southern trawling lane. The newly-created shorter trawl distances east and west of the exclusion zone could force trawlers to discontinue use of the bisected lane. Or, it could result in a lane shift or overuse of the second lane further north.

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265 Broadwater Cons. Cert., October 2006 Supplement, Table F 2-4, p. 15.

266 Balcom and Howell, CTSG-06-02, Table 1, p. 1.

267 Atlantic States Marine Fisheries Commission, Addendum XI to Amendment 3 to the American Lobster Fishery Management Plan, May 2007.

268 October 2007 Revised Consistency Certification. Revised Appendix F, Table F-2-1, pg 4, "Contribution of New York Commercial Fishing to State Economy, 1999, Dollar Value." This table summarizes data produced by Techlaw, Inc. as part of a New York Sea Grant report which was entitled "the Economic Contribution of Sport Fishing, Commercial Fishing and Seafood Industries to New York State." (Techlaw Inc. 2001) Column 4 of this table lists the various economic impact multiplier for various commercial fishing species. Lobster is given an economic multiplier of 1.98. Others, such as surf clams, were given a multiplier of 2.05. DOS assigned a multiplier of 2.0 for the lobstering lost to the presence of the FSRU.

269 FEIS p. 3-194.

270 Broadwater Cons. Cert. App. E, p. 16, Table E-18.

Commercial fishermen who currently trawl this area note the effects on the economic viability of their businesses resulting from the disruption in the existing, stable cooperative use management system:

> If the FSRU is position[ed] as proposed, I will lose 40% of the west end line completely. When the freighters are in transit to the FSRU, I will lose the whole area with the safety zone and fixed gear issues. It is not a valid statement that we can move over and work another area. I use a mid water trawl which never touches the bottom, and need a straight line in order to work. Trying to work between the lobsters pot trawls is not an option for the lobstermen or me. The following is what will happen:
> 1. Displaced lobstermen setting in other pot areas, user group conflict
> 2. Fixed gear being destroyed by the vessel traffic, replacement costs
> 3. Loss of income to the commercial fishermen and lobstermen [271]

The North Fork Captains Association also highlights the adverse effects resulting from this use conflict:

> [L]obstermen to the east of the proposed Broadwater facility have for the last three decades left a lane where they do not place gear to allow the passage of large commercial vessels without the destruction of gear. The compliance of barges and large commercial vessels with the safety zone will cause them to travel south of the mutually beneficial gear free passage and result in the destruction of a large amount of lobster gear. The destruction of thousands of dollars of gear per lobstermen added to the serious and continuing impact the lobster die off in the 1990's will certainly destroy or in the least greatly harm the businesses of the remaining lobstermen.[272]

The FEIS characterizes this as a minor effect, stating that a limited number of trawlers (between 2 and 12) would be affected, and that Broadwater has agreed to compensate the affected fishermen. The actual number of trawlers using these lanes is unclear, however, and the FEIS fails to provide detailed information on the productivity of the site relative to the overall trawling areas. Sound-wide estimates are based on average landings, and on Connecticut DEP trawling data which lacks input from those trawlers currently fishing in the area.

Also, even if the current generation of commercial fishermen were adequately compensated, there remains the unmitigated impact on the next generation of fishermen, who are excluded from today's decision making and buyouts proposed by Broadwater. Buyouts of affected fishermen may provide some monetary compensation in the present day, but precludes the next generation from participating in what is a traditional, place-based industry, ultimately resulting in a permanent loss that will not be replaced. Nevertheless, Broadwater has not yet entered into a compensation agreement with any affected fishermen.

Finally, conflicts between transiting LNG carriers and existing, stable commercial fishing operations will not be limited to The Race. Commercial trawlers and lobstermen based out of East Hampton ports would be directly affected by the LNG carriers and their exclusion zones and also by the commercial traffic diverted to avoid them. East of The Race, the LNG carriers using

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[271] Letter from Greenport Seafood Dock, Inc. (Mark S. Phillips) (OC-18), FEIS Appendix N RTC Part 18.

[272] Letter from Ken Holmes, North Fork Captains Association, to Secretary of State Cortés-Vásquez, January 23, 2008.

the proposed southern route through the Montauk Channel would conflict with a number of trawling lanes, displacing commercial fishing and lobstering there.[273]

East Hampton Town Commercial Fisheries Advisory Committee provides data on the impact of the movement of LNG carriers on commercial hand line fishing and trawl fishing in Montauk Channel:

> "Commercial hand line fishing is very diverse in the range and varieties of species caught. The transit area of the LNG carriers overlaps the areas where commercial hand lining occurs. It is safe to estimate that up to 30% of fishing time would be lost. This is a significant loss to individual fishermen and to the economy of East Hampton."[274]

With regard to impacts on trawling in Montauk Channel:

> "Trawl fishing is confined to a narrow area that is almost identical to the course earmarked for the LNG carriers. This is a crucial fishing area, used consistently from April through December on average of 15 days per month, by the trawling industry. The closure of this area for a portion of the day is likely to eliminate the profitability of trawling for the entire day....Ten vessels from East Hampton trawl these grounds. Depending on the size of the vessel, the gross income per day, per vessel, is between $500 and $1,000, for an average of $7,500 per day of combined gross income. Multiplied by a conservative 15 day monthly average of work days, the monthly gross is $112,500. Multiplied by the 9 month season, the gross is $1,012,500."[275]

Broadwater has committed to using the northern route, subject to Coast Guard approval, which is by no means assured. Use of the northern route by the LNG carriers has associated impacts which must be considered. Other vessels are likely to alter their existing, preferred routes of entry and exit from The Race in order to avoid the primary LNG carrier route, and use of Montauk Channel by other vessels would therefore increase, and result in an increase in user conflicts.

Additionally, lobstermen and commercial fishermen operating out of Mattituck would be adversely affected by the transiting LNG carriers and their exclusion zones.[276] At least 17 commercial fishermen set lobster pots and trawl in the area west of Orient Point, heading west for 35 to 40 miles up to the eastern edge of the FSRU exclusion zone and north to the New York/Connecticut border in Long Island Sound. The lobstermen and fishermen operating in this area would be exposed not just to the transiting LNG carriers, but to increased commercial traffic diverted to avoid the exclusion zone at the Project site.

DEC remarks on these indirect effects on fishing resulting from "movement of the LNG carriers through the Race and Long Island Sound [that] will cause existing commercial and

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[273] Comments submitted by the Town of East Hampton Fisheries Advisory Council, January, 2007 and map submitted by Attorney Maureen Liccione of Jaspan Schlessinger Hoffman on behalf of the Council dated March 25, 2007 and received on June 4, 2007.

[274] Letter from East Hampton Town Commercial Fisheries Advisory Committee (LA-10), FEIS Appendix N RTC Part 7.

[275] Letter from East Hampton Town Commercial Fisheries Advisory Committee (LA-10), FEIS Appendix N RTC Part 7.

[276] Comments submitted by Tony Demaula of Mattituck and Mary Best Phillips of Greenport.

recreational vessels to alter their routes. This may be especially true for commercial traffic traveling to the Conoco-Phillips terminal in Northville. Many of these vessels will take a more southerly route, directly into prime fishing grounds. Thus a much wider area will be affected beyond the safety zone of the facility, possibly a mile or more."[277] Although the FEIS notes these comments from DEC, the discussion focuses on the affected tankers. Broadwater, however, does acknowledge the identified impact on fishing grounds, including lost gear and income by commercial fishermen:

> Tankers destined for the ConocoPhillips platform that encounter an LNG carrier and its proposed moving safety and security zone could be delayed up to 15 minutes while the carrier and the safety and security zone pass by. In most cases, however, we anticipate that the tankers would slightly alter course to avoid conflict with the moving safety and security zone surrounding the LNG carrier. We anticipate that an occasional minor route adjustment would result in only an occasional minor impact on fishing grounds. In addition, as described in Section 3.6.8, Broadwater would compensate fishermen for lost gear and for lost income related to construction and operation of the Project.[278]

As described in the applications Broadwater has pending before federal agencies, the Project would impair and adversely affect marine resources, habitats, commercial and recreational fishing uses, and the commercial and recreational fishing industries and associated economies that depend on the fishing harvest. Because of the these adverse coastal effects and impairments, Broadwater would not promote, but instead would impair sustainable use of living marine resources in Long Island Sound. The Broadwater Project is, therefore, not consistent with Policy 11 and its Subpolicies 11.1, 11.2, 11.3, and 11.4.

ALTERNATIVES

The CZMA regulations give a State the option, at the time it objects to the consistency certification for a proposed project, to describe any alternatives that would permit the project to be conducted in a manner consistent with its management program. NOAA's regulations state:

> "The objection **may** describe alternative measures (if they exist) which, if adopted by the applicant, may permit the proposed activity to be conducted in a manner consistent with the enforceable policies of the management program." (emphasis added)[279]

In describing alternatives, NOAA's regulations provide further guidance:

> "If a State agency proposes an alternative(s) in its decision letter, the alternative(s) shall be described with sufficient specificity to allow the applicant to determine whether to, in consultation with the State agency: adopt an alternative; abandon the project; or file an appeal under subpart H. Application of the specificity requirement demands a case specific approach. More complicated activities or alternatives generally need more information than less-complicated activities or alternatives."[280]

An alternative may involve changes–sometimes major changes–in the location or design of a proposed project to make it consistent with the State's coastal management program.

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277 DEC comments on the DEIS dated January 23, 2007.
278 FEIS p. 3-194
279 15 CFR 930.63(b)
280 15 CFR 930.64 (d)

Broadwater's stated objective "is to deliver a large supply of natural gas into a regional market including Long Island, New York City, southern Connecticut and upstate New York." [281] This important objective can be achieved by Broadwater outside of Long Island Sound or by other energy projects proposed to serve the same market. In addition, there are energy projects which are proposed or approved to serve the Northeastern markets.[282]

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[281] Letter dated December 18, 2007 from Murray Sondergard, Broadwater Project Director to Susan L. Watson, General Counsel, NYS Department of State.

[282] The following energy projects are proposed or approved to serve Northeastern markets:

November 2008 is the in-service date for the NE 07 Project, which will provide up to 525,400 dekatherms per day of new natural gas supply for markets in New York, New Jersey and New England. The NE 07 Project is a consortium comprised of Algonquin Gas Transmission, LLC, Empire State Pipeline, Iroquois Gas Transmission System, L.P., and Millennium Pipeline Company, L.L.C. Importantly, 325,000 dekatherms per day of gas is expected to flow through the IGTS and be available to the same markets proposed to be served by Broadwater, including 100,000 dekatherms per day of gas for Keyspan and Con Edison.

Transco's "Leidy to Long Island Expansion Project" recently moved into service and provides an additional 100,000 Dth/d of incremental firm transportation capacity to serve market demand on KeySpan Gas East Corporation's gas distribution system. Moreover, Transco is uprating this segment of its pipeline system from a maximum allowable operating pressure (maop) of 800 pounds per square inch (psig) to 960 psig, which will increase the maximum throughput of the Transco line from 600 to 700 million cubic feet of gas per day.

Kinder Morgan Energy Partners, Sempra Energy, and ConocoPhillips have undertaken a $4 billion, 1,678- mile long pipeline from the Rockies to Ohio to deliver 1.8 billion cubic feet of gas per day of gas to markets in the east. The pipeline is projected to be in full service by June 2009.

Somerset Pipeline proposes to build a connector from its facilities in Ohio to an interconnection with the Millennium Pipeline. KeySpan has expressed interest in this proposal in the longer term, subsequent to the Millennium, Islander East, and Transco proposals.

The Islander East pipeline would bring gas from the Algonquin pipeline in Connecticut to address the load pocket in eastern Long Island. FERC certification, NYS Coastal Consistency concurrence and Section 401 Water Quality Certification to build this pipeline were received.

Tennessee Gas Pipeline has proposed the Northeast Passage Project which would bring Rocky Mountain gas and/or Gulf Coast gas to locations in the New York, Pennsylvania, and New Jersey area. Initial capacity is anticipated to be 1.1 billion cubic feet of gas per day, but additional capacity is possible in the future with increases in compression. Fall 2011 is the projected in-service date.

Algonquin pipeline announced plans to modify portions of its existing pipeline system in order to provide increased natural gas supplies and enhanced system reliability to natural gas distributors throughout the New England region. With the proposed modifications, the pipeline would be able to supply an additional 740 million cubic feet of gas per day. The project is currently in FERC's NEPA Pre-Filing Process.

Safe Harbor Energy (Atlantic Sea Island Group, LLC) has submitted a complete application to the Coast Guard to locate an LNG island facility 13.5 miles in the Atlantic Ocean

As part of this consistency review, DOS describes alternatives that, if adopted by Broadwater, would permit the proposed project to be conducted in a manner consistent with the enforceable policies of the NYSCMP. During the consistency review, DOS held extensive discussions with Broadwater about various alternatives that would eliminate the project's adverse effects on coastal uses and resources in Long Island Sound while still supplying new natural gas supplies to New York.[283] Based on these discussions, and DOS' review of all submitted materials, DOS concludes that there are at least two reasonable, feasible and available alternative locations in the Atlantic Ocean south of Long Island for an LNG import facility that would meet regional needs for natural gas. These alternatives would be consistent with the NYSCMP and would not require further coastal consistency review by DOS.

Broadwater rejected DOS's suggestion of an Atlantic Ocean alternative as not providing access to these markets "without substantial, disruptive, and environmentally damaging pipeline infrastructure enhancements across Long Island."[284] However, the DOS alternatives listed below are reasonable, available and consistent with the NYSCMP. One alternative location allows Broadwater to connect directly to IGTS, which is Broadwater's preferred interconnect. Each alternative described below would provide increased supplies of imported natural gas to the New York metropolitan area and Long Island region.

Two Atlantic Ocean alternative locations and two different LNG import facility designs are described below. DOS also finds that there are areas with water depths, pier space and land mass that could also provide land-based support (e.g. office space, tug berthing) for an LNG facility located off the south shore of Long Island. In the New York Harbor area, Erie Basin, Brooklyn Piers, and the South Brooklyn Marine Terminal may provide locations for an LNG gas import facility.

Alternative 1 - Long Beach

Location and Pipeline Route

An FSRU could be moored to a YMS tower at a location 13 miles offshore south of Long Beach, NY, west of Cholera Bank (approximate coordinates W 73° 37' 00", N 40° 23' 00"), in

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south of Long Beach Island. This project proposes to supply between 1.15 billion cubic feet of gas per day and 2 billion cubic feet of gas per day of gas, nearly twice the capacity of Broadwater.

Exxon-Mobil recently announced their proposed BlueOcean Energy project which would locate a FSRU in the New York Bight area, approximately 20 miles east of New Jersey and 30 miles south of Long Beach, New York. The project is proposed to supply 1.2 billion cubic feet of natural gas capacity supply per day to the NY/NJ region. It is projected to be online by approximately 2015.

The Northeast Gateway LNG (400 million cubic feet of gas per day average, 800 million cubic feet of gas per day maximum) and Neptune LNG (500 million cubic feet of gas per day average, 750 million cubic feet of gas per day maximum) SRV facilities in the Atlantic Ocean, off the coast of Massachusetts, will contribute imported gas to the Algonquin pipeline, which runs through New York and Connecticut.

[283] Broadwater and DOS met seven times between April and August, 2007. Materials from these meetings were submitted by Broadwater and appear on the FERC docket CP06-54, under Accession number 20070815-5024.

[284] Letter dated December 18, 2007 from Murray Sondergard, Broadwater Project Director to SusanL. Watson, General Counsel, NYS Department of State.

about 80 feet of water, and connected via a subsea pipeline to the Transco Leidy to Long Beach Pipeline. This area, situated between the outbound Ambrose to Nantucket Traffic Lane and the inbound Hudson Canyon to Ambrose Traffic Lane, is separated from each lane by about one nautical mile (1.3 miles).

Pipeline Interconnections

A minimum width 24-inch submerged pipeline could run approximately 12 miles to a subsea interconnection with the existing Transco Leidy to Long Beach Pipeline (also referred to as the Lower Bay Extension) at a location about 1 to 2 miles offshore. As noted above, the Transco Pipeline crosses the Lower Bay of New York Harbor from New Jersey and Raritan Bay and comes ashore at Long Beach, NY. Transco is uprating this segment of its pipeline system from a maximum allowable operating pressure (maop) of 800 pounds per square inch (psig) to 960 psig, which will increase the maximum throughput of the Transco line from 600 to 700 million cubic feet of gas per day.[285] A 24-inch pipeline operating at 900 psig can carry in excess of 1 billion cubic feet of gas per day over a distance of up to 15 miles.[286] An 11 mile pipeline connecting to the uprated Transco Pipeline at 1 to 2 miles offshore of Long Beach, NY would, therefore, allow 1 billion cubic feet of gas per day of natural gas from an offshore LNG facility to enter into the New York/Long Island markets.

Upon arriving at Long Beach, natural gas would enter the Keyspan Energy Delivery distribution system. Energy Market Decisions, Inc. analyzed the viability of connecting a different proposed LNG facility with the Transco Pipeline and found that:

> "For gas flowing eastward from the connection point into the Transco Pipeline, Safe Harbor Energy can deliver all of the supply to satisfy market requirements up to the maximum takeaway capacity from the Long Beach Meter Station (located onshore in the Town of Long Beach), which is determined to be 530 million cubic feet per day (Million cubic feet of gas per day) based on the Transcontinental Gas Pipe Line Corporation FERC gas tariff and the system upgrades recently approved by FERC. To the extent that additional take away capacity can be developed downstream of the Long Beach Meter Station, the Transco Pipeline has design capability to deliver additional volumes eastward from Safe Harbor Energy to the Long Beach Meter Station."[287]

Keyspan indicates that this area of their service territory, including the Boroughs of Queens and Brooklyn and Nassau County on Long Island, is a load pocket capable of absorbing significantly greater levels of natural gas.[288] Further, natural gas from an offshore location south of Long Beach, NY would provide a source of fuel for the 350 MW Barrett Generating Station, which is being examined for repowering. A fully repowered Barrett Generating Station could

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285 See FERC Docket CP06-34-001, Leidy to Long Island Expansion.

286 Broadwater materials presented to DOS at the May 2, 2007 meeting, p. 19.

287 Safe Harbor LNG Deep Water Port Act Application, Environmental Report, 2007. Letter from Energy Market Decisions, Inc. March 31, 2007.

288 Telephone conversation between Thomas Amerige of Keyspan Energy Delivery, Kevin Law of Long Island Power Authority and DOS staff on November 9, 2007.

generate as much as 525 MW of supply,[289] absorbing a significant quantity of natural gas.[290] Incremental fuel into the Transco-Long Beach Pipeline could be directly utilized at this location.

Some of the natural gas entering the TranscoPipeline could displace fuel currently entering into Long Beach, or it could flow bidirectionally into New Jersey. This would allow natural gas to remain in New Jersey and move into New York via other Transco interconnects with ConEd and Keyspan. Further, the entire Transco Pipeline System would be reinforced by having an additional fuel source at its eastern end, reducing reliance on Gulf Coast supplies and temporary underground winter storage.

Additionally, New York is moving towards increased interconnection with the New Jersey electrical grid and associated natural gas infrastructure. The recent completion of the Neptune electric cable system from Sayreville, New Jersey to Long Island noted above will provide up to 660 MW to LIPA.[291] Several power plants in northern New Jersey serve the New York metropolitan region.[292] Therefore, increased natural gas supply into northern New Jersey would have beneficial effects on the New York natural gas and electricity markets because New Jersey power plants support a regional electrical system that serves both New Jersey and New York.

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[289] See "The Environmental Benefits of Re-Powering KeySpan Electric Generating Plants in Meeting Future Demand," Cordaro, M., January 2005, Long Island University, Center for Management Analysis.

[290] Assuming a heat rate of approximately 7,500 BTU/kWh, a repowered Barrett plant generating 525 MW of electricity would consume approximately 95 million cubic feet of gas per day of natural gas.

[291] http://www.lipower.org/newscenter/pr/2007/062807_neptune.html In addition, there are two transmission projects pending for cross Hudson electrical cables from New Jersey into New York City. Hudson Transmission Partners, LLC has won approval from the New York Power Authority to provide up to 660 MW from Ridgewood, NJ into Manhattan. Cross Hudson Corporation has obtained all necessary state permits to provide up to 550 MW into 49th Street in Manhattan.

[292] The Linden Cogen Plant, in Linden NJ provides up to 750 MW of supply into the New York City grid and is considered "in-city" capacity by the NY-ISO. In addition, the recently announced Bayonne Energy Center Project would generate 512 MW on the New Jersey side of the Hudson and be connected into the New York City grid in Brooklyn, NY via a cross Hudson cable.

Reliability and Ocean Conditions

Broadwater analyzed the reliability of an Atlantic Ocean alternative using a 2-meter wave height as a threshold for operations.[293] The wave conditions data set that Broadwater relied upon for determining suitability of an Atlantic Ocean location is based on NOAA buoys 44025 and 44017. These buoys are located well offshore of Long Island and in the case of 44025, 33 miles south of Islip, Long Island. The ocean conditions recorded at these buoys are highlighted in Broadwater's analysis, indicating that wave heights can exceed 2 meters as often as 20% of the time in the winter, thus potentially affecting project reliability.

This proposed Alternative 1 would be located closer to shore (13 miles south of Long Beach) in an area that experiences lower wave height conditions than those recorded at the NOAA buoys. DOS used the data set – the United States Army Corps of Engineers Wave Information System (WIS) hindcasting model – that more accurately describes the conditions at the Alternative 1 location.

Battelle Consultants (Battelle) analyzed various WIS locations in the Atlantic Ocean offshore Long Island and found:

> "The high quality of WIS wave hindcast data is generally accepted by the oceanographic community. The Corps has performed extensive comparisons between hindcasted and measured wave parameters at locations where WIS stations are in close proximity to NOAA's National Data Buoy Center (NDBC) buoys, with excellent results. In previous studies performed by Battelle using WIS data, comparisons have been made between NDBC buoy measurements of waves and nearby WIS stations. Typically, wave climatology statistics derived from the WIS data differ only by a small percentage from those derived from the NDBC buoys."[294]

WIS 124 is located two kilometers from the proposed Alternative 1 and represents anticipated wave conditions at that location.[295] Battelle concluded, based on this climatology analysis, and Broadwater's operational threshold of 2-meter waves, that LNG carriers would be unable to berth or deberth from the FSRU between December and February on average only 8% of the time (2.4 days out of 30).[296]

Battelle also considered the duration of significant wave height periods, and found that at WIS 124 between December and February, a one-day average wave height greater than 2 meters occurs 7.4% of the time; a two-day average above 2 meters occurs 5.6% of the time; a four-day average, 2.2%; and an eight-day average, only 0.3% of the time. DOS concludes that given these conditions, LNG stored onboard the FSRU could be vaporized and discharged

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[293] Broadwater letter dated September 14, 2007, received by DOS on September 17, 2007.

[294] Battelle Consultants (Battelle), "Review of Ocean Conditions Data and their Impact on Project Feasibility." May 2007, NYSERDA Contract 9562, Task 6, p. 3.

[295] Battelle, 2007 p. 3.

[296] Battelle, 2007 p. 6; Battelle found that significant wave heights greater than 2 meters could be expected 11.6% of the time in January, the worst weather month based on hindcasting models dating from 1980 to 1999. Waves exceeding 2 meters could be expected 8.6% of the time in November; 7.5% in December; 4.9% of the time in February; 8.0% in March. Summer months would be considerably lower. Averaged from December to February, the wave conditions would exceed 2 meters only 8% of the time. In summer months the wave heights would be lower.

during those brief periods when the LNG carriers may not be able to berth due to weather or ocean conditions and, therefore, the FSRU could serve as a reliable source.

Exxon-Mobil has a 3-meter wave height operations threshold for its BlueOcean FSRU proposed 30 miles offshore of Long Beach.[297] Using the Exxon-Mobil 3-meter wave height criterion, the percentage of time that berthing/deberthing could occur would increase significantly at the two Atlantic Ocean locations DOS has proposed for Broadwater. At WIS station 124, the worst wave conditions would generally occur in January, when significant wave heights are estimated to exceed 3 meters 2.4% of the time. November, December and March are the next worst months, with wave heights exceeding 3 meters 1.4%, 1.3% and 1.2% of the time, respectively.[298] The likelihood of a 3-meter or greater wave event with a duration of one day is 1.0%; a duration of two days is 0.4%; a duration of four days is 0.1%; and the probability of 3-meter waves lasting for eight days is less than 0.1%.[299] The BlueOcean proposal demonstrates that Broadwater's 2-meter wave height criterion is not an industry standard.

DOS acknowledges that adverse climatological conditions could prevent or delay berthing/deberthing of LNG carriers. Reliability for an FSRU requires sufficient storage (or inventory) onboard to vaporize and discharge fuel at a constant rate as needed. This is largely a function of the ratio of storage-to-discharge. For example, if Broadwater's natural gas discharge output in Long Island Sound were reduced from 1 billion cubic feet of gas per day to 800 million cubic feet of gas per day, onboard storage in eight tanks could provide up to ten days of output, thus increasing reliability. A similar facility in the Atlantic Ocean off Long Beach with 8 bcf of storage could discharge 720 million cubic feet of gas per day for up to eleven days, according to the DOS climatological analysis.

According to the FEIS:

> While it is difficult to predict exactly how renewable energy projects (approved, proposed, planned, and currently unidentified), increased conservation, and minor increases in the use of fuel oil will satisfy increasing energy demand, the states of New York and Connecticut have established goals of increasing the renewable component of their energy portfolio from 10 to 25 percent over the next one to two decades. Even if these goals were realized and resulted in a comparable reduction in the need for the additional 1.0 billion cubic feet of gas per day of natural gas proposed by Broadwater, there would still be a need for approximately 0.8 to 0.9 billion cubic feet of gas per day of natural gas, with about 75 to 80 percent of that amount to be delivered to New York City and Long Island (about 0.6 to 0.7 billion cubic feet of gas per day).[300]

DOS concludes its Alternative 1 could supply New York's needs as acknowledged by FERC in the FEIS.

Effects on Coastal Uses and Resources

In the Atlantic Ocean, commercial and recreational fishing, boating, and commercial transportation and shipping, travel into and out of the Port of New York and New Jersey. Although extensive commercial and recreational fishing occurs at Cholera Bank, the proposed

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297 December 17, 2007 presentation from BlueOcean Energy to NYSDOS staff.
298 Battelle, p. 5.
299 Battelle, p. 6, Table 5.
300 FEIS, p. 4-26.

Long Beach Alternative 1 would be situated west of the Bank to avoid conflicts with fishing and with commercial navigation traveling in assigned lanes.

Broadwater's September, 2007 filing concludes that a Shuttle Regasification Vessel (SRV) LNG facility located at the proposed Alternative 1 site location would impair navigational safety and interfere with commercial navigation. Broadwater's focus on potential use conflicts at the site with an SRV design does not acknowledge the relative lack of effects on coastal uses from an FSRU, mooring system and tower.[301] The spatial requirements for an SRV, including the exclusion zone and Area to be Avoided (ATBA), would be greater than those for an FSRU. Based on discussions with the Coast Guard, an exclusion zone for an FSRU in the Atlantic Ocean would be smaller than required for the Broadwater Project in Long Island Sound, and an exclusion zone may not be required for the LNG carriers.[302]

In addition, both Broadwater's submissions and FERC's FEIS mischaracterize the amount of vessel traffic at the proposed offshore Long Beach Alternative 1 location. Broadwater cites a Port Authority of New York and New Jersey (PANYNJ) statistic that the Vessel Traffic Service monitors 1,400 daily commercial vessel movements. Similarly, the FEIS mischaracterizes ship traffic south of Long Beach when it states:

> "An SRV or FSRU constructed south of Long Beach could result in increased likelihood of vessel conflicts and a greater probability of vessel collisions or allisions. According to the Safe Harbor Energy Project Deepwater Port License Application, the area south of Long Beach experiences more than 1,400 commercial vessel transits per day (as compared to 2,300 vessel transits per year to ports in Long Island Sound) and experienced two collisions and two allisions between 2001 and 2005."[303] (emphasis added)

The PANYNJ's Vessel Traffic Service (implemented by the Coast Guard) does monitor 1,400 daily commercial vessel movements, however, these vessel movements occur throughout an extremely wide geographic area that includes all of New York Harbor, and do not exclusively take place in the approach to New York Harbor where the Alternative 1 would be situated. In fact, citing data from the Lloyds Marine Intelligence Unit, the Safe Harbor Energy Project Deepwater Port License Application demonstrates that actual ship traffic movements in these adjacent lanes are considerably lower, by two orders of magnitude, than the level of traffic cited by Broadwater and included in the FEIS.[304]

The distance between the two traffic lanes near Cholera Bank is approximately 2.5 miles. In these two traffic lanes, situated on either side of the proposed Alternative 1, these data reveal there were 1,754 annual ship movements in the outbound lane (15% of total movements) and 378 annual ship movements in the inbound lane (3% of total movements). This results in a total of 2,132 annual (not daily) vessel movements in the combined lanes. Using FERC's estimate of 2,300 port arrivals in the Long Island Sound, there are 168 fewer vessel movements in the vicinity of Alternative 1.

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[301] Responses A-2 and A-7 of Broadwater's September, 2007 filing regarding reliability, berthing/deberthing of vessels and the technical feasibility of an Atlantic mooring tower, indicate Broadwater understood that DOS had identified an FSRU for the location west of Cholera Bank and not an SRV since an SRV does not engage in side-side berthing/deberthing and does not require a mooring tower.

[302] Meeting between the Coast Guard and DOS staff on August 17, 2007.

[303] FEIS p. 4-36.

[304] Safe Harbor Energy Project Deepwater Port License Application, Exhibit N, Marine Vessel Traffic Patterns.

The busiest month for both routes was August: 196 movements occurred in the outbound lane and 48 movements in the inbound lane. This represents, on average, a total of eight vessel movements daily in the lanes adjoining the proposed Safe Harbor Energy Project, and this proposed alternative.[305] Both Broadwater and FERC, therefore, overestimate the number of vessels transiting these lanes and, consequently, exaggerate potential conflicts with commercial navigation.

Furthermore, the Coast Guard's WSR for Broadwater cites two different estimates for the volume of commercial through-transiting in Long Island Sound: 2,000 to 4,000 transits per year, based on information from vessel operators, and 1,607 transits per year based on AIS data that includes only ships with transponders.[306] These through-transits do not stop at any Long Island Sound port, traveling along the most direct route between the eastern and western ends of Long Island Sound, which is the central channel just south of the proposed Broadwater FSRU site. The following table compares Long Island Sound through-traffic estimates with the ship traffic in proximity to the proposed Alternative 1:

Body of Water	Annual Ship Traffic	Monthly Average Ship Traffic	Daily Average Ship Traffic
LIS (vessel operators' info.)	4,000	333	10.95
LIS (vessels with transponders)	1,607	134	4.4
Atlantic Ocean	2,132	177	5.8

Source: Long Island Sound data: Coast Guard WSR estimates of through-traffic, Atlantic data: Lloyds Marine Intelligence Unit cited in Safe Harbor LNG Deepwater Port License Application

The Long Island Sound through-traffic estimate based on vessel operators' information is almost double the documented traffic movements in the Atlantic Ocean lanes adjacent to Alternative 1. The lower Long Island Sound estimate, which are ships with transponders only, represents 25% less vessel traffic than the Atlantic Ocean lanes. Thus, at a minimum, the Long Island Sound location and DOS' offshore Long Beach alternative are comparable with regard to nearby commercial vessel transits. Potentially, however, Long Island Sound traffic is double that documented for the Atlantic Ocean lanes adjacent to the proposed Alternative 1. However, the Atlantic vessel traffic is confined to established lanes, while in Long Island Sound, there are no established lanes. In addition, Alternative 1 would not require transiting commercial vessels to compete for passage through a heavily used channel, such as The Race.

This alternative offers significant environmental benefits, and reduced use conflicts, when compared with the proposed Broadwater Project in Long Island Sound. The necessary pipeline would be ten miles shorter and would not pass through an Estuary of National Significance. An offshore interconnection with the Transco Long Beach pipeline would eliminate any adverse impacts to the nearshore environment. Further, the pipeline would not pass through any unique landforms or sensitive benthic communities, such as at Stratford Shoal/Middle. Disruption to commercial and recreational fishing would be minimized, as would anticipated conflicts with other water-dependent uses, including commercial transportation and shipping, particularly in the area of The Race. Most importantly, the unacceptable adverse effects on community character

[305] Safe Harbor Energy Project Deepwater Port License Application, Exhibit N, p. N-6 and p. N-7.

[306] WSR pg. 33.

in Long Island Sound would be eliminated, and there would be no effects on Long Beach or surrounding South Shore communities.

Technology Options

Broadwater asserts that a mooring system and tower could not be designed and constructed to withstand the potentially greater wave heights associated with Atlantic Ocean conditions, but has not submitted a technical evaluation in support of this assertion. Instead, Broadwater highlights the modifications that would be required to accommodate the structure it has proposed for Long Island Sound to the Atlantic Ocean conditions. These include: a larger air gap for the lower deck of the mooring tower; a larger and taller mooring support structure; an enlarged ballast tank; additional reinforcements of the bow of the FSRU; a larger footprint ; and deeper and more numerous piles to affix the tower to the sea bed. There is no evidence in the record or the FEIS indicating that an FSRU, mooring system and tower could not be designed, constructed and safely operated at the proposed Alternative 1 location.

Broadwater has also raised the issue of potential FSRU and carrier storage tank damage from excessive sloshing of the LNG cargo in Atlantic Ocean conditions. Broadwater, however, has not provided any information on the degree to which sloshing in the Atlantic Ocean would differ from sloshing in Long Island Sound, nor has Broadwater conducted a detailed statistical characterization of metocean conditions and the extent to which these conditions might affect facility tank design.

At a May 2, 2007, meeting with DOS, Broadwater suggested that wave period, as well as height, could have an impact on sloshing. In particular, they identified wave periods of 20 seconds or more as potentially problematic. DOS finds that data from NOAA buoy 44025 demonstrates that between April 1991 to December 2001, dominant wave periods of 20 seconds were recorded only four times, during summer months. Wave heights during summer months are typically at their lowest. Out of 85,516 distinct time records, a wave period of 25 seconds occurred only once in the ten year period in January. Throughout the year, the great majority of wave periods were between five to ten seconds.[307] Thus, the probability of long period waves coinciding with waves greater than 2 meters is virtually nonexistent.

Broadwater's concerns regarding the effects of sloshing pertain primarily to membrane type tanks. Alternative tank designs, including Ishikawajima Heavy Industries Self-supporting Prismatic, Type B (ISI-SPB) tanks form an internal baffle that, given proper reinforcement at the bulkhead, minimizes sloshing. BlueOcean Energy is using this tank design for its proposed project. Additionally, in advance of severe weather conditions, LNG could be transferred from one tank to another, or vaporized and discharged, to minimize sloshing.

Energy Benefits of the Alternative

In addition to the benefits noted above, Alternative 1 has the following benefits associated with a new gas supply connecting to the Keyspan system at Long Beach through the Transco Pipeline:

- As the KeySpan gas delivery system (New York City and Long Island facilities are operated as an integrated system) is a "telescoping" arrangement with 30 inch diameter primary mains in New York City phasing down to 20 inch primary mains in eastern Long Island, the western portion of the system is better situated to accept incremental deliveries of new gas supplies (LNG). The east end of Long

[307] See NOAA website http//www.ndbc.noaa.gov/data/climatic/44025.pdf

Island is currently at capacity therefore any new supply source in Suffolk County would simply displace existing capacity.

- Deliveries of new supply (LNG) to Long Beach via Transco could support the repowering of the E.F. Barrett generating station.
- Deliveries of new supplies (LNG) to Long Beach via Transco could support the repowering of the Northport generating station through displacement, i.e., gas that would otherwise enter the KeySpan system at South Commack, could serve the repowered Northport facility while new supply (LNG) deliveries at Long Beach could replace the gas diverted to Northport.
- With the addition of a new delivery point in Brooklyn, a southern delivery point would free up capacity on the Transco system which would serve to mitigate the Manhattan load pocket and help support more competitive pricing in the region.
- Deliveries of new supplies (LNG) to a new Brooklyn delivery point could support the availability of lower cost gas to the generators in the Astoria area through displacement, i.e., by providing LNG at Brooklyn, displaced gas from Leidy could be delivered to Con Edison (for redelivery to the Astoria generators) by Transco at its Manhattan gate stations.
- With the exception of the infrastructure improvements associated with a new gate station in Brooklyn, no other infrastructure improvements are necessary for a southern delivery. In contrast, a new supply source on the north shore of Long Island would require over $100 million in additional infrastructure improvements.
- With the exception of support for Northport repowering, none of the foregoing benefits would apply to a FSRU located in Long Island Sound and connecting to the KeySpan system at South Commack.[308]

Alternative 2 – Fire Island Inlet

Location and Pipeline Route

DOS' Alternative 2 would be a turret-moored FSRU located in the Atlantic Ocean 22 miles south of Fire Island Inlet (approximate coordinates W 73° 10' 5" N 40° 20' 00") in approximately 130 feet of water at low tide. The FSRU would connect via new subsea and buried land pipelines to the IGTS pipeline at South Commack.

Pipeline Interconnections

A minimum width 24 inch submerged pipeline could run approximately 22 miles from the Alternative 2 site to offshore Fire Island. The subsea pipeline component for Alternative 2 would then be trenched or horizontally directionally drilled underneath the scour zone at least 1,000 feet from the shore, and then horizontally directionally drilled underneath Fire Island in the direction of the Robert Moses Causeway, or trenched in through the Fire Island Inlet. Upon reaching the north side of Fire Island, the pipeline would cross the 2,000 foot wide inlet, landing on the eastern end of Jones Island. Crossing on the western side of the causeway, the pipeline would continue across the island, bypassing the cloverleaf highway.

Upon crossing Jones Island, the pipeline would continue underneath the State Boat Channel to the north for approximately 250 feet. Upon reaching Captree Island to the north, the pipeline could be trenched along the highway for a distance approximately 2,750 feet. There is one traffic circle/cloverleaf that would need to be bypassed. Much of Captree Island is comprised of wetlands; however, the right-of-way along the highway is a disturbed, sandy

[308] E-mail communication from Kevin Law, LIPA, to George Stafford, DOS, November 16, 2007.

environment that would be suitable for trenching for the pipeline installation. After crossing Captree Island, the pipeline would then enter the Great South Bay.

The Great South Bay is a designated NYS Significant Coastal Fish and Wildlife Habitat. Therefore, to protect habitat value, the selected pipeline route and installation techniques would avoid long term damage to salt marsh and intertidal areas, and avoid eelgrass and other submerged aquatic vegetation. Trenching or excavation would occur only in late summer and fall to avoid effects on aquatic organisms. In Great South Bay, the pipeline would be horizontally directionally drilled for approximately 800 feet to avoid eelgrass directly north of Captree Island. Following this segment, for the remaining distance across the Bay (approximately 4,200 feet) the pipeline could follow the path of the Robert Moses Causeway. Alternatively, the pipeline could be trenched across the remaining width of the Bay within the disturbed corridor of the Causeway, avoiding any Causeway footings or interference with future work there.

The pipeline would come ashore alongside the Causeway, just west of Conklin Point. The trenched pipeline would continue within the Causeway right of way for 2,500 feet at which point it would need to cross beneath the interchange with Route 27A. Upon emerging on the north side of the 27A/Robert Moses Causeway cloverleaf, the pipeline would continue north for 2,900 feet until reaching the Long Island Railroad. After passing below the rail tracks, the pipeline would continue for 2,500 feet. It would be directionally drilled beneath the Sunrise Highway cloverleaf interchange, and then continue another 1,500 feet where it would be directionally drilled beneath the Southern State Parkway, subsequently following the Parkway for another 2,500 feet.

After crossing the Southern State Park interchange, the pipeline would continue north along the Sagtikos Parkway for approximately 4,500 feet, going underground at the Long Island Railroad. It would then continue another 3,500 feet north along the Sagtikos to cross beneath the Cross Campus Road at Pilgrim State Psychiatric Center. The pipeline would continue 1,000 feet to the north and cross underneath Crooked Hill Road, travel another 500 feet until crossing below the Long Island Expressway (LIE) cloverleaf interchange. A series of horizontal directional drills would be needed to move below the LIE ramps for approximately 1,000 feet.

After passing below the LIE, the pipeline would continue along the Sagtikos another 2,000 feet until passing beneath the Northern State Parkway cloverleaf interchange, an approximately 1,000 foot stretch. The pipeline would continue along the Sagtikos for another 2,000 feet until reaching the New Highway in South Commack. From there, the pipeline would travel west approximately 750 feet until reaching the terminus of the IGTS, and, once in this pipeline, the fuel would either remain on Long Island, or move northward into the Eastchester Extension and into the Bronx, or travel across Long Island Sound into Connecticut via the IGTS cross-Sound pipeline. This would result in new gas supplies being delivered to the IGTS pipeline, as proposed by Broadwater's Project in Long Island Sound.

Reliability and Ocean Conditions

Alternative 2 is located approximately 40 miles east of Alternative 1. WIS station 119 is closest to Alternative 2. At WIS station 119, the worst wave conditions would generally occur in January, when significant wave heights are estimated to exceed 3 meters 5.5% of the time. November, December and March are the next worst months, with wave heights exceeding 3 meters 4.4%, 2.9% and 3.1% of the time, respectively.[309] The likelihood of a 3-meter or greater wave event (Exxon-Mobil BlueOcean standard) with a duration of one day is 3.2%; a duration of

[309] Battelle, p. 5, Table 4.

two days is 1.5%; a duration of four days is 0.5%; and the probability of 3-meter waves lasting for eight days is less than 0.1%. The likelihood of a 2-meter or greater wave event (Broadwater LIS standard) between December and February, with a duration of one day is 16.8%; a duration of two days is 15.3%; a duration of four days is 8.7%; and the probability of 2-meter waves lasting for eight days is 4.0%.[310] DOS concludes that given either of these conditions, LNG stored onboard the FSRU could be vaporized and discharged during those brief periods when the LNG carriers may not be able to berth due to weather or ocean conditions and, therefore, the FSRU could serve as a reliable source.

Effects on Coastal Uses and Resources

The Alternative 2 pipeline would come ashore in the vicinity of Fire Island Inlet, where there is substantial recreational use, particularly beach going. However, requiring construction during non-summer months would avoid effects on recreational uses.

The south shore of Long Island is heavily used for clam and squid fisheries. The surfclam fishery is a significant contributor to New York's commercial fishing industry. In 2006, it generated approximately $4 million in wholesale landings.[311] DEC's 2006 Atlantic Ocean SurfClam Survey distribution map indicates the heaviest population concentrations and catch densities occur east and west of the proposed pipeline.[312] The FSRU would be sited 22 miles off southern Long Island, beyond the primary nearshore squid fishery area and would not be visible from shore.

In its September 2007 filing, Broadwater rejects alternatives off southern Long Island, in part, because of increased impacts from pipeline construction associated with the crossing of land-based features including beaches, wetlands, highways, neighborhoods or parks.

As previously noted, the Great South Bay is a State-designated Significant Coastal Fish and Wildlife Habitat. The habitat narrative, developed to provide guidance for development or use of the area, highlights the importance of protecting the Bay's water quality. It notes that dredging should be scheduled in late summer and fall to minimize potential impacts on aquatic organisms and that elimination of salt marsh and intertidal areas, through excavation or filling, would result in a direct loss of valuable habitat area. Restricting pipeline construction to this period also eliminates direct impacts to shorebirds, who are primarily vulnerable to disturbance in this habitat only during the summer breeding season (April - July).

Therefore, to protect habitat value, the pipeline route and installation techniques would be selected to avoid damage to salt marsh and intertidal areas, and avoid eelgrass beds and areas of high hard clam concentration. Directional drilling, careful routing of trenches around sensitive sites, and conduct of work during specific time periods have all been used in the past to avoid impacts to Significant Coastal Fish and Wildlife Habitats and sensitive nearshore habitats along the South Shore. Recent projects which have received DOS consistency concurrences using such methods include the Neptune electrical cable, the Verizon cable across Moriches Bay, and the Verizon cable from East Islip to Saltaire. Trenching or excavation could occur only in fall to avoid effects on aquatic organisms, as well as impacts on recreational users. In the Great South Bay, the pipeline would have to be horizontally directionally drilled for approximately 800 feet to avoid eelgrass beds directly north of Captree Island.The pipeline could be trenched across the

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310 Battelle, p. 6, Table 5.

311 NMFS, 2006

312 DEC 2006 Atlantic Ocean Surfclam Distribution Map, compiled from data collected during the 2006 Atlantic Ocean Surfclam Survey.

remaining width of the Bay within the disturbed corridor of the Causeway, avoiding any Causeway footings or interference with future work there. Hard clam concentrations within 2,000 feet of the mainland would need to be avoided.

Proper routing of pipelines, however, along existing utility and road corridors, coupled with advanced pipeline construction techniques, such as horizontal directional drilling and boring, would minimize construction-related impacts.

Technology Options

The FSRU would connect to a turret mooring system. This LNG facility would be able to store, vaporize and discharge natural gas similar to Broadwater's proposed FSRU and yoke mooring system. Exxon Mobil's proposed BlueOcean LNG project would use a similar turret and mooring design 30 miles south of Long Beach, NY, in rougher waters. As stated above, in the discussion of Alternative 1, there are alternative FSRU storage tank designs and LNG carrier designs that can reduce and manage the effects of sloshing, if necessary.

Energy Benefits of Alternative

This alternative meets Broadwater's stated market objective of delivering a new supply of natural gas to the region through the Iroquois Gas Transmission System.

Conclusion:

Based on the foregoing, the proposed project is not consistent with the enforceable policies 1, 3, 6, 9, 10, and 11 of the federally approved Long Island Sound Coastal Management Program.

Pursuant to 15 CFR Part 930, Subpart H, and within 30 days from receipt of this letter, you may request that the U.S. Secretary of Commerce override this objection. In order to grant an override request, the Secretary must find that the activity is consistent with the objectives or purposes of the Coastal Zone Management Act, or is necessary in the interest of national security. A copy of the request and supporting information must be sent to the New York Department of State, which administers the New York Coastal Management Program, and to the federal permitting or licensing agency. The U.S. Secretary of Commerce may collect fees from you for administering and processing your request.

The U.S. Department of Commerce, FERC and the New York District of the U.S. Army Corps of Engineers are being notified of this decision by copy of this letter.

Sincerely,

Lorraine Cortés-Vázquez
Secretary of State

cc: Robert J. Alessi, Esq. Dewey & LeBoeuf
John King, U.S. Department of Commerce
James Martin, FERC Office of Energy Projects
Colonel Aniello L. Tortora, , New York District of the U.S. Army Corps of Engineers

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