No. _____

UNITED STATES OF AMERICA
BEFORE THE DEPARTMENT OF COMMERCE

Broadwater Energy LLC and Broadwater Pipeline LLC,

Appellants

vs.

New York Secretary of State Lorraine Cortés-Vázquez,

Respondent.

INITIAL BRIEF ON APPEAL OF BROADWATER ENERGY LLC AND BROADWATER PIPELINE LLC UNDER THE COASTAL ZONE MANAGEMENT ACT

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July 7, 2008

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Approval Order	Broadwater Energy LLC, 122 FERC ¶ 61,255 (2008).
April 2, 2008 Culp Letter	April 2, 2008 Letter from Broadwater Project Director Jimmy Culp to Jeffrey Zappieri of NYSDEC's Division of Coastal Resources.
Bcf/d	billion cubic feet per day
Broadwater	Broadwater Energy LLC and Broadwater Pipeline LLC
Broadwater Additional Alternatives Analysis	Broadwater June 20, 2007 Response to NYSDOS, Additional Alternatives Analysis
Broadwater CZCD	Broadwater's New York State Coastal Zone Consistency Determination filed with the New York State Department of State (April 2006).
CMP	Coastal Management Program
Coast Guard	U.S. Coast Guard
CZCC	Coastal Zone Consistency Certification
CZCD	Coastal Zone Consistency Determination
CZMA	Coastal Zone Management Act
CZMA Overview	Office of Ocean & Coastal Resource Management, U.S. Department of Commerce, CZMA Federal Consistency Overview (2007), available at http://coastalmanagement.noa.gov/consistency/media/FCoverview081007.pdf.
EIR	Environmental Information Report
EPA	U.S. Environmental Protection Agency
EPACT 2005	Energy Policy Act of 2005, Pub. L. No. 109-58, 119 Stat. 594.
FAC	Fisheries Advisory Committee
FEIS	Final Environmental Impact Statement, issued January 11, 2008.
FERC	Federal Energy Regulatory Commission
FSRU	Floating Storage and Regasification Unit
GW-hr	Gigawatt Hour
HDD	Horizontal Directional Drilling
Islander East	Decision and Findings by the U.S. Secretary of Commerce in the Consistency Appeal of the Islander East Pipeline Co., LLC (May 5, 2004).
January 2008 Response to Comments	Response to Comments on Broadwater's Petitions and Applications for Easements Over New York State Lands (January 2008).
Korea Drilling	Decision and Finding in the Consistency Appeal of the Korea Drilling Co., Ltd. (January 19, 1989).
LINSHA Plan	Long Island North Shore Heritage Area Management Plan

LISCMP	Long Island Sound Coastal Management Program
LNG	liquefied natural gas
M & N	Moffatt & Nichol
MGD	million gallons per day
Millennium Pipeline	Decision and Findings by the U.S. Secretary of Commerce in the Consistency Appeal of Millennium Pipeline Co., LP From an Objection by the State of New York (December 12, 2003).
Mobil Exploration & Producing	Decision and Findings in the Consistency Appeal of Mobil Exploration & Producing U.S. Inc. From an Objection by the State of Florida (January 7, 1993).
MRHs	Major Resource Holders
NEEC	Northeastern United States and Eastern Canada
NEPA	National Environmental Policy Act
NOAA	National Oceanic and Atmospheric Administration
NMFS	National Marine Fisheries Service
NYSCMP	New York State Coastal Management Program
NYSDEC	New York State Department of Environmental Conservation
NYSDOS	New York State Department of State
Objection	New York State Department of State's April 10, 2008 Objection to the Broadwater Project's Coastal Zone Consistency Certification
OCRM	Office of Coastal and Coastal Resource Management, U.S. Department of Commerce
October 8, 2007 Responses	Broadwater's October 8, 2007 Responses to NYSDOS Information Requests
PNYNJ	Port of New York/New Jersey
Project	The FSRU, Sendout Pipeline, and appurtent structures
Race	The area by which to enter Long Island Sound at its eastern end.
Response to July 3, 2007 IR	Response of Broadwater to NYSDOS's July 3, 2007 Information Request
Riverhead Plan	Town of Riverhead's Comprehensive Plan
Secretary	Secretary of Commerce
Sendout Pipeline	21.7-mile-long pipeline that will connect the FSRU to the existing subsea Iroquois Gas Transmission System
Sound	Long Island Sound
Sparrows Point I	AES Sparrows Point LNG, LLC v. Smith, 527 F.3d 120 (4th Cir. 2008).
Sparrows Point II	Decision and Findings by the U.S. Secretary of Commerce in the Consistency Appeal of AES Sparrows Point LNG, LLC and Mid-Atlantic Express, L.L.C. From an Objection by the State of Maryland (June 26, 2008).
SSZs	safety and security zones

TSS	Traffic Separation Scheme
USACE	U.S. Army Corps of Engineers
Volume 2	Volume 2 of the Long Island Sound Coastal Management Program
WSR	U.S. Coast Guard's Water Suitability Report for the Broadwater Project
WIS	Wave Information System
Yeamans Hall Club	Decision and Findings in the Consistency Appeal of Yeamans Hall Club From an Objection by the South Carolina Coastal Council (August 1, 1992).
YMS	Yoke Mooring System

INTRODUCTION

Broadwater Energy LLC and Broadwater Pipeline LLC (collectively "Broadwater") propose to construct and operate a liquefied natural gas ("LNG") terminal that will supply one billion cubic feet per day ("Bcf/d") of clean-burning natural gas and benefit the public and environment by providing significant new supplies to meet growing demand in the regional market (*i.e.*, Long Island, New York City, the greater New York City metropolitan area, upstate New York, and southern Connecticut). Broadwater Energy LLC applied for authorization from the Federal Energy Regulatory Commission ("FERC") to site, construct, and operate a floating storage and regasification unit ("FSRU") in Long Island Sound (also, the "Sound"). Concurrently, Broadwater Pipeline LLC applied for a certificate of public convenience and necessity to construct, own, and operate a 21.7-mile-long pipeline ("Sendout Pipeline") and appurtenant facilities that will connect the FSRU to the existing subsea Iroquois Gas Transmission System. The FSRU, Sendout Pipeline, and appurtenant structures comprise the Broadwater Project (the "Project").

In addition to other permit applications currently pending before New York State agencies, Broadwater has applied to the U.S. Army Corps of Engineers ("USACE") for authorization to conduct activities associated with the construction and operation of the Project.

On April 13, 2006 (as amended on October 31, 2006), Broadwater submitted a Coastal Zone Consistency Certification ("CZCC") to the New York State Department of State ("NYSDOS"), which certified the Project's consistency with the enforceable policies of the Long Island Sound Coastal Management Program ("LISCMP"). During at least ten meetings in 2007, NYSDOS and Broadwater discussed possible design alternatives, reliability, size and scope, impacts, and the capacity to provide additional energy supplies to the region. Broadwater provided NYSDOS with further detailed technical information, additional data and studies, and specific responses to issues or concerns raised by NYSDOS staff.

On January 11, 2008, FERC issued its Final Environmental Impact Statement ("FEIS"), which evaluated numerous potential coastal effects and was prepared with input from NYSDOS, acting as a "cooperating agency" under the National Environmental Policy Act ("NEPA"). On March 20, 2008, based

on findings in the FEIS, FERC approved Broadwater's applications for authority to construct and operate the Project and for a certificate of public convenience and necessity for the Sendout Pipeline.[1] FERC concluded that "construction and operation of the Broadwater Project, with the adoption of the proposed mitigation measures, would result in only limited adverse environmental impacts [and] the project is needed to meet the projected energy needs for the New York City, Long Island and Connecticut markets."[2]

On April 10, 2008, NYSDOS issued an objection ("Objection") to the Project's CZCC, which contends that the coastal effects resulting from both the Project and the associated safety and security zones ("SSZs") to be established by the U.S. Coast Guard ("Coast Guard") are inconsistent with the LISCMP. NYSDOS's Objection is defective and otherwise erroneous. The Project clearly meets the objectives of the federal Coastal Zone Management Act ("CZMA"), and Broadwater respectfully requests that the Secretary of Commerce ("Secretary") override NYSDOS's Objection and find as much.

PRELIMINARY STATEMENT

The Secretary should override NYSDOS's Objection for several reasons. First, many of the coastal effects described in the Objection result from the Coast Guard's future establishment of SSZs around the FSRU and transiting LNG carriers. Second, the Objection should be overruled because it bases its coastal effects analysis and inconsistency finding on materials other than the federally-approved and enforceable policies of the LISCMP. Finally, the Objection should be overruled because the Project is clearly consistent with the objectives of the CZMA. By providing a new and reliable supply of affordable and cleaner-burning natural gas to satisfy the undisputed growing regional demand, the Project furthers the national interest in a significant and substantial manner – and the national interests furthered by the Project clearly outweigh the potential minor coastal effects resulting from the Project, whether considered separately or cumulatively. The record also demonstrates that there are no reasonable alternatives that would allow the Project to be conducted in a manner consistent with the enforceable policies of the LISCMP – indeed NYSDOS has not proposed any alternatives consistent with the LISCMP.

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1 Broadwater Energy LLC, 122 FERC ¶ 61,255 (2008) ("Approval Order") (BW33021-33073).

2 Id. at P 2 (BW33022). NYSDOS has filed a motion with FERC requesting rehearing of its Approval Order. FERC has not issued a ruling in response to NYSDOS's motion.

DISCUSSION

I. THE NYSDOS OBJECTION IS DEFECTIVE BECAUSE MANY OF THE PURPORTED COASTAL EFFECTS IMPUTED TO THE BROADWATER PROJECT RESULT FROM FEDERAL AGENCY ACTIVITIES THAT ARE NOT SUBJECT TO REVIEW UNDER 15 C.F.R. PART 930, SUBPART D

Because the Broadwater Project is a "federal license or permit" activity, analysis of the coastal effects resulting from the Project in NYSDOS's Objection and the instant appeal is governed by the provisions of 15 C.F.R. Part 930, Subpart D. See 15 C.F.R. §§ 930.50, 930.51. On the other hand, because the Coast Guard's prospective creation of the SSZs is a "federal agency activity," analysis of the coastal effects resulting from the SSZs is governed by the provisions of 15 C.F.R. Part 930, Subpart C. See 15 C.F.R. § 930.31(a). Under Subpart C, if the Coast Guard determines that its proposed SSZs will affect "any coastal use or resource" in New York State, the Coast Guard must submit a Coastal Zone Consistency Determination ("CZCD") to New York State that indicates whether imposition of the SSZs "will be undertaken in a manner consistent to the *maximum extent practicable*" with the LISCMP. 15 C.F.R. § 930.36(a) (emphasis supplied). The Coast Guard may proceed with imposition of the SSZs despite objection by New York State (15 C.F.R. §§ 930.32, 930.43), and such a determination by the Coast Guard is not subject to review by the Secretary. 15 C.F.R. § 930.120.

NYSDOS's analysis of the Project's consistency with LISCMP Policies 1, 9, 10 and 11 in the Objection improperly conflates the coastal effects that may result from the Coast Guard's SSZs with effects from the Project itself.[3] For instance, while the Objection argues that the Project will adversely affect "public recreation" on Long Island Sound, NYSDOS concedes that:

> 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.[4]

The coastal effects to public recreation resulting from the Coast Guard's imposition of the SSZs, however, will be addressed in a future Coast Guard CZCD (pursuant to the Subpart C regulations).

The Secretary's analysis of the coastal effects of the Project in this appeal must be limited to only those effects that result from the Project itself, and not the effects that result from the Coast Guard's future

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[3] See, e.g., Objection at 16-24, 35-60 (BW33750-33758, BW33769-33794).
[4] Objection at 38 (BW33772).

establishment of the SSZs. To analyze the coastal effects resulting from direct "federal agency activities" in the scope of this appeal (which is governed by the Subpart D regulations pertaining to "federal license or permit" activities), would confound the intent of the CZMA and the National Oceanic and Atmospheric Administration's ("NOAA") implementing regulations to establish separate procedural mechanisms for those two mutually exclusive scenarios; it would also allow states to effectively prohibit a (Subpart C) "federal agency activity" through the guise of a Subpart D matter, thereby violating the CZMA.

Even if the coastal effects resulting from the Coast Guard's imposition of the SSZs are imputed to the Broadwater Project and considered in this appeal, those effects are not as described in the Objection and, in all events, the combined coastal effects of the Project and the Coast Guard's SSZs are far outweighed by the Project's significant and substantial benefits to the national interest.

II. THE NYSDOS OBJECTION IS DEFECTIVE BECAUSE IT IS BASED UPON MATERIALS THAT ARE NOT ENFORCEABLE POLICIES OF THE LISCMP UNDER 16 U.S.C. § 1456

A state coastal agency may object to a project only on the basis of alleged inconsistencies with "enforceable policies" of a coastal management program ("CMP") that has been approved by NOAA. 16 U.S.C. § 1456(c)(3)(A); AES Sparrows Point LNG, LLC v. Smith, 527 F.3d 120, 123 (4th Cir. 2008) ("Sparrows Point I").

Under the CZMA, any amendments to a previously approved CMP must be presented to NOAA for approval. See Sparrows Point I, 527 F.3d at 123; 16 U.S.C. § 1455(e)(3)(A). A "'proposed amendment, modification, or change which . . . is not finally approved . . . shall not be considered an enforceable policy' of the CMP" and may not serve as the basis for a state consistency objection. 527 F.3d. at 126.

In Amoco Production,[5] the Secretary admonished state coastal management agencies as follows:

> [T]his decision puts all state coastal management agencies on notice that should they base an objection on a policy that is not part of their Federally approved coastal management program and that objection is appealed, the Department will find, as a threshold matter, that the objection is not valid and that the proposed activity may be permitted by Federal agencies.

See also Sparrows Point II[6] at 8. Likewise, in Sparrows Point I, the court rejected an effort by Maryland to incorporate a local zoning ordinance (prohibiting LNG facilities in the Chesapeake Bay) into the state's

[5] Decision and Findings in the Consistency Appeal of Amoco Production Company from an Objection by the Division of Governmental Coordination of the State of Alaska (July 20, 1990) ("Amoco Production").

CMP without NOAA approval of the ordinance. Allowing incorporation of the local ordinance imposing the LNG ban into Maryland's CMP would permit a state to "unilaterally amend its CMP in violation of the CZMA's requirement of federal approval." 527 F.3d at 126-27.

In February 2002, NOAA approved the 13 policies "set forth in 19 NYCRR Part 600.6 as enforceable policies of the [LISCMP]."[7] The enforceable policies of the LISCMP are limited to the LISCMP text as codified as N.Y. Comp. Codes R. & Regs. 19, § 600.6.

As a threshold matter, NYSDOS's Objection is invalid because, instead of relying on the "enforceable policies" of the LISCMP, the Objection relies on materials that have never been approved by NOAA. See Amoco Production at 12. Specifically, the Objection relies on the Long Island North Shore Heritage Area Management Plan ("LINSHA Plan"), the Town of Riverhead's Comprehensive Plan ("Riverhead Plan"), and the so-called Volume 2 of the LISCMP ("Volume 2") as the bases of its inconsistency finding.

LISCMP Policy 1 seeks to "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." N.Y. Comp. Codes R. & Regs. 19, § 600.6(a) (emphasis supplied). Instead of the enforceable policies of the LISCMP, however, the Objection interprets "community character" pursuant to a variety of non-enforceable and non-NOAA-approved local land use plans and other materials. The Objection quotes whole tracks from the October 2006 LINSHA Plan and the November 2003 Riverhead Plan – neither of which were incorporated into the original LISCMP when presented to NOAA in January 2002 or subsequently included in any NOAA-approved amendments to the LISCMP.[8] The Objection also repeatedly quotes "Volume 2," a 498-page NYSDOS guidance document published in April 1996 that contains "background information" upon which

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[6] Decision and Findings by the U.S. Secretary of Commerce in the Consistency Appeal of AES Sparrows Point LNG, LLC and Mid-Atlantic Express, L.L.C. From an Objection by the State of Maryland (June 26, 2008) ("Sparrows Point II").

[7] See February 20, 2002 Letter from John King, Acting Chief of NOAA's Office of Ocean and Coastal Resource Management, to George Stafford, Director of NYSDOS's Division of Coastal Resources.

[8] Objection at 17-18, 25-26 (BW33751-33752, BW33759-33760).

the LISCMP is ostensibly based, but which has never been submitted to NOAA for approval.[9] Glaring in its absence from the Objection's discussion of the Project's alleged inconsistency with LISCMP Policy 1 is a single quote from the NOAA-approved text of Policy 1 itself. Instead, NYSDOS relies on language from the LINSHA Plan, the Riverhead Plan and Volume 2 to effectuate a *de facto* amendment of the LISCMP. By relying on these non-NOAA-approved and non-enforceable policies to conclude that the community character of Long Island Sound cannot be reconciled with any private development sited on public trust submerged lands, the Objection interprets the LISCMP as prohibiting all future offshore energy development in the Sound.[10] There is no language in the LISCMP that prohibits offshore energy development in the Sound. Rather, LISCMP Policy 13.3 – which the Objection ignores completely – contemplates "siting major energy generating facilities" in the Sound coastal zone in a manner that ensures "maximum efficiency and minimum adverse environmental impact." N.Y. Comp. Codes R. & Regs. 19, § 600.6(m)(3). Policy Standard 13.4 states that "Liquefied Natural Gas facilities must be safely sited and operated," thereby tacitly accepting safely sited and operated LNG facilities in the Sound. N.Y. Comp. Codes R. & Regs. 19, § 600.6(m)(4)(iii). There is no safer location for the operation of an LNG facility in the Sound than the offshore location of the Project.[11]

The attempted use of non-NOAA-approved materials to modify the LISCMP is precisely what the Fourth Circuit prohibited in Sparrows Point I, 527 F.3d at 126. Just as Maryland could not rely on a local zoning ordinance to prohibit LNG facilities on the Chesapeake Bay because the local ordinance was not an enforceable policy approved by NOAA, NYSDOS may not rely on the LINSHA Plan, the Riverhead Plan, or Volume 2 to prohibit offshore energy development in Long Island Sound.

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[9] Objection at 17-19 (BW33751-33753). Not only was Volume 2 never submitted to NOAA for approval as an enforceable policy of the LISCMP, but Broadwater was never informed of the existence of Volume 2 until it was prominently relied upon in the Objection. Broadwater was not provided a copy of Volume 2 until June 2008 (two months after NYSDOS issued the Objection).

[10] See also Objection at 20 (BW33754) ("[T]he LISCMP does not sanction siting a transshipment, industrial vaporization and storage facility in an offshore open water area."); id. at 24 (BW33758) ("Broadwater's new industrial use proposed for the open water of the Sound would convert open space and natural and recreational areas into a private industrial zone, [] would set a precent [sic] for other industrial and energy facilities and pipelines to locate here [sic], and would result in substantial adverse effects to community character.").

[11] See, e.g., Coast Guard's Water Suitability Report ("WSR") § 8.2 (BW7749) ("The proposed location of the FSRU (approximately 10.2 miles from Connecticut and 9.2 miles from New York) has a number of significant safety and security benefits associated with its remoteness, especially with respect to threat and consequence since it would be remote from population centers. This fact would also serve to lessen the FSRU's attractiveness as a target.").

NYSDOS's attempted prohibition of offshore energy development in the Sound would never be approved by NOAA as an enforceable policy of the LISCMP. Pursuant to 16 U.S.C. § 1455(d)(8), NOAA may not approve a proposed state CMP unless it "provides for adequate consideration of the national interest involved in [] siting of facilities such as energy facilities which are of greater than local significance." See also 15 C.F.R. § 923.52. NOAA has specifically rejected the idea that a state could ever amend its CMP to prohibit offshore energy development:

> [A] state has a policy that opposes all offshore oil and gas development. OCRM did not approve the incorporation of the policy into the state's federally approved CMP, because OCRM determined the policy would affect the state's obligation to consider the national interest in energy facility siting.[12]

Thus, the LISCMP would have never been approved by NOAA if it contained the proposition that NYSDOS now attempts to graft onto it using the LINSHA Plan, the Riverhead Plan and Volume 2 – *i.e.*, that new offshore energy development is prohibited in the Sound as antithetical to community character. See Sparrows Point I, 527 F.3d at 127. (Williams, C.J., concurring) (noting that a general LNG facility prohibition could never be approved by NOAA under the CZMA).

Because NYSDOS's Objection is based on materials other than enforceable policies of the LISCMP approved by NOAA, and ignores approved policies such as LISCMP 13.3 and 13.4, the Objection violates the CZMA, is invalid and should be overruled.

III. THE BROADWATER PROJECT IS CONSISTENT WITH THE OBJECTIVES OF THE CZMA

The Objection must be overruled if the Secretary finds the Project consistent with the objectives of the CZMA based on the three regulatory elements set forth in 15 C.F.R. § 930.121. The Project is consistent with the objectives of the CZMA because it satisfies each of these three elements.[13]

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[12] Office of Ocean & Coastal Resource Mgmt., U.S. Dep't of Commerce, CZMA Federal Consistency Overview, at 7 (2007), available at http://coastalmanagement.noa.gov/consistency/media/FCoverview081007.pdf. ("CZMA Overview").

[13] The Objection should also be overruled because the Project is necessary in the interests of national security. 15 C.F.R. § 930.120. A "federal permit/licensing activity" is "necessary in the interest of national security" if "a national defense or other national security interest would be significantly impaired were the activity not permitted to go forward as proposed." 15 C.F.R. § 930.122. Here, public positions taken by the President and other executive branch officials support the conclusion that the Project is in the interest of national security because it will add to both the supply and geographic diversity of the national energy infrastructure in a critical economic center of the United States. Sec. Samuel W. Bodman, On the Road to Energy Security, Implementing a Comprehensive Energy Strategy: A Status

A. Element 1 – The Project Furthers the National Interest in a Significant and Substantial Manner

To satisfy Element 1, Broadwater must demonstrate that the Project furthers the national interest (as defined in 16 U.S.C. §§ 1451 and 1452) in a significant and substantial manner. 15 C.F.R. § 930.121(a). "Stated broadly, Congress had defined the national interest in coastal zone management to include both protection and development of coastal resources." Sparrows Point II at 10. "A wide variety of activities has been found to meet the competing goals of resource protection and development, and past decisions have held that the siting of coastal-dependent energy facilities furthers the national interest sufficiently for CZMA purposes." Id. Additionally, NOAA has "identified the siting of coastal-dependent energy facilities as an example of an activity that furthers the national interest in a significant and substantial manner." Id.

i. The Broadwater Project is a Major Coastal-Dependent Energy Facility

The CZMA states that it is in the national interest for states to maintain coastal management programs that provide for "priority consideration being given to coastal-dependent uses and orderly processes for siting major facilities related to national defense [or] energy." 16 U.S.C. § 1452(2)(D).

The Broadwater Project will be used for the conversion, storage, transfer, processing, and transportation of an energy resource – natural gas – and therefore is an "energy facility" pursuant to 16 U.S.C. § 1453(6).[14] The Secretary recently determined that the AES Sparrows Point LNG facility, a project costing $650 million with a delivery capacity of 1.5 Bcf/d, was a "major" energy facility. Sparrows Point II at 11. Because the Broadwater Project will cost approximately $1 billion and have a natural gas base delivery capacity of 1.0 Bcf/d and a 1.25 Bcf/d peak load capacity, the Project is "major" in scope.

Like other LNG terminals, the Project is "coastal dependent" because "it would require that LNG be delivered via tankers that will dock and unload at the terminal prior to LNG regasification and transport

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Report, DOE, at 6 (2006). The diversification of the nation's natural gas supplies through the construction of LNG import and regasification facilities was a critical component of the Energy Policy Act of 2005, Pub. L. No. 109-58, 119 Stat. 594 ("EPACT 2005"), and the President recognized the indisputable connection between the nation's energy security and national security when he signed EPACT into law. President's Statement upon signing H.R. 6, EPACT 2005 (Aug. 8, 2005).

[14] FEIS § 1.0 (BW28774-28775).

through the pipeline." Id. The Project "pipeline must traverse the coastal zone" from the FSRU "to regional pipeline connections." Id. Accordingly, the Project is a major coastal-dependent energy facility.

ii. The Broadwater Project Will Develop the Resources of the Coastal Zone In a Significant and Substantial Manner

LNG import terminals, such as the Broadwater Project, "develop the coastal zone by making possible the importation of additional natural gas via LNG tankers to meet growing regional demand." Sparrows Point II at 12. Constructing an LNG terminal and "constructing a natural gas pipeline all constitute activities that would develop the coastal zone to facilitate the importation of natural gas to meet anticipated regional energy needs." Id.

The Project's development of the coastal zone will be "significant" and "substantial." "Significant" is "interpreted to encompass projects that provide a valuable or important contribution to a national interest, without necessarily being large in scale or having a large impact on the national economy." Id. at 14. "Substantial" is "interpreted to encompass projects that contribute to a CZMA objective to a degree that has a value or impact on a national scale." Id. "The regulations provide examples of activities that significantly or substantially further the national interest, such as the siting of energy facilities." Id. "Such activities have economic implications beyond the immediate locality where they are located." Id.

Like other LNG terminals, the Project "is significant because it provides an important contribution to the Nation's interest in siting LNG facilities to meet future energy requirements." Id. "The Nation's interest in developing LNG facilities was recently articulated in the White House National Economic Council's Advanced Energy Initiative," which states that "at the President's direction, Federal agencies are working to accelerate the development and expansion of LNG terminals to improve natural gas availability and supply." Id.

Like other LNG terminals, the Broadwater Project is "substantial given its anticipated contribution to future regional natural gas supplies." Id. at 15. The Project will enable regional growth and enhance the reliability of energy supplies by creating new infrastructure and providing significant volumes of new molecules of natural gas to meet growing demand in the New York City greater metropolitan area, Long

Island, Southern Connecticut, and upstate New York, where there is undeniable need for new natural gas supply. This region constitutes approximately 20% of the total natural gas consumption of the northeastern United States and eastern Canada ("NEEC") markets – an estimated 700 Bcf/year. Average daily demand in this region is anticipated to grow from 1.8 billion Bcf/d in 2005 to 2.6 Bcf/d in 2025 (with peak demand rising to 4.6 Bcf/d in 2025).[15] "Against this substantial rising demand, it is expected that traditional sources of natural gas for the region, primarily from the Gulf Coast and Canada, will decline in both absolute and relative terms." Sparrows Point II at 12. The U.S. government's projected annual difference of 2.1 trillion cubic feet of Canadian natural gas imports translates to an average daily requirement of 5.7 Bcf/d in 2030 that must be offset from other sources to satisfy regional energy demands. The FEIS notes that regional price spikes and volatility are caused not only by decreased supply and increased demand, but also by inadequate regional natural gas infrastructure.[16] The Project satisfies these important national concerns because it will provide additional energy supply and infrastructure, which will result in reduced costs and increase reliability.[17]

iii. The Broadwater Project Furthers the National Interest In Preserving, Protecting and Enhancing the Resources of the Nation's Coastal Zone

The Broadwater Project also furthers the national interest in preserving and protecting the resources of the nation's coastal zone (16 U.S.C. § 1452[1]), both by providing a new source of clean burning natural gas (thereby improving air quality) and by locating the FSRU nine miles offshore in the mid-waters of Long Island Sound (so as to preserve sensitive nearshore resources). See Islander East[18] at 9-10 (reduction of air pollution by use of natural gas delivered by the project "contributes to the preservation of coastal resources and furthers the national interest as articulated in the CZMA."). Similarly, the Broadwater Project will provide a cleaner-burning substitute for other fossil fuels, making it possible for existing

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15 See Response to Comments on Broadwater's Petitions and Applications for Easements Over New York State Lands (January 2008) ("January 2008 Response to Comments"), Resource Report 1, App. A, Regional Market Growth and the Need for LNG Imports into the Northeast U.S. and Eastern Canada by Energy and Environment Analysts, Inc., October 13, 2005, at 1-4 (BW31699-31702); see also Annual Energy Outlook (AEO) 2007 – With Projections to 2030, published by the Energy Information Administration, DOE, at 94 (BW31757), available at http://tonto.eia.doe.gov/ftproot/forecasting/0383(2007).pdf.

16 FEIS § 1.1.4 (BW28786-28787).

17 See January 2008 Response to Comments at 20-36 (BW30985-31001).

18 Decision and Findings by the U.S. Secretary of Commerce in the Consistency Appeal of the Islander East Pipeline Co., LLC (May 5, 2004), at 6 ("Islander East").

electric generating facilities currently fueled by coal or oil to partially or fully re-power. Re-powering will result in a net decrease in a wide variety of damaging air pollutants in the Long Island Sound coastal zone, including emissions and deposits of acid rain precursors.[19]

B. Element 2 – The National Interests Furthered by the Broadwater Project Outweigh Any Putative Adverse Coastal Effects

In order to satisfy Element 2, the national interest furthered by the Broadwater Project must outweigh any adverse coastal effects resulting from the Project, when those effects are considered separately or cumulatively. 15 C.F.R. § 930.121(b). "The national interest embodied in the CZMA recognizes that any development project within the coastal zone will use, to some extent, coastal resources." Islander East at 10. "Thus, the assessment of the national interest in Element 2 requires consideration of the extent of the effects of the activity on the natural resources of the coastal zone and the benefits of the development that occurs as a result of the use of coastal resources." Id.

The national interest benefits of the Broadwater Project clearly outweigh its potential limited adverse effects to the Long Island Sound coastal zone. The detailed and comprehensive FEIS (developed by FERC as the lead agency under NEPA) and Broadwater's voluminous and technically detailed submissions to NYSDOS and other agencies demonstrate that any coastal effects will be minor in magnitude and temporary in effect. Broadwater will further mitigate potential adverse coastal effects as required by the conditions in the Approval Order, which were based on recommendations set forth in the FEIS.[20]

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[19] January 2008 Response to Comments, Long Island Power Authority, Broadwater LNG Technical Assessment — Market, Technology, Environmental and Safety Related Impacts in New York State (July 2007), at 48 (BW31147). As noted in Broadwater's Resource Report 5, using data from the New York State Energy Plan on future electric power generation under two alternative growth scenarios, avoided air pollution damages associated with expected natural gas increases to New York City and Long Island power generation capacity are estimated to average $181 million per year between 2011 and 2020. The cumulative present value of these avoided damages (public benefits) is $1.3 billion (in 2005 dollars). See January 2008 Response to Comments at 155 (BW31120). In addition, assuming Broadwater's annual natural gas throughput dedicated to electricity generation will supply between 15,000 to 26,000 gigawatt hours ("GW-hr") (17% to 28% of total regional load) of electric power, the estimated benefits to air quality attributable to the Project range from $31 to $51 million per year on average, or cumulatively between $226 and $373 million in present value terms over the first ten years of the Project's life. Id. As a result, the Project furthers the national interest in contributing to the preservation and protection of the coastal zone "to a degree that has value or impact on a national scale."

[20] See Approval Order, App. B (BW33053-33070). Once such conditions are included in a permit, the Secretary can rely on the implementation of these conditions in his analysis of the coastal effects of the Project. See also Nat'l Audubon

The regulations governing this appeal require the Secretary to "accord greater weight to those Federal agencies whose comments are within the subject area of their technical expertise." 15 C.F.R. § 930.128(c)(1). FERC was the lead federal agency for preparation of the FEIS for the Broadwater Project.[21] The analysis in the FEIS was the product of an "interdisciplinary review by FERC staff," along with expert input from other federal agencies such as the Coast Guard, USACE, the National Marine Fisheries Service ("NMFS") and the U.S. Environmental Protection Agency ("EPA"), and comments by state agencies.[22] Based on analysis included in the approximately 500-page FEIS, FERC "determined that construction and operation of the proposed Project, with the adoption of FERC and Coast Guard recommendations, would result in limited adverse environmental impacts."[23] The FEIS also established that during the Project's "normal operation, the impacts of primary concern would consist of minor impacts to water quality, air quality, fisheries resources associated with impingement and entrainment, recreational boating and fishing, commercial fishing, and commercial vessel traffic, as well as minor to moderate impacts on visual resources."[24] To address those limited coastal effects identified in the FEIS, FERC developed 86 specific mitigation measures. Ultimately, the FEIS concludes that if the Project "is implemented with the identified mitigation measures during design, construction, and operation, it would be an environmentally acceptable action."[25] The FERC's unanimous Approval Order agreed "with the conclusions presented in the final EIS that construction and operation of the Broadwater Project, with the adoption of the proposed mitigation measures, would result in only limited adverse environmental impacts."[26] "Based on the benefits that the Broadwater Project will provide the market and the minimal adverse effects on existing customers, other pipelines and their captive customers, and landowners and

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Soc'y v. Hoffman, 132 F.3d 7, 17 (2d Cir. 1997) (observing that the efficacy of the mitigation measures is ensured where they are included as mandatory conditions in the issued permits); Decision and Finding in the Consistency Appeal of the Korea Drilling Co., Ltd. (Jan. 19, 1989), at 5 ("Korea Drilling") (holding that the Secretary will rely on commitment of project proponents on appeal in analyzing a project's coastal effects).

21 FEIS, Introduction (BW28736).

22 FEIS § 5.1 (BW29231).

23 Id.

24 Id.

25 Id.

26 Approval Order at P 2 (BW33022).

surrounding communities," FERC found "that the public benefits from [the Broadwater Project] outweigh any adverse effects and approval of the project is required by public convenience and necessity."[27]

As recognized in the FEIS and the Approval Order, the Broadwater Project has been carefully sited (nine miles from the coast) and its every element designed to either eliminate or minimize potential adverse coastal effects while also benefiting both the general national interest in the siting of energy facilities (see 65 Fed. Reg. 77,150 (December 8, 2000]) and the specific regional "energy needs for the New York City, Long Island and Connecticut markets."[28] FERC's Approval Order states:

> [T]he proposed project, under normal operating conditions, would not be expected to impact sensitive onshore or nearshore resources such as wetlands, terrestrial wildlife and birds, freshwater fisheries, shellfish beds, eelgrass beds, residences, businesses, or county, state, or national parks. Broadwater developed the proposed siting and design, as well as the construction and operation methods and procedures, in an effort to reduce the potential impacts of the proposed project. In addition, staff has recommended measures to avoid or further minimize potential impacts to the environment.[29]

While NYSDOS's Objection concedes that delivering additional supplies of natural gas to Broadwater's target markets is an "important objective,"[30] NYSDOS stands as the lone government agency concluding that these important benefits to the national interest are outweighed by the Project's limited coastal effects. Any objective examination of the various coastal effects imputed to the Project in NYSDOS's Objection demonstrates that those limited effects are far outweighed by the substantial and significant benefits of the Project to the national interest.

i. Visual/Aesthetic Effects

Not only does the Objection grossly exaggerate the visual/aesthetic effects of the Project,[31] but NYSDOS's attempted prohibition on any "new, permanent, fixed, above-water industrial structure"[32] in the Sound is tantamount to a flat ban on offshore energy development – in violation of the CZMA.[33]

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27 Id. at P 88 (BW33049).
28 Id. at P 2 (BW33022).
29 Id. at P 54 (BW33041).
30 Objection at 61 (BW33795).
31 Objection at 18 (BW33752).
32 Objection at 19 (BW33753).
33 See CZMA Overview at 7.

Every major element of the Project – from the FSRU's location nine miles offshore in a working commercial body of water, to the use of existing onshore buildings to house Broadwater's land-based support facilities (thereby eliminating any negative visual onshore effects) – has been designed to fit in with its environment while preventing and/or minimizing aesthetic impairment and protecting components that contribute to Long Island Sound's high scenic qualities and character as a mixed use coastal area.[34] Locating the FSRU at the center of the Sound near its widest point maximizes the distance of the FSRU from all possible coastal vantage points, minimizes the reduction of open space, and guarantees that the FSRU will be effectively imperceptible from any urban areas or historic maritime communities.

The FEIS's comprehensive and detailed analysis of the visual effects of the Project was based, *inter alia*, on "observations made by FERC staff during site inspections" that were "conducted along and near the shorelines of Long Island, Connecticut, and Rhode Island, and from marine vessels."[35] The FEIS ultimately concludes that the Broadwater Project:

> [W]ould result in a moderate impact to visual resources in the operational area for the life of the Project. Our determination of the impact as moderate is based largely on the distance of the Project from the nearest shoreline and on the results of the visual modeling study, which assessed daytime views, night-time views, and the potential for light pollution.[36]

When viewed from the shore, the FSRU will appear very similar to and consistent with the vast percentage of the commercial vessels traveling between the FSRU and the shore.[37] The FSRU itself is a floating vessel, built in a shipyard and possessing all the normal visual characteristics of any other large seagoing commercial vessel, similar to many industrial tankers and freight vessels in excess of 800 feet in length that currently call on the ports along the Sound (according to data in the Coast Guard WSR).[38] NYSDOS repeatedly and incorrectly characterizes the FSRU as a "permanent fixed structure" when, in reality, the FSRU will be neither permanent nor fixed. The FSRU will be completely removed after the

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[34] See, e.g., Resource Reports, Onshore Facilities (January 2006) (BW533-635); Broadwater's New York State Coastal Zone Consistency Determination filed with the NYSDOS (April 2006) ("Broadwater CZCD"), App. K, Visual Resource Assessment (BW4095-4273).

[35] FEIS § 3.5.6 (BW28993).

[36] FEIS § 3.5.6.5 (BW29000).

[37] January 2008 Response to Comments (BW31845); see also Response of Broadwater to NYSDOS's July 3, 2007 Information Request ("Response to July 3, 2007 IR"), Letter from Broadwater to George R. Stafford, NYSDOS (June 29, 2007) (BW19303-19329).

[38] Coast Guard WSR § 2.2.1.1 (BW7614).

Project's useful life is completed; thus, the FSRU is in no sense "permanent."[39] Weathervaning of the FSRU around the yoke mooring system ("YMS") also will mean that its visual profile will not be "fixed,"[40] but will vary with wind and current conditions, thereby reducing length perceptions from coastal views and further increasing the FSRU's similarity to existing nautical uses of the Sound.

The New York State Department of Environmental Conservation's ("NYSDEC") policy for Assessing and Mitigating Visual Impacts states that when "determining the radius of the impact area to be analyzed, there has been a general guideline for large actions that it is usually 'safe' to use 5 miles."[41] NYSDEC uses five miles because this distance is "largely considered 'background,' *i.e.*, distances at which most activities are not a point of interest to the casual observer."[42] Because the FSRU will be nine miles from shore observers, well outside even NYSDEC's "background" zone impact area, all shoreline receptors will view the Project within the far background distance zone.[43] At this extreme distance, the FSRU will be completely invisible from all shoreline points 20% of the time due to meteorological conditions.[44] A long axis view of the FSRU and a berthed LNG carrier would present the largest possible image of the Project when viewed from the nearest shoreline – but even in that instance the Project would appear as a small two-dimensional rectilinear form on the extremely distant horizon, and the FSRU will appear much smaller than deep draft vessels that regularly navigate much closer to shore.[45] According to the FEIS, when viewed from the nearest shoreline, the FSRU will "appear smaller than a small paper clip held at arm's length (approximately 1 inch long by 0.1 inch high)."[46] "The relative size would decrease as the distance between the Project and the viewer increases," such that "[b]eyond 25 miles, the FSRU and YMS would not be visible."[47] Only boaters will view the Project from closer than nine miles. However, the number of vessels passing within close proximity to the FSRU site will be extremely limited (smaller or recreational

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39 Merriam-Webster's dictionary defines "permanent" as "continuing or enduring without fundamental or marked change."
40 Merriam-Webster's dictionary defines "fixed" as "immobile."
41 January 2008 Response to Comments at 125-26, Ex. 36, at 5 (BW31090-31091, BW31983).
42 Id. at 125 (citation omitted) (BW31090).
43 See Broadwater CZCD, App. K, Visual Resource Assessment (BW4104).
44 FEIS § 3.5.6.4 (BW28995).
45 Id.
46 Id.
47 FEIS § 3.5.6.5 (BW28999).

watercraft typically navigate much closer to shore and, as a result, already experience much closer encounters with existing large commercial vessels in the Sound).[48]

Inasmuch as "the FSRU may be more noticeable if there is a substantial color contrast with the surrounding area,"[49] Broadwater has committed to use a blue-gray color scheme and best lighting practices to lower the FSRU's visual profile in the water (in addition to investigating other possible design changes).[50] While NYSDOS recognizes that these commitments by Broadwater "would minimize discordant features as required by Subpolicy 3.1," NYSDOS maintains that (the text of Subpolicy 3.1 notwithstanding) minimization of potential adverse visual effects by Broadwater is insufficient, and that affirmative "protection and enhancement of the Sound's scenic value" is required.[51] Requiring that construction and operation of a major energy facility somehow *enhance* the Sound's scenic value, as opposed to minimizing potential coastal effects, creates an impossible standard at odds with the CZMA's recognition "that any development project within the coastal zone will use, to some extent, coastal resources." Islander East at 10.

Likewise, NYSDOS's position that *any* reduction of open space in the Sound cannot be reconciled with "community character" (even when located nine miles from the nearest shoreline) is tantamount to a unilateral and unlawful ban on all offshore energy development. LISCMP Policy 1 seeks to:

> 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.

N.Y. Comp. Codes R. & Regs. 19, § 600.6(a). The construction of any major energy facility in the Long Island Sound coastal zone will result in some level of open space reduction. The proper question in this instance is whether the design and location of such a facility mitigates and "minimizes [the] adverse effects of development" to the greatest extent practicable. As noted in the FEIS, the community character of Long Island Sound already includes two offshore petroleum transfer platforms: the ConocoPhillips "platform is

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48 FEIS § 3.5.5.1 (BW28985).

49 FEIS § 3.5.6.4 (BW28995).

50 Objection at 28 (BW33762); see also NYSDOS Information Exchange (Aug. 23, 2007) (BW33459-33460); NYSDOS Information Exchange (Apr. 2, 2008) (BW33226-33254). Condition 27 of the Approval Order requires Broadwater to file the FSRU color scheme for FERC approval prior to installation. Approval Order, App. B at P 27 (BW33059).

51 Objection at 28 (BW33762).

1.2 miles off the coast of Riverhead, New York; the other [KeySpan] platform is approximately 1.8 miles north of Northport, New York."[52] NYSDOS makes the illogical argument that the Broadwater Project's impact on open space will be greater than these existing offshore energy facilities (which predated NOAA's approval of the LISCMP in 2002) because the FSRU will be located farther from the shoreline and, as a result, potentially visible to a greater quantity of land-based viewers.[53] From a qualitative standpoint, however, the perceived reductions in open space resulting from facilities less than two miles offshore are orders of magnitude greater than those resulting from a facility nine miles out to sea.

The Objection also fails to provide any scientific data to support its contention that the minor visual effects resulting from an offshore energy facility such as the Broadwater Project will detract from either the community's aesthetic enjoyment of Long Island Sound or its so-called "community character." In reality, scientific analysis of the effects of existing offshore industrial facilities on aesthetic enjoyment of coastal resources demonstrates that beach attendance and the uses of coastal areas for recreation has a strong relationship with physical beach attributes, and a weak relationship with the mere presence of an offshore energy facility. Because these studies utilized the scientific method,[54] the analysis and conclusions contained therein are inherently more reliable and valid than the anecdotal and unsubstantiated assertions included in NYSDOS's Objection. The FEIS, which also relied on scientific analysis (as opposed to the speculative approach taken by NYSDOS), concluded "the data does not suggest that construction and operation of the proposed Project would alter the public value of the Long Island Sound viewshed."[55]

Finally, there is no support for NYSDOS's contention that the size of transiting LNG carriers will result in any significant visual effects or impairment of community character. Section 2.2.1.1 of the Coast Guard's WSR contains a summary of the sizes and tonnages of existing commercial and industrial traffic in the Sound.[56] Current commercial shipping in Long Island Sound "includes barges, tugs, articulated tug barges, freighters, tankers and passenger ships," including tank ships and barges delivering "bulk petroleum

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52 FEIS § 3.5.6.3 (BW28994).
53 Objection at 28 (BW33762).
54 See NYSDOS Information Exchange (Apr. 2, 2008) (BW33462-33471).
55 FEIS § 3.5.6.5 (BW29000).
56 Coast Guard WSR § 2.2.1.1 (BW7614-7616).

cargoes to the ConocoPhillips transfer platform in the town of Riverhead [] about 1 mile from the shoreline."[57] The Objection acknowledges that from 2003 to 2005, 307 vessels greater than 700 feet arrived in Long Island Sound, and 124 of those vessels arrived at the Riverhead platform (only 1.2 miles offshore).[58] The Coast Guard's data confirms that the LNG carriers would have only modestly larger dimensions than current industrial traffic in the Sound. The FEIS concludes that "LNG carriers in transit to and from the FSRU would appear similar to other commercial vessels in Eastern Long Island Sound, Block Island Sound, and Rhode Island Sound, during both day and night."[59] Further contradicting NYSDOS's argument is the fact that LNG carriers servicing the FSRU would be destined for the mid-waters of the Sound, would primarily be scheduled at night and, at a distance of nine miles, any modest difference in size between LNG carriers and existing commercial traffic would be imperceptible to shoreline viewers.[60]

ii. Offshore Industrial Proliferation

The Objection argues that the Project *could* establish a precedent leading to various offshore industrial projects in the mid-waters of Long Island Sound: *e.g.*, "Once established, this industrial zone itself becomes a justification for siting additional industrial uses in proximity . . ."[61] The Objection offers no data nor evidence, however, to support the assertion that the Project would precipitate offshore industrial development in the Sound, and the theory is unsubstantiated speculation.

The Objection makes much of a statement from the FERC website that there are currently "about 40 LNG terminals that are either before FERC or being discussed by the LNG industry for North America."[62] According to FERC, however, only 13 of the 46 existing or proposed LNG facilities in North America will potentially be sited in offshore locations;[63] and less than half of these proposed offshore LNG facilities will be sited in the Northeast United States. Moreover, an entire subsection of the FEIS is devoted

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57 FEIS § 3.5.6.4 (BW28998); see also Response to July 3, 2007 IR (BW19303-19329).
58 Objection at 21 (BW33755).
59 FEIS § 3.5.6.4 (BW28998).
60 Broadwater CZCD, App. K, Visual Resource Assessment (BW4104).
61 Objection at 22 (BW33756); see also id. at 21 (BW33755) ("[T]he existence of Broadwater's industrial facility and its associated infrastructure could effectively require the State to concentrate additional, similar uses in proximity . . ."); id. at 23-24 (BW33757-33758) ("[I]t is foreseeable that other similar LNG import facilities and pipelines would also expect placement in the Sound.").
62 Id. at 23 (BW33757).
63 These figures are as of September 2007. *See* http://www.ferc.gov/industries/lng/indus-act/terminals/exist-prop-lng.pdf.

to analyzing the Project's "Potential for Stimulating Additional Industrial/Commercial Development;"[64] and FERC ultimately concluded that the phenomenon is highly unlikely:

> We also evaluated whether or not implementation of the Project could result in offshore industrial development in the Sound. We found nothing to validate this concern. It has been over 30 years since the last energy transfer facility was built in the Sound, and there is little indication that the existence of that facility increased development in the Sound or on shore. Further, there would be little or no economic benefit to clustering industrial activity in the immediate vicinity of the proposed Project. We have concluded that implementation of the Broadwater Project would not stimulate new types of offshore industrial or commercial developments.[65]

iii. Impingement and Entrainment

The Objection argues that the Project will impinge or entrain approximately 274 million eggs, larvae and juvenile aquatic organism resulting from the withdrawal of a daily average of 28.2 million gallons of seawater for cooling, ballasting and other uses.[66] The FEIS refutes NYSDOS's assertions, however, concluding that the "most valid estimate" of total impinged/entrained organisms is 131.5 million.[67] Broadwater has consistently objected to NYSDOS's worst-case mischaracterization of ichthyoplankton impacts and, when considered in proper context, the objective effects of impingement/entrainment resulting from the Project are *statistically insignificant* and far outweighed by the benefits of the Project to the national interest.[68]

The sum of both the FSRU (5.5 MGD) and LNG tankers (22.7 MGD) average daily seawater intake is 28.2 MGD, which represents only 0.00016% of the source water body volume of the Sound.[69] Fish eggs and larvae suffer extremely high rates of natural mortality; greater than 99.9% of young spawned by a marine female fish typically die before reaching adulthood. Therefore, entrainment loss of 100-200 million fish eggs and larvae does not equal the loss of 100-200 million adult fish capable of reproducing or being harvested by recreational or commercial fishermen. Broadwater entrainment estimates (124 million eggs and larvae) from the deep waters of the central basin of the Sound were expressed in terms of one-year old

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64 FEIS § 3.5.2.2 (BW28980-28982).
65 FEIS at ES-9 – ES-10 (BW28768-28769).
66 Objection at 33-34 (BW33767-33768).
67 FEIS § 3.3.2.2 (BW28937).
68 See, e.g., Correspondence between Broadwater and NYSDEC (Apr. 8, 2008) (BW33400-33431).
69 It must be noted that this 28.2 million gallons per day ("MGD") figure would only be realized when LNG carriers are actually in the Sound, which is projected to occur only 118 times per year.

(fingerling) and adult (age of sexual maturity) equivalent fish. Of the 124 million eggs and larvae entrained, only 230,000 (0.2% of the eggs and larvae) would be expected to survive natural mortality to their first birthday, and only 140,000 (0.1%) would be expected to survive to the age of maturity. Thus, based on the very low adult equivalent entrainment estimates developed based on the FSRU and the LNG carriers' seawater intake and the infinitesimal percentage of the commercial fishery yield that potentially could be affected by entrainment and impingement resulting from operations of the Project, any potential effects to the local fishery community resulting from operation of the Project will be *de minimis*. See FEIS § 3.3.2.2 (BW28938) ("Because the estimated values represent such a small percentage of the standing crop of central Long Island Sound, these losses are not expected to affect the overall finfish, lobster, or plankton population within Long Island Sound. It is important to realize that, due to the high natural mortality rates in the first year of ichthyoplankton [greater than 99 percent], an incremental loss of 0.1 percent would not significantly impact the health of the adult fish population [EPA 2006d].").[70]

The *de minimis* nature of coastal effects resulting from impingement/entrainment of ichthyoplankton by either the Broadwater FSRU or LNG carriers is demonstrated by a comparison of site-specific data for the Millstone Station and the Broadwater FSRU. Egg and larvae density levels present at the proposed location of the Broadwater FSRU from the deep (123.9) and intermediate (243.5) strata are radically lower than the egg and larvae levels at the Millstone site (5,146.1).[71] Despite the much greater density of egg and larvae levels, 30 years of monitoring data from Millstone demonstrate *no downward trend* in long-term abundance of fish or American lobster in the Sound.[72] Based on the Millstone effects being several orders of magnitude greater than the Broadwater Project, there is *no scientific evidence* to support the contention that impingement/entrainment resulting from operation of the Broadwater FSRU and LNG carriers will have any significant adverse coastal effects in the Sound. The FSRU, with an average

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70 See Resource Report 3, Offshore Facilities (January 2006) (BW1269-1272, BW1397-1623).

71 Request of Broadwater Energy LLC and Broadwater Pipeline LLC for Leave to File Supplemental Comments on the Draft Environmental Impact Statement, at 56-58 (BW16129-16131).

72 Id. at 52-53 (BW16125-16126).

annual intake volume of 5.5 MGD from the open expanse of the central Sound, will withdraw only 1.2% to 20% of the water withdrawn by each of the other industrial facilities located in the same impact area.[73]

Broadwater is employing the best technology available in the FSRU intake design to avoid and minimize potential adverse effects to the Sound fishery from impingement/entrainment while maintaining safe and reliable operations on the FSRU. See Federal Clean Water Act § 316(b).[74] Broadwater's seawater intake structures are consistent with the EPA's regulations and were designed to minimize the effects of entrainment and impingement. In response to "several recommendations" by NYSDEC "regarding the intake structures to reduce impingement and entrainment and prevent fish mortality,"[75] Broadwater committed to the implementation of yet additional technological design and operational measures to absolutely minimize impingement/entrainment resulting from operations of the FSRU and LNG carriers.[76] NYSDOS's Objection acknowledges these efforts by Broadwater, but maintains that "even with these design changes [] the project will result in the death of approximately 210 million eggs and larvae . . ."[77] Thus, instead of requiring the minimization of potential adverse impingement/entrainment effects, NYSDOS appears to hold Broadwater to an impossible standard of zero ichthyoplankton mortality from impingement/entrainment – even where all available scientific data demonstrates that operation of the Project will not result in any statistically significant reductions in adult fish populations or harmful effects on fish communities in the Sound. Inasmuch as all offshore energy development (and, for that matter, all large commercial vessels operating in the Sound) requires some level of operational seawater withdrawal, NYSDOS's zero tolerance policy for impingement/entrainment in the Sound coastal zone is counter to the national interest and the CZMA.[78] See Islander East at 10.

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73 Compare withdrawal rates of AES Thames River facility (155 MGD), NRG Norwalk facility (312 MGD), PSEG New Have facility (410 MGD), KeySpan Northport (938 MGD) and Millstone nuclear power plant (2,189 MGD). See January 2008 Response to Comments at 128-29 (BW31093-31094).

74 See also Correspondence between Broadwater and NYSDEC (Apr. 8, 2008) (BW33385-33390).

75 Objection at 35 (BW33769).

76 See April 2, 2008 Letter from Broadwater Project Director Jimmy Culp to Jeffrey Zappieri of NYSDEC's Division of Coastal Resources (BW33243-33244) ("April 2, 2008 Culp Letter"); April 8, 2008 letter from Broadwater Project Director Jimmy Culp to John Ferguson of NYSDEC Division of Environmental Permits (BW33385-33448); Broadwater's April 30, 2007 Response to FERC's Environmental Information Request ("EIR") 4-3 (BW17777-17780).

77 Objection at 35 (BW33769).

78 Broadwater will also mitigate the effects of the Project by engaging in several educational and conservation programs to promote sustainable use of the Sound's living marine resources. For instance, Broadwater is exploring "v-

iv. Effects Upon Commercial Fishing and Lobster Industry

The Project will have no impact on harvesting of hard clams and Eastern oysters, which historically account for more than 74% of total commercial fishing revenues in the Sound.[79] NYSDOS's description of the impact the Broadwater Project will have on the remaining commercial fishing industry in Long Island Sound (lobster and finfish) is highly exaggerated and remarkably devoid of a basis in empirical data or science. In reality, a maximum of 12 trawling fishermen and nine lobstermen would be affected by the Coast Guard's safety and security zones around the FSRU, and all of these individuals also harvest from other areas in the Sound.[80] As a result, there is simply no logical support for NYSDOS's hyperbolic claims that the Project poses an existential threat to the Sound's "cultural heritage" of commercial fishing by imperiling the "generational transfer of knowledge and resources."[81] Fishermen affected by the Project will continue to ply their trade in the Sound because any partial derogation of their income will be fully compensated. The evidence demonstrates that the Project would have only a minor impact on commercial fishing in the Sound, and Broadwater has been resolute in its commitment to fully compensate all direct losses to affected fishermen, and all secondary losses to related industries, resulting from the Project.[82]

FERC determined that "construction and operation" of the Broadwater Project "would result in negligible adverse impacts" to "the stocks of fish and lobsters targeted by commercial fishermen" in Long Island Sound.[83] Accordingly, the FEIS concluded that "potential impacts to commercial fishermen [] would be minor and individual fishermen would be compensated for financial impacts. Consequently, the

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notching," a fishery management practice used as a conservation method, which consists of marking berried female lobsters by punching a v-shaped notch in the tail of the animal before returning it to sea water. This identifies the lobster as a "proven" broodstock and will protect the animal if subsequently caught, even in the absence of eggs attached to the lobster's swimmerettes. Connecticut has recently invested $1 million in an effort to successfully notch 60,000 female lobsters in the Sound. Broadwater has also proposed a fishing tag buy-back program to reduce the strain on and increase the long-term viability of over-taxed living marine resources in the Sound. Broadwater's total contribution to mitigation projects promoting the sustainable use of the Sound's living marine resources would total $15 million over the life of the Project. See January 2008 Response to Comments at 120 (BW31085).

79 See FEIS § 3.6.8.1 (BW29015) ("Because commercial shellfishing is not conducted in the area proposed for use by the Project, this activity would not be affected by either construction or operation of the Project."); First Response of Broadwater to May 4, 2007 EIR (BW17955-17972); Approval Order at P 59 (BW33042).

80 Approval Order at P 59 (BW33042); see also Broadwater's October 8, 2007 Responses to NYSDOS Information Requests ("October 8, 2007 Responses") (BW24231-24242).

81 Objection at 41 (BW33775).

82 See April 2, 2008 Culp Letter (BW33243-33244); Approval Order at P 59, App. B at P 29 (BW33043, BW33059).

83 FEIS §§ 3.3.3.2, 3.6.8.1 (BW28948, BW29015).

proposed Project would not result in a measurable impact to the economies of local fishing communities."[84] Any coastal effects resulting from the Project's impact on commercial fishing in the Sound are clearly outweighed by the substantial and significant benefits of the Project to the national interest.

a.) Commercial Finfishing (Trawling)

As a result of the relatively high density of lobster traps in the waters of the central and western basins of Long Island Sound, commercial finfishing is very limited in the area of the Coast Guard's proposed SSZs surrounding the FSRU. In order to avoid conflicts between fixed-gear and trawling fishermen, specific areas have been established in the Sound as trawling lanes. The SSZs proposed by the Coast Guard for the FSRU would affect only two trawling lanes in the Sound.[85] According to the Coast Guard's assessment in the WSR: "Very few commercial trawl fishing vessels utilize these lanes. It is estimated that *at most 6 trawlers* utilize these lanes."[86]

In a continuing effort to eliminate any remaining concerns NYSDOS may have on the Project's impact on this potential handful of trawlers, Broadwater has committed "to investigating and analyzing mechanisms that would allow traditional users," such as the affected trawlers, "to enter the Safety & Security Zone."[87] However, any "final decision on user access into the FSRU Safety & Security Zone will be made by the [Coast Guard Captain of the Port of] Long Island Sound."[88] Even without these further mitigative measures, it is clear that the Project's effect on commercial finfishing in the Sound will be relatively insignificant.[89] The total revenue of commercial finfishing lost as a result of the operation of the Broadwater Project over the Project's approximate 30-year operational life is approximately $42,000 (in present value terms); and those trawlers experiencing demonstrable lost revenue (in addition to any

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84 FEIS § 3.6.8 (BW29017).
85 See Resource Report 3, Offshore Facilities (January 2006) (BW1245-1247); Broadwater CZCD (BW5381).
86 WSR § 3.1.2.3.1 (BW7642) (emphasis supplied); see also FEIS § 3.7.1.3 (BW29041).
87 April 2, 2008 Culp Letter (BW33238-33239).
88 Id.
89 See FEIS § 3.6.8.1 (BW29015-29018).

potentially affected secondary industries) will be fully compensated by Broadwater.[90] The benefits of the Project to the national interest far outweigh the $42,000 in lost finfishing revenue.[91]

b.) Commercial Lobster Fishing

The FSRU and proposed Coast Guard SSZ are located in an area used by approximately nine lobstermen, all of whom also set lobster pots elsewhere in the Sound.[92] Utilizing average annual landings and a potential range of lobster pots per trap line, it is estimated that the proposed Coast Guard SSZ around the FSRU would eliminate lobster landings valued at between $8,042 and $32,168 per year depending on the number of pots attached to a trap line. Assuming 15 pots per trap line, the average landing would be valued at approximately $24,126 per year. Proceeding from this assumption, the average annual *direct* impacts on the lobster industry are estimated at $24,126, while annual indirect impacts are estimated at $9,333, and so-called "induced" impacts are estimated at $14,706 per year – for a total estimated annual impact of $48,166,[93] while the total economic impact (including indirect and induced impacts) on the lobster fishing industry over the operational life of the Project will be approximately $648,775.[94] The $648,775 economic impact of the Project represents far less than 1% of the estimated value of lobster landings in Long Island Sound. Thus, the Project will not threaten either the lobstering industry as a whole or any of the secondary industries relying thereon.

The Objection argues that Broadwater underestimates the Project's economic impact to the commercial lobster industry in the Sound because Broadwater's calculations are based on actual and current (*i.e.*, post-1999 lobster die-off) yield levels, whereas NYSDOS believes an appropriate calculation should reflect hypothetical best-case-scenarios of the eventual restoration of the Sound's commercial lobster industry to pre-1999 yield levels.[95] NYSDOS maintains that a recent investment in research to

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90 April 2, 2008 Culp Letter (BW33240-33242); Approval Order, App. B at P 29 (BW33059).

91 See Broadwater CZCD, App. F (BW5342).

92 FEIS § 3.6.8.1 (BW29016).

93 Broadwater recognizes that direct economic impacts may potentially create indirect effects on the suppliers and firms that are recipients of subsequent rounds of spending. In addition, employees and households that earn wages from indirectly impacted industries may also be affected by these expenditures, and they, in turn, spend a portion of their incomes in New York State. These later impacts are the so-called "induced effects" included in the analysis.

94 Consult Appendix F pages 12-24 of Broadwater's October 2006 supplement to its CZCC for a detailed description of the methodology used to derive these figures (BW8421-8433).

95 Objection at 57 (BW33791).

restore the Long Island lobster population makes it "reasonable to anticipate increases in lobster population size" in the coming years.[96] NYSDOS concedes, therefore, that its criticism of Broadwater's estimate of economic impact reflects speculative optimism, not empirical reality. NYSDOS's analysis is particularly questionable because of its heavy reliance on the opinions expressed by a lone lobsterman, Jim King, in a single telephone conversation with NYSDOS staff on March 21, 2008.[97]

c.) Compensation to Affected Fishermen

Broadwater committed to work with potentially affected fishermen to devise an equitable compensation plan. To that end, Broadwater established a Fisheries Advisory Committee ("FAC"), participation in which is open to all individuals involved in local commercial fishing activities in the areas of the Sound along the LNG carrier routes and the FSRU.[98] The FAC provides a forum to exchange information, discuss concerns, and develop further avoidance, minimization and mitigation strategies, as well as developing a mutually agreeable process to formulate compensation packages. In regard to the special compensation issues arising out of LNG carriers transiting the Race, Broadwater intends to establish a Race Fishing Sub-Committee as part of the wider FAC, which will meet to agree on data points to establish demonstrable loss due to LNG carrier transits and also discuss minimization options to reduce possible impacts. The FEIS approved Broadwater's commitment to compensate affected fishermen as a valid method to mitigate its modest impact to the commercial fishing industry in the Sound.[99]

Broadwater's commitment was crystallized in the FERC Approval Order, which specifically conditioned Project approval on completion of compensation agreements.[100] Notwithstanding this express condition, the Objection analyzes the effects of the Project without recognizing the eventual compensation to affected fishermen because no final agreements have been executed.[101] Ignoring Broadwater's

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96 Id.

97 See Jim King, Fisherman, Telephone Communication with NYSDOS (Mar. 21, 2008) (BW41858).

98 See October 8, 2007 Responses, Fishing Compensation Issues (BW24230-24252); id., Fishing Compensation Issues Meeting Minutes and FAC Community Structure (BW24233-24242).

99 FEIS § 3.6.8.1 (BW29016). "Economic theory suggests that such compensation would cover all losses for both current and future lobstermen over the planned 30-year life of the proposed Project. Impacts to lobstermen would cease when the Project ended operations."

100 Approval Order, App. B at P 29 (BW33059).

101 Objection at 52 (BW33786).

compensation to affected fishermen, despite FERC's conditions, disregards Broadwater's primary mitigation measure for this coastal effect[102] and runs afoul of Korea Drilling (at 5) and the Second Circuit's holding in National Audubon Society, 132 F.3d at 17 (holding that the Secretary can rely on implementation of permit conditions when analyzing potential coastal effects of a project).

Finally, NYSDOS argues that "compensation provided to affected commercial fishermen will not mitigate the disruption of current and future access and use by the public at-large," which "poses significant 'public trust' concerns."[103] While the public trust doctrine recognizes a state's interest in holding submerged lands in trust for the beneficial use and enjoyment of the public, it is well-established that the doctrine allows conveyance of an interest in submerged public lands to private entities so long as the use of the lands will promote, and will not substantially impair, the public interest. See, e.g., Ill. Cent. R.R. v. Illinois, 146 U.S. 387, 435 (1892); Smith v. New York, 545 N.Y.S.2d 203, 205 (N.Y. App. Div. 1989). FERC has concluded that the Project is in the public interest and will provide a substantial public benefit by fulfilling the need for a new, reliable source of natural gas, an environmentally preferable form of energy. Approval Order at P 88 (BW33049) ("[T]he Commission finds that the public benefits from the project outweigh any adverse effects and approval of the project is required by public convenience and necessity."). Accordingly, transfer of a temporary interest in submerged lands to Broadwater does not violate the public trust doctrine.

v. Effects Upon Benthic Habitats

Because construction of a subsea pipeline without some effect on benthic communities is an impossibility, the operative inquiry is whether a project has been designed so as to minimize such impacts. Withholding approval of a project based on any impact to benthic communities would effectively prohibit all coastal zone energy projects incorporating a subsea pipeline as a design element – a result contrary to congressional intent in enacting the CZMA. See 16 U.S.C. § 1455(d)(8).

Here, Broadwater has taken several measures to effectively minimize impacts to benthic habitats from pipeline construction. First, Broadwater will backfill the entire trench with removed native substrates

[102] See April 8, 2008 Culp Letter (BW33256-33269).
[103] Objection at 41 (BW33775).

(*i.e.*, spoil) immediately after pipeline installation and conduct post-construction monitoring to assess the success of backfilling.[104] FERC conditioned its Approval Order on Broadwater filing plans "describing methods to mechanically backfill the trench with the excavated spoil material in a manner that successfully results in the excavated material being returned to the trench following installation."[105] Broadwater will be required to coordinate its backfilling plan with USACE, EPA and NMFS "to identify the conditions under which backfilling would be required, the appropriate methods for backfilling, and detailed post-construction monitoring criteria to assess success."[106] Second, Broadwater will use mid-line buoys or a DP lay barge to minimize the effects of construction on benthic communities,[107] thereby reducing the total seafloor impacts of subsea pipeline construction by 88%, from 2,234.7 to 262.8 acres.[108] Third, to install the pipeline Broadwater will use a subsea plow, a technology recommended by NOAA "for reducing damage to the seafloor and greatly reducing recovery time (NOAA 2005a)."[109]

Both Broadwater and FERC rely on copious citations to published scientific literature to substantiate their respective analyses of the effect of pipeline construction on benthic habitats.[110] "Newell et al. (1998) reviewed dredging impacts to benthic communities and indicated that, although a variety of environmental parameters affect benthic recovery rates, some general recovery time frames are associated with habitat type. Benthic communities that inhabit muds, like those along most of the proposed [Broadwater] pipeline route, typically recover within 1 year whereas communities that inhabit sands and gravels can take from 2 to 3 years to recover."[111] Furthermore, active backfilling of the trench, as directed by FERC, "would be expected to accelerate recovery of the benthic habitat affected by spoil placement along the trench."[112] Based on these and other scientific analysis, the FEIS concludes that "recovery of the

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104 FEIS § 3.3.1.2 (BW28918); see also April 8, 2008 Culp Letter (BW33245).
105 Approval Order, App. B at P 16 (BW33057).
106 Id.
107 Id.
108 FEIS § 3.3.1.2 (BW28916).
109 FEIS § 3.3.1.2 (BW28917).
110 See, e.g., FEIS § 3.3.1.2 (BW28916-28919); Broadwater's March 19, 2007 Response to FERC's EIR 3-24 (BW16777-16790); Spring 2005 Environmental Sampling Report for a Project to Construct and Operate an LNG Receiving Terminal in Long Island Sound (January 2006), at 4-1, 4-7, 5-1 (BW232, BW238, BW241); Broadwater CZCD, App. B, at 54, 63-65 (BW5233, BW5242-5244); Broadwater CZCD, App. G, at A-10 (BW5483).
111 FEIS § 3.3.1.2 (BW28917).
112 FEIS § 3.3.1.2 (BW28918).

disturbed spoil area for the Broadwater pipeline corridor would be expected to initiate shortly after active construction and be complete from within a few months to 1 to 2 years."[113]

NYSDOS's response is simply to assert that it is "unclear whether backfilling would result in re-establishment of important benthic communities in the Sound," or that "returning material removed is not guaranteed restoration."[114] These statements are unsupported by citations to any evidence or reference to published scientific analysis, and amount to little more than expressions of doubt.

Finally, the Objection argues that benthic impacts to the Stratford Shoal/Middle Ground area may be greater and benthic communities may take longer to recover if Broadwater is unable to use the preferred subsea plow installation technique in that area due to the presence of higher density native substrate.[115] The possible benthic impacts in such a scenario, however, are fully addressed in the FEIS: "The potential conversion of seafloor substrate at Stratford Shoal would likely consist of converting the existing substrate, primarily rock and gravel, to imported rock and/or gravel."[116] While benthic communities of northern star coral and dead man's fingers in the Stratford Shoal would be impacted by pipeline construction, the available data on such benthic communities in sand/gravel habitats indicates that full recovery takes between 2 to 3 years.[117] Moreover, the species of northern star coral addressed in the Objection "is plentiful within the Sound," and "it would be expected that adjacent communities not impacted by construction would aid in reestablishing populations in the disturbed area through natural recruitment."[118] Even assuming the infeasibility of using the subsea plow method in the Stratford Shoal, impacts are "expected to be minimal because benthic disturbance to the Stratford Shoal would occur at one of the

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113 FEIS § 3.3.1.2 (BW28919); see also Resource Report 3, Offshore Facilities (January 2006) (BW1249-1250).
114 Objection at 30 (BW33764).
115 Objection at 32-33 (BW33766-33767).
116 FEIS § 3.3.1.2 (BW28919).
117 FEIS § 3.3.1.2 (BW28917).
118 Id.; see also FEIS § 3.3.1.1 (BW28914) ("[F]inger sponge and northern star coral were observed on the crest of Stratford Shoal in the vicinity of the proposed Broadwater pipeline route. Although the distribution and relative abundance of these species were not reported, it is expected that the communities consist of a scattering of individuals based on the existing information on these species. There is no evidence to suggest that these scattered individuals would be considered a 'special aquatic site,' and no nearshore coral reef habitat has been identified north of Florida since the water temperatures are too cold for the coral species that compose coral reefs. Grace (2006) indicates that northern star coral are very hardy and are plentiful in Long Island Sound. In addition, northern star coral differ from many other coral species because they are dormant during the winter months when Long Island Sound waters are cold."); Broadwater March 5, 2008 Correspondence with USACE (BW32914-32917).

narrowest points of the Stratford Shoal and would extend for less than 1 mile."[119] In the event "Broadwater determines that subsea plowing cannot be used across the Stratford Shoal," FERC's Approval Order requires Broadwater to file a contingency plan, "for review and written approval by the Director of [the federal Office of Energy Projects], that outlines the specific alternative method, potential impacts, and mitigation measures that would be developed in coordination with federal and state agencies to avoid and minimize potential impacts associated with pipeline installation **prior to implementation of an alternative installation method across Stratford Shoal.**"[120] While the Objection states that there are "several feasible alternatives to the proposed pipeline route" that would avoid the Stratford Shoal, NYSDOS has not proposed any of these routes as formal alternatives to the current design of the Project and, as a result, there is no basis to consider such alternative routing. 15 C.F.R. § 930.121.

vi. Navigational Conflicts With the Coast Guard's Safety and Security Zones

As "the lead federal agency responsible for waterway safety and maritime security," the Coast Guard prepared a 165-page WSR to provide "an objective assessment of whether the waterway [of the Sound] is suitable for LNG marine traffic and the operation of the proposed FSRU."[121] The WSR "is based on an analytic and systematic assessment of potential risks to navigation safety and maritime security associated with the proposed Broadwater Energy project."[122] The WSR, supplemented by the Letter of Recommendation issued by the Coast Guard Captain of the Port on June 25, 2008, concluded that, with the implementation of specific mitigative measures articulated therein, the Sound is a suitable waterway for LNG vessel traffic and the operation of the FSRU.[123]

The design and location of the Project ensures that any restrictions on public access resulting from the Coast Guard's SSZs are as limited as possible, not just in terms of area, but also in terms of location. Broadwater has purposefully selected a relatively remote Project location that results in the minimum

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119 FEIS § 3.3.1.2 (BW28917); April 2, 2008 Culp Letter (BW33247-33248).
120 Approval Order, App. B at P 14 (BW33057) (emphasis original).
121 Coast Guard WSR § 8.1 (BW7748).
122 Id.
123 Coast Guard WSR § 8.1 (BW7751).

possible conflicts with other water-dependent uses of the Sound.[124] The 1,210 yard radius SSZ around the FSRU would affect only 0.11% of the approximately 1,320 square miles of total navigable water in Long Island Sound. The SSZs around transiting LNG carriers would not affect any particular location in the Sound for more than fifteen minutes during carrier transits occurring 2-3 times per week.[125]

a.) Effects of the FSRU SSZ on Recreational and Commercial Navigation

Use conflicts between existing recreational/navigational users of the Sound and SSZ around the FSRU will be minimal. Recreational boating in the Sound is generally concentrated within 2.3 to 3.5 miles of either the Long Island or Connecticut coasts.[126] Data derived from the extensive 2005 Boat Traffic Survey and the IKONOS satellite imaging results demonstrates that recreational boating in proximity to the proposed FSRU location is minimal (less than two boats per day within three miles of the FSRU's proposed location), with boats only occasionally transiting within 0.6 miles of the proposed FSRU location (the area of the Coast Guard's proposed SSZ).[127] This data was confirmed by the FEIS: "[M]ost recreational fishing from boats occurs in nearshore areas or near high-value, unique offshore fishing sites. We are not aware of any such sites in the vicinity of the proposed location of the YMS and FSRU."[128] Based on the width of the Sound in the FSRU area, and the extremely low density of recreational vessels currently using the area, the minor recreational boat traffic in the area could easily route around the SSZ.

Unlike other recreational boaters, racers in sailing regattas follow a specific course. With respect to regattas that may potentially pass in the vicinity of the FSRU, the Boat Traffic Study established that there is ample room in the Sound for regattas to make minor course adjustments necessary to avoid the FSRU. The proposed location of the FSRU in the central portion of the Sound is relatively free of navigational

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124 Coast Guard WSR § 3.1.2.3 (BW7640).

125 See Response to July 3, 2007 IR (BW19240-19242). A maximum of 118 carriers could visit the FSRU in a given year, which equates to 2.25 vessels a week; and any move to larger carriers (as is Broadwater's goal) would reduce this figure further. There will likely be 60 to 118 carrier visits to the FSRU per year.

126 Coast Guard WSR § 3.1.2.3 (BW7640).

127 January 2008 Response to Comments at 63-66 (BW31028-31031); see also October 8, 2007 Responses, Marine Use Conflicts – Satellite Imagery (BW24243-24250).

128 FEIS § 3.5.5.1 (BW28985).

obstructions. In addition, "all regattas are subject to prior review and approval by the Coast Guard, allowing the Coast Guard [and Broadwater to minimize] potential conflicts on a case-by-case basis."[129]

In terms of non-recreational vessel traffic, the primary shipping routes in the Sound run generally down the center of the Sound on a straight course from the deepwater areas in the eastern Sound to the deepwater pass through the Stratford Shoal. A second main shipping route exists on a northeast/southwest alignment toward the Northport Harbor area of New York.[130] The FSRU was sited between the two primary shipping routes in order to comply with applicable and enforceable coastal zone policies and to avoid or minimize effects on commercial/industrial vessel traffic. Observations made during the nine survey days of the 2005 Boat Traffic Survey and by the IKONOS satellite confirmed the use by commercial vessels of established shipping routes to both the north and the south of the proposed FSRU location, indicating the commercial traffic will not be negatively affected by the FSRU or the proposed SSZs. Finally, the FSRU "would not affect ferry traffic in the Sound because there are no established ferry routes through or near the area proposed for the fixed [SSZs] around the YMS and FSRU."[131]

Although conflicts between the FSRU SSZ and existing recreational and commercial users of the Sound will be extremely limited, Broadwater recently committed to additional steps to reduce potential conflicts to an absolute minimum. First, Broadwater has agreed to provide independent studies and further analysis to the Coast Guard in support of reducing the dimensions of the proposed SSZs.[132] Second, Broadwater has also committed to working with the Coast Guard to create a mechanism to permit certain "traditional users" of the Sound (*e.g.*, ferries, commercial fishermen, etc.) to freely transit the proposed FSRU and in-transit LNG tanker SSZs.[133] NYSDOS belittles these mitigation measures by arguing that allowing "only select users" access to the SSZs "while denying other users similar access, [] fails to

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129 FEIS § 3.5.5.1 (BW28988).
130 FEIS § 3.7.1.3 (BW29032-29033).
131 FEIS § 3.7.1.3 (BW29045).
132 April 2, 2008 Culp Letter (BW33238).
133 Id. (BW33238-33239); see also FEIS § 3.7.1.4 (BW29054) ("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.").

mitigate or alleviate the exclusion of the general public from the Broadwater project."[134] Thus, NYSDOS takes the odd position that coastal effects resulting from the Coast Guard's SSZs can only be mitigated by granting the general public free access to those zones – thereby eliminating the SSZs' *raison d'être*.

b.) Effects of LNG Carrier Transits on Existing Users of the Race

Approximately 4,000 to 7,000 commercial vessels transit the Race each year, and these users include a broad mix of naval vessels with surrounding security zones, commercial deep draft vessels, commercial fishing vessels, and recreational fishing and pleasure craft.[135] According to the Coast Guard's WSR, vessels that are not deep draft will be able to pass through the Race simultaneously with LNG carriers because shallower draft vessels can travel closer to shore:

> Based on guidance provided by [the Coast Guard's Navigation and Vessel Inspection Circular] 5-05 and the Sandhia Report, the minimum size of the safety zone for LNG carriers should be equivalent to hazard Zone 1, which for 250,000 m^3 LNG carriers is 750 yards []. Taking the beam of the LNG carriers into account, the safety zone would be a total of approximately 1550 to 1560 yards wide. The channel between Valliant Rock and Race Rock light is approximately 2400 yards. Therefore, assuming an LNG carrier is equidistant between Valliant Rock and Race Rock Light, there would be approximately 425 yards on each side of the safety security zone where small craft could operate while LNG carriers were transiting through The Race.
>
> The distance the safety zone extends ahead of the LNG carrier should be sufficient to provide small vessels, including kayaks, adequate time to safely clear the channel between Valliant Rock and Race Rock light. It should also be sufficiently large to reduce the risk of collision with other vessels crossing ahead of an LNG carrier.[136]

Accordingly, the WSR concludes that even with LNG carriers transiting through the relatively narrow waters of the Race, there would be ample room for most other vessels to transit the Race simultaneously. Moreover, using the Coast Guard's estimated LNG carrier speed of 12 knots, the entire SSZ for an LNG carrier would pass a given point in the Race in approximately 15 minutes.[137] With only 2-3 LNG carrier visits expected in any given week, "LNG carriers and their proposed moving safety and security zones would be present in any one location in the Race less than 1 percent of the time."[138] Although some deeper draft vessels would be unable to transit the Race simultaneously with LNG carriers, the relative scarcity of

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134 Objection at 41 (BW33775).
135 FEIS § 3.6.8.1 (BW29017).
136 Coast Guard WSR § 2.3 (BW7718).
137 FEIS § 3.7.1.4 (BW29048); see also Response to July 3, 2007 IR (BW19240-19242).
138 FEIS § 3.6.8.1 (BW29017).

such vessels combined with the short duration of LNG carrier transits of the Race means that only "approximately 210 vessels per year would be displaced as they approached or transited the Race."[139]

While the foregoing effects of LNG carrier transits of the Race are relatively minor, Broadwater has committed to further mitigation measures that will reduce possible use conflicts in the Race to an absolute minimum, consistent with the Coast Guard's WSR recommendations and ultimate approval. First, Broadwater will include instructions in its Terminal Regulations directing masters and pilots of LNG carriers to give priority to other commercial traffic in the Race.[140] Second, Broadwater will restrict LNG carriers to transits of the Race at nighttime only.[141] Third, Broadwater will include instructions in its Terminal Regulations directing LNG carriers to avoid transiting the Race for periods running one hour before to one hour after slack tide.[142] The efficacy of this final mitigation measure, which recognizes that lobstermen harvesting in the Race are only able to retrieve and put down gear during slack tide, was confirmed by the FEIS: "Broadwater has stated that it would time the arrival and departures of LNG carriers to avoid, to the extent practicable and as approved by the Coast Guard, transit through the Race during slack tides and from about 1 to 1.5 hours before and after a slack tide. Therefore, LNG carrier transits would not materially alter the amount of time available to commercial lobster fishermen to tend pots."[143]

vii. Cumulative Impacts

Because the coastal effects of the Project are minor in magnitude and short-term in effect, the cumulative impacts (if any) will also be minor. See Islander East at 33-34. The FEIS correctly concluded that "[w]ith Broadwater's proposed construction and operation methods, and strict adherence to our recommendations, federal and state regulations, and permitting requirements, impacts associated with the Broadwater Project would be minimized, and would not constitute a significant impact in combination with

139 Id.
140 April 2, 2008 Culp Letter (BW33235-33236).
141 Id. (BW33236-33237).
142 Id. (BW33237).
143 FEIS § 3.6.8.1 (BW29017).

other past, present, or reasonably foreseeable projects."[144]

viii. Element 2 – Conclusion

Based on the foregoing, it is clear that the national interest benefits of the Broadwater Project outweigh the limited coastal effects resulting from the Project, when those effects are considered separately or cumulatively (and properly). As a result, Broadwater has satisfied Element 2 of 15 C.F.R. § 930.121.

C. Element 3 – There Are No Reasonable Alternatives to the Broadwater Project Consistent With the Enforceable Policies of the Applicable Coastal Management Program

The third element required to demonstrate that the Project is consistent with the objectives or purposes of the CZMA is a showing that there "is no reasonable alternative available which would permit the activity to be conducted in a manner consistent with the enforceable policies of the management program." 15 C.F.R. § 930.121(c). "As contemplated in NOAA's regulations, an alternative consists of one or more changes to the project that would allow the project, albeit in a somewhat different form, to achieve its *primary purpose* in a manner consistent with the state's coastal management program." Millennium Pipeline[145] at 21 (emphasis supplied).

NYSDOS bears the burden of identifying, with sufficient specificity, alternatives that are "consistent with the enforceable policies of the management program." 15 C.F.R. § 930.121(c). If NYSDOS could satisfy its initial burden of consistency and specificity, the burden would shift to Broadwater to demonstrate that the alternatives proposed by NYSDOS are "either unavailable or unreasonable." Millennium Pipeline at 23. A failure by NYSDOS to satisfy its initial burden of proposing alternatives in accordance with 15 C.F.R. § 930.121(c) necessitates an automatic conclusion that there are no reasonable or available alternatives to the Project that would permit Broadwater to conduct the activity in a manner consistent with the LISCMP. See Mobil Exploration & Producing[146] at 40.

Here, NYSDOS has failed to carry its initial burden of proposing alternatives to the Project in accordance with 15 C.F.R. §§ 930.63(b) and 930.121(c). In the alternative, and assuming *arguendo* that the

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144 FEIS § 3.11.5.9 (BW29173).

145 Decision and Findings by the U.S. Secretary of Commerce in the Consistency Appeal of Millennium Pipeline Co., LP From an Objection by the State of New York (Dec. 12, 2003) ("Millennium Pipeline").

146 Decision and Findings in the Consistency Appeal of Mobil Exploration & Producing U.S. Inc. From an Objection by the State of Florida (Jan. 7, 1993) ("Mobil Exploration & Producing").

alternatives proposed by NYSDOS do not violate sections 930.63(b) and 930.121(c), the record demonstrates that those alternatives are unavailable, unreasonable, and have not been identified with sufficient specificity in the Objection. As a result, there are no reasonable alternatives that would permit the Project to be conducted in a manner consistent with the enforceable policies of the LISCMP.

i. NYSDOS Has Failed to Carry its Initial Burden and Violated 15 C.F.R. Part 930 Because the Objection Does Not State That the Alternatives Proposed Therein Are Consistent With the Enforceable Policies of the LISCMP

NYSDOS has failed to carry its initial burden because the Objection does not contain a statement that the two alternatives proposed therein could be conducted in a manner consistent with the policies of the LISCMP, the coastal management program upon which NYSDOS based its Objection. The Objection states only that NYSDOS's proposed alternatives could be conducted in a manner consistent with the New York State Coastal Management Program ("NYSCMP").[147] However, the 15 C.F.R. Part 930 regulations instruct that the Secretary is limited to considering alternatives to the Project that NYSDOS states are consistent with the same coastal management program that formed the basis of the Objection – *i.e.*, the LISCMP. NYSDOS's failure to propose any alternatives to the Project subject to the LISCMP is a concession that there are no alternatives that NYSDOS believes would permit the Project to be conducted in a manner consistent with the enforceable policies of the LISCMP.

Section 930.63(b) of C.F.R. Title 15 states:

> State agency objections [] shall describe how the proposed activity is inconsistent with *specific enforceable policies of the management program*.

(Emphasis supplied). In accordance with this regulation, NYSDOS's Objection describes how the Project is allegedly inconsistent with "specific enforceable policies" of the LISCMP – *viz.*, Policies 1, 3, 6, 9, 10

[147] Objection at 62-63 (BW33796-33797). The LISCMP and the NYSCMP are separate and distinct "management programs" under the CZMA and its implementing regulations. Not only did the LISCMP and the NYSCMP go through separate coastal management program approval processes under 15 C.F.R. Part 923, but the LISCMP explicitly "replaces" the NYSCMP "for the Sound shorelines of Westchester County, New York City to the Throgs Neck Bridge, Nassau County, and Suffolk County." LISCMP at 1; see also LISCMP Chapter 2 (formally delineating geographic boundaries of LISCMP); 16 U.S.C. § 1455(d)(2)(A) (conditioning federal approval of state coastal management program on "an identification of the boundaries of the coastal zone subject to the management program.").

and 11.[148] Thus, it is beyond cavil that the LISCMP is "the management program" for purposes of NYSDOS's Objection. Section 930.63 goes on to 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 supplied). In addition, 15 C.F.R. § 930.121(c) prohibits the Secretary from considering alternatives unless the state agency submits a statement "that the alternative would permit the activity to be conducted in a manner consistent with the *enforceable policies of the management program*." (Emphasis supplied). Therefore, because NYSDOS's Objection is based on alleged inconsistencies between the Project and specific policies of the LISCMP ("the management program"), NYSDOS must propose an alternative that would allow the Project to be conducted in a manner consistent with the LISCMP.

a.) The Proposal of Alternatives Subject to a Different CMP Violates the Substantive Provisions of the CZMA

Under 16 U.S.C. § 1455(d)(8), NOAA cannot approve a state's proposed CMP unless it provides for the national interest involved in "siting of facilities such as energy facilities which are of greater than local significance." Likewise, 15 C.F.R. § 923.13 states that all state CMPs "must contain a planning process for energy facilities likely to be located in or which may significantly affect, the coastal zone, including a process for anticipating the management of the impacts resulting from such facilities." To comply with these federal requirements, New York State included Policy 13 in the LISCMP, which seeks to "[p]romote appropriate use and development of energy and mineral resources" in the Sound. N.Y. Comp. Codes R. & Regs. 19, § 600.6(m). Policy Standard 13.3 seeks to "[e]nsure maximum efficiency and minimum adverse environmental impact when siting major energy generating facilities" by siting such facilities "in a coastal location where a clear public benefit is established." 19 NYCRR § 600.6(m)(3). Policy Standard 13.4 provides that "Liquefied Natural Gas Facilities" in Long Island Sound "must be safely sited and operated." N.Y. Comp. Codes R. & Regs. 19, § 600.6(m)(4)(iii). Taken together, the provisions of LISCMP Policy 13 hold that LNG facilities, such as the Project, may be sited in the Sound, so long as "a

[148] Objection at 1, 16-60 (BW33735, BW33750-33794).

clear public benefit is established," environmental impacts are minimized, and the facilities are "safely sited and operated."

Although the Objection acknowledges that the Project would result in a clear public benefit,[149] the Objection does not include a single mention of any of the provisions of LISCMP Policy 13. In ignoring Policy 13, NYSDOS fails to engage in the requisite consideration of the national interest involved in the siting of major energy facilities mandated in the CZMA. In particular, by ignoring Policy Standard 13.4 and proposing alternatives to the Project only outside of the Sound (in areas not governed by the LISCMP), NYSDOS takes the *de facto* position that it is impossible for an LNG facility such as the Project to be operated in a manner consistent with the LISCMP, which is tantamount to illegally banning LNG from the entire Sound coastal zone. See Sparrows Point I, 527 F.3d at 127 (Williams, C.J., concurring).

ii. The Two Alternatives Identified by NYSDOS, Which Have Not Been Described With Sufficient Specificity, Are Neither Available Nor Reasonable

Although NYSDOS has failed to carry its initial burden of identifying alternatives to the Broadwater Project that could be conducted in a manner consistent with the LISCMP, the record also demonstrates that NYSDOS has failed to carry its additional burden of describing its proposed alternatives with specificity. See Islander East at 35. As a result of NYSDOS's failure to carry its initial burdens, the burden under Element 3 of 15 C.F.R. § 930.121 never shifts to Broadwater to demonstrate the unavailability or unreasonableness of NYSDOS's proposed alternatives. Id. The absence of a burden on Broadwater notwithstanding, the record clearly demonstrates that the alternatives identified by NYSDOS are neither available nor reasonable.[150]

Both the alternatives proposed by NYSDOS would be located in the Atlantic Ocean south of Long Island – an alternative Project location analyzed and rejected by the FEIS. The purpose of FERC's three-year alternatives analysis "was to determine whether or not there are reasonable alternatives that would

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[149] The Objection acknowledges that delivering an additional and reliable "large supply" of natural gas to the regional market of Long Island, New York City, southern Connecticut and Upstate New York is an "important objective." Objection at 61 (BW33795).

[150] If the burden shifts to the applicant, the applicant is required to demonstrate either unavailability *or* unreasonableness, not both. See Millennium Pipeline at 23 ("The burden then shifts to the appellant [] to demonstrate that an alternative is either unavailable or unreasonable.").

result in less environmental impact than the Project as proposed."[151] Alternative locations were evaluated against the essential purpose of the Project to "establish an LNG marine terminal capable of receiving imported LNG from LNG carriers, and storing and regasifying the LNG at an average sendout rate of 1.0 Bcf/d."[152] After evaluating alternative locations for the FSRU – including the Atlantic Ocean – FERC concluded that "[n]one of the alternative FSRU sites considered in our evaluation would result in fewer environmental impacts than those of the proposed Project site" in the mid-waters of the central Sound.[153] The coastal effects associated with an LNG terminal in "the Atlantic Ocean would be greater than those of the proposed Project due to the need to construct a substantially longer pipeline to connect the terminal to the existing pipeline transmission system. In addition, operational difficulties would be greater for an FSRU in [the Atlantic Ocean] as compared to the proposed location [in Long Island Sound] due to the more frequent occurrence of severe wind and sea conditions."[154]

a.) NYSDOS Has Not Satisfied Its "Specificity" Burden

The burden of specificity is imposed on NYSDOS "to ensure a fair and orderly process," and "in large part because the appellant has limited time to respond and must know what the proposed alternative is in order to respond fully." Islander East at 39-40. NYSDOS's Objection must describe either of the proposed alternatives "with enough detail for [Broadwater] and the Secretary to know how the proposed alternative could be implemented consistently" with the LISCMP and "evaluate whether the alternative is reasonable and available;" "vague descriptions do not suffice." Id. at 37.

NYSDOS has not provided route information for the subsea pipeline elements of Alternatives 1 and 2. Because the coastal effects of these Alternatives are a direct function of the route selected for their subsea pipelines, NYSDOS's curious decision to leave the pipeline routes undefined prejudices Broadwater and the Secretary's ability to analyze properly the availability or reasonableness of those Alternatives.

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151 FEIS § 4.0 (BW29174); see FEIS Chapter 4 (BW29174-29230).
152 FEIS § 4.0 (BW29174).
153 FEIS § 4.4.2.3 (BW29216-29217).
154 FEIS § 4.4.2.1 (BW29212); see also Response to July 3, 2007 IR (BW19133-19137); Broadwater June 20, 2007 Response to NYSDOS, Additional Alternatives Analysis ("Broadwater Additional Alternatives Analysis") (BW18207-18210).

NYSDOS's explanation of the pipeline route for Alternative 1 is precisely the sort of "vague description" that the Secretary has previously held inadequate. The entire description of the proposed "Location and Pipeline Route" for Alternative 1 is limited to the following short paragraph:

> An FSRU could be moored to a YMS tower at a location 13 miles offshore of Long Beach, NY, west of Cholera Bank (*approximate* coordinates W 73° 37' 00'', N 40° 23' 00"), in *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 Cany to Ambrose Traffic Lane, is separated from each lane by *about* one nautical mile (1.3 miles).[155]

NYSDOS has provided no detail on the proposed pipeline route for Alternative 1; and given NYSDOS's extremely imprecise description of the proposed interconnection point with the Transco Leidy ("about 1 to 2 miles offshore"), the pipeline route cannot be extrapolated.[156] Nor has NYSDOS provided a map of the proposed pipeline route for Alternative 1.[157] Absent a pipeline route for Alternative 1, NYSDOS has also been unable to provide any specific engineering or environmental parameters to compare the undefined pipeline route for Alternative 1 to the pipeline route of the Broadwater Project in the Sound. The lack of information on the Alternative 1 pipeline route prejudices Broadwater's ability to analyze the coastal effects and reasonableness of Alternative 1.

The lack of a defined pipeline route for Alternative 1 also means that NYSDOS has been unable to provide any specifics on proposed pipeline construction methods, potential engineering difficulties, or the resulting impacts to benthic or nearshore environments. For instance, it appears that Alternative 1 would require lowering the pipeline into a trench of at least 10 feet below the seabed with a minimum of 5.5 feet of rock cover because the pipeline would run beneath two shipping fairways and the intervening separation zone.[158] The greater pipeline depth would be necessary to protect the pipeline from anchor drops and other incidents more common in the shipping fairways. The pipeline would also cross approximately 11 existing

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155 Objection at 62-63 (BW33796-33797) (emphasis supplied).

156 Id.

157 NYSDOS provided a hand-drawn map of potential Atlantic alternative sites to Broadwater in 2007, but this map did not include the locations proposed for Alternatives 1 or 2. See Broadwater's April 2, 2008 Correspondence with NYSDOS (BW33321).

158 Broadwater Additional Alternatives Analysis (BW18214-18215).

submarine utility cables (Broadwater's FERC-approved pipeline features only two such crossings).[159] Crossings in the shipping fairways and separation zone would require additional jetting to transition the pipeline between different depths of lowering. Cable crossings will present potentially complex engineering/environmental concerns depending upon the actual depth of the existing cables. Jetting methods, by towed jet sled and/or diver hand jetting, will be required at each crossing area, which is assumed to run 750 feet per transition. Supplemental backfill would be required to refill the jetted trench. The Objection does not even begin to analyze these issues. Indeed, the section of the Objection ostensibly addressing the "Effects on Coastal Uses and Resources" for Alternative 1 deals almost exclusively with vessel navigation, and the "analysis" of environmental effects resulting from pipeline construction is limited to two conclusory sentences:

> 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 Stratford Shoal/Middle [sic].[160]

NYSDOS provides no evidence to substantiate these statements. Indeed, without a defined pipeline route, valid analysis of the coastal effects resulting from pipeline construction is effectively precluded.

NYSDOS has also failed to provide any specific route information for the 22-mile subsea pipeline required for Alternative 2. The "Location and Pipeline Route" description of Alternative 2 is limited to the following paragraph:

> 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.[161]

NYSDOS's only description of the subsea pipeline route is that it will run to an undefined point somewhere "offshore Fire Island."[162] Because Fire Island is 31 miles long, it is impossible to extrapolate a pipeline route from NYSDOS's vague description. Once reaching the indeterminate point "offshore Fire Island," the pipeline route is described with reference to the broadest possible geographic features:

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159 Id.; Response to July 3, 2007 IR (BW19178).
160 Objection at 68 (BW33802).
161 Objection at 70 (BW33804) (emphasis supplied).
162 Id.

> [the pipeline] 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 the western side of the causeway, the pipeline would continue across the island, bypassing the cloverleaf highway.[163]

Like Alternative 1, NYSDOS's failure to provide any description of the subsea pipeline route for Alternative 2 effectively precludes proper analysis of the coastal effects that would result from implementation of that Alternative.

The Objection includes a brief discussion of the possibility of the Alternative 2 pipeline crossing the Significant Coastal Fish and Wildlife Habitat at Great South Bay,[164] but concedes that it proposed Alternative 2 without even having determined a pipeline route or construction technique to protect those extremely sensitive coastal resources:

> [T]o 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.[165]

With both Alternatives lacking critical details regarding subsea pipeline construction or route, NYSDOS has not ventured an estimate of the cost difference between those Alternatives and the Project. Analysis of the reasonableness/economic feasibility of NYSDOS's alternatives is effectively precluded without this specific cost information. While Broadwater has attempted to divine a reasonable cost estimate for both Alternatives (see *infra* at 46), that effort is hamstrung by NYSDOS's vague descriptions of central project elements. Prevention of this type of prejudice to Broadwater is precisely why the "specificity" burden attaches to NYSDOS in the first place. Islander East at 39-40.

Finally, of paramount importance to consideration of the specificity of NYSDOS's Alternatives are the details omitted which could obfuscate the unavailability or unreasonableness of those alternatives. For instance, the subsea pipeline for Alternative 1 would first interconnect with the Transco Pipeline, and gas would then flow eastward to the Long Beach Meter Station.[166] The capacity of the Long Beach Meter

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163 Id.
164 See Broadwater Additional Alternatives Analysis (BW18217) (map of this critical habitat area).
165 Objection at 72 (BW33806).
166 Objection at 63 (BW33797).

Station, however, is only 530 million cubic feet per day,[167] while the essential purpose of the Project is storing and regasifying LNG at an average sendout rate of 1 billion cubic feet per day.[168] Based on this fact alone, Alternative 1 is not "available" because it cannot achieve the primary purpose of the Project. Islander East at 40. Perhaps sensitive to this fatal flaw in Alternative 1, NYSDOS vaguely suggests:

> 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.[169]

Thus, the Objection acknowledges that without "additional take away capacity downstream" – *i.e.*, the construction of additional pipelines and/or compression facilities – the Transco Pipeline cannot currently accept the Project's designed capacity of 1 Bcf/d.[170] Even if the required construction of additional pipelines and compression facilities on Long Island required by Alternative 1 were feasible, NYSDOS's Objection contains zero analysis of the environmental/coastal effects resulting from such construction; and that analysis is absolutely critical to determining the "reasonableness" of Alternative 1.[171] Faced with an Alternative that is either inherently unavailable or inherently unreasonable, NYSDOS's solution is to provide only a vague description of the dilemma.

b.) NYSDOS's Proposed Alternatives Are Unavailable

For either of NYSDOS's proposed alternatives to satisfy the "availability" standard, Broadwater "must be able to implement the alternative and the alternative must achieve the primary or essential purpose of the project." Islander East at 40. In the context of an energy project, the Secretary has held that an alternative that does not "meet essentially the same energy needs as the proposed project," including the project's specific delivery capacity, is not "available." Id. The primary and essential purpose of the Project

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167 Id.

168 Id.

169 Id.

170 The FEIS also concluded that the Transco Pipeline was incapable of meeting the Project's objectives: "Transco is constrained in its ability to supply additional natural gas to the region without major upgrades in the system along much of the existing route. These system upgrades and the associated environmental effects [] would be greater than those of the proposed Project. Further, the objective for providing imported natural gas storage and additional storage facilities could not be met without major modifications and the associated environmental impacts." FEIS § 4.3.1.1 (BW9555). Moreover, in Islander East, the Secretary found Connecticut's proposed alternatives unavailable because they could not achieve the project's objectives without requiring "the construction or modification of numerous additional facilities" to a separate pipeline owned by another entity. Islander East at 41.

171 See, e.g., Broadwater's April 2, 2008 Correspondence with the NYSDOS, November 2007 Trip Report and Engineering and Environmental Discriminator Analysis (BW33323-33336).

is to "establish an LNG marine terminal capable of receiving imported LNG from LNG carriers, and storing and regasifying the LNG at an average sendout rate of 1.0 Bcf/d."[172]

To satisfy the objective of a 1.0 Bcf/d natural gas sendout rate, the Project was designed to accept the entire worldwide fleet of LNG carriers, which can only be accomplished in the relatively benign metocean environment of the Sound.[173] The prevailing metocean conditions at the Atlantic Ocean locations of Alternatives 1 and 2 would significantly reduce the capability of LNG carriers to offload effectively and would also expose the carriers to sloshing damage.[174] Sloshing, which occurs when partially filled LNG tanks are exposed to significant wave conditions, can result in substantial damage to LNG carrier tanks that requires the carriers to be taken out of service for repair. The majority of the world-wide LNG carrier fleet has not been designed to withstand sloshing effects because the carriers generally serve onshore LNG terminals that are typically situated in protected areas sheltered from open ocean conditions. As a result, the number of LNG carriers that would be available (or willing) to make deliveries to Alternatives 1 or 2 would be significantly reduced or would require Project-specific carriers.[175]

Broadwater previously analyzed Atlantic metocean conditions as part of its assessment of general marine operability during its site and concept selection work.[176] Broadwater reviewed historical data from NOAA buoys #44025 and #44017 (both positioned in the Atlantic Ocean south of Long Island), as well as the Hydrobase database of ship observations. This data demonstrated that wave heights in the Atlantic often exceed two meters (the maximum limit for approach and departure operations for LNG carriers) during significant portions of the year: as much as 20% of the time from December through March. According to the FEIS: "Siting an FSRU in [] the Atlantic Ocean [] would present greater technical difficulties during operation due to the more frequent severe weather conditions and sea states in those

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172 FEIS § 4.0 (BW29174).
173 Broadwater's Response to NYSDOS's February 16, 2007 Information Request (BW17079-17085).
174 Broadwater's Responses to NYSDOS Information Requests (BW24119-24112).
175 Response to July 3, 2007 IR (BW19161-19162).
176 Resource Report 11 § 11.4.2.3 (LNG Carrier Berthing Considerations) documents a simulation evaluation of marine operations of the Project which resulted in an assessment of the operational limits for LNG carriers (BW2595-2596); see also Broadwater's Response to NYSDOS's February 16, 2007 Information Request, NYSDOS 2-J (BW17079-17110).

areas."[177] By comparison, marine operability in the Sound is estimated to be greater than 99% on a year-round basis.

NYSDOS contends that the data from NOAA buoys #44025 and #44017 does not accurately reflect the metocean conditions at the Alternative 1 and 2 locations, and using an alternate data set compiled by its consultant from the USACE Wave Information System ("WIS"), NYSDOS maintains that "LNG carriers would be unable to berth or deberth from [an Atlantic Ocean] FSRU between December and February on average only 8% of the time" – as opposed to the 20% figure predicted by Broadwater's analysis.[178]

In 2005, the engineering firm Moffatt & Nichol ("M&N") conducted an analysis of the operational criteria of the Project in light of Long Island Sound metocean conditions and concluded that the FSRU located in the Sound would have a 99% "uptime."[179] Broadwater again contracted with M&N to conduct a metocean analysis of NYSDOS's Atlantic Alternatives.[180] M&N's analysis indicates an annual facility downtime of 9.3% for Alternative 1 (uptime of 90.7%) and a downtime of 14.0% for Alternative 2 (uptime of 86%). For both Alternatives, downtime would be higher in the winter (a downtime of 17.5% in March and 24.7% in January for Alternatives 1 and 2, respectively), when it is critical to have a reliable send-out.[181] Modeling for these locations also demonstrates that the daily gas send-out would fluctuate widely, making the average daily send-out of 1 Bcf/d of natural gas unreliable. While the Project would achieve a 1 Bcf/d send-out 98% of the time, Alternatives 1 and 2 would achieve only 0.48 Bcf/d and 0.23 Bcf/d send-out rates 98% of the time, respectively.[182]

The 99% uptime for the FSRU is essential to the Project's status as a baseload facility. The significant downtimes for Alternatives 1 and 2 (particularly in the critical winter months) leave both far too unreliable to serve as baseload energy facilities. The major economic benefit of the Project is derived from its capacity to reliably serve the regional market during the winter heating season, thereby eliminating

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177 FEIS § 4.4.2.1 (BW29212).
178 Objection at 65 (BW33799).
179 Resource Report 11 §§ 11.4.2.3, 11.8.2, App. A (BW2595-2596, BW2614-2617, BW2619-2625); Response to July 3, 2007 IR (BW19133-19137, BW19152-19153, BW19164-19165); Broadwater Response to NYSDOS Information Requests (BW24089-24096).
180 See Supplemental Document I (SD1-92).
181 Supplemental Document I at 34, 45 (SD35, SD46); Broadwater Additional Alternatives Analysis (BW18207-18210).
182 Supplemental Document II at 15-22 (SD107-115).

historical price volatility. Thus, the Project's reliability is most important during the time of year (winter) when metocean conditions in the Atlantic would render Alternatives 1 and 2 the most unreliable – further underscoring that the primary objective of the Project cannot be achieved by either Alternative 1 or 2.

An illustration of the baseload concept and the relationship between metocean conditions, LNG carrier berthing delays (caused by wave heights greater than two meters), send-out and storage functions is demonstrated by the following scenario: An LNG carrier with a capacity of 267,000 m^3 is scheduled months in advance to berth and unload at the FSRU, which has a working capacity of 332,500 m^3. The FSRU is designed to send out at a constant rate of 1.0 Bcf/d (47,000 m^3 per day). The schedule would require the LNG carrier to arrive only when the FSRU has sufficient empty storage capacity to minimize the length of time the carrier is berthed alongside; this equates to a gas volume on board of 65,500 m^3, which is less than 1.4 days "reserve" supply. Consequently, any metocean conditions that delayed carrier berthing for 1.4 days or more would result in the FSRU running out of natural gas to send out. Even accepting NYSDOS's lower metocean figures, a 7.4% chance exists at any point during the winter months that an LNG carrier would be unable to berth at an Atlantic FSRU for a full day, while a 5% chance exists that an LNG carrier would be unable to berth for two days. This simple example confirms that Alternatives 1 and 2 would have highly erratic send-out profiles during the critical winter months (never averaging 1.0 Bcf/d), would often run completely out of deliverable natural gas, and could never serve as baseload facilities.[183]

In addition, the 95% LNG carrier turnaround time (the time it takes a vessel to arrive, complete its operational phase, and depart) for the Project in the Sound is 31.8 hours, compared to 174.8 hours for Alternative 1 and 195.3 hours for Alternative 2 – due to Atlantic metocean effects on carrier operability.[184] LNG carriers/suppliers carefully examine the shipping exposure and potential fleet delays to ensure fleet optimization. Modeling shows that an additional vessel would be required to serve the Alternative

[183] Supplemental Document II at 17 (SD109); Battelle, Review of Ocean Conditions Data and their Impact on Project Feasibility, NYSERDA Contract 9562, Task 6 (April 2007). (BW41954-41985).

[184] Supplemental Document II at 30 (SD122).

locations at a cost of approximately $300 million. While the addition of a vessel would not mitigate delays, it would add 14 to 15 cents per MMBTU to the gas cost for each delivered cargo.

While NYSDOS "acknowledges that adverse climatological conditions could prevent or delay berthing/deberthing of LNG carriers," which would in turn reduce both the reliability and send-out rates of Alternatives 1 and 2, NYSDOS's solution is for Broadwater to lower its standards and the Project's objectives: "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."[185] NYSDOS's suggestion is tantamount to an admission that its Alternatives are "unavailable" because they cannot satisfy the Project's primary objective of a natural gas send-out of 1 Bcf/d necessary to meet market demand.

c.) NYSDOS's Proposed Alternatives Are Unreasonable

Finally, to determine if NYSDOS's proposed alternatives are "reasonable" (*i.e.*, "economically feasible"), the Secretary "must weigh the increased costs of the alternative against its environmental advantages." Yeamans Hall Club at 6.[186] Thus, the "reasonableness" test presupposes that the alternatives proposed by NYSDOS have less adverse coastal effects than the Project as originally proposed. See Millennium Pipeline at 24. Here, Alternatives 1 and 2 automatically fail the reasonableness test because they have *greater* adverse coastal effects than the Project, in addition to being more costly in economic terms.[187]

NYSDOS's Objection fails to specify the difference in cost between the Project and Alternatives 1 and 2. Pipeline construction for the Project will cost $120 million. Construction and operation of the pipeline for Alternative 1 would cost $144 million – a 20% increase over the Project (this figure, however,

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[185] Objection at 66 (BW33800).

[186] Decision and Findings in the Consistency Appeal of Yeamans Hall Club From an Objection by the South Carolina Coastal Council (Aug. 1, 1992) ("Yeamans Hall Club").

[187] In addition to the coastal effects described below, the extensive onshore pipeline construction required for Alternative 2 will result in significant adverse environmental impacts outside of the coastal zone. For instance, pipeline construction on Long Island will be conducted in densely populated residential areas, several state parkways, and across numerous highways, bridges and interchanges. Such construction would result in significant visual and noise impacts to Long Island residents, and would also result in traffic/congestions issues. In comparison, the widespread environmental impacts of onshore pipeline construction are completely avoided with the Project.

does not include construction of the additional pipeline/compression facilities required to make Alternative 1 "available"). Construction and operation of the pipeline for Alternative 2 would cost $325 million – a 171% increase over the Project.[188] Additionally, costs for the FSRU and its mooring system would increase significantly in order to adjust to the more extreme weather conditions and the changes in technology required as a result.[189]

1. Horizontal Directional Drilling

Alternative 2 will require Horizontal Directional Drilling ("HDD") for the shore crossings that span the Fire Island National Seashore.[190] Construction in this nearshore area would disrupt and likely destroy designated Significant Coastal Fish and Wildlife Habitat and result in increased sediment loading in these shallow waters, leading to high turbidity and potential water quality impacts in an area already stressed by increased nutrient inputs from adjacent communities.[191] Nearshore jetting, dredging and bury operations will create increased localized sedimentation and build-up, which would affect existing benthic and marine resources because these areas (especially in Great South Bay) have very shallow depths of less than six feet. Construction of the Project pipeline will take place only in open water environments nine miles from the nearest shoreline and does not cross any designated or protected sensitive habitat area.[192]

HDD and boring techniques do not involve simple technologies that can be applied to any type of crossing environment, and HDD often has a high failure rate and its use is dependent upon many factors, including length and diameter of the required installation, type of subsurface material and its cohesive and shear-strength properties, and the availability of work space in the project area for staging of equipment for operations.[193] HDD for large diameter pipelines is often difficult and unsuccessful in non-cohesive sediments such as the sands that comprise the majority of the southern Long Island shoreline.[194] If HDD drilling were unsuccessful, the secondary installation approach is an open-cut trench to install the pipeline.

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188 Supplemental Document III (SD124-160).
189 Response to July 3, 2007 IR (BW19163).
190 Objection at 72 (BW33806).
191 Broadwater Additional Alternatives Analysis (BW18218).
192 FEIS § 3.0 (BW28854-28859).
193 See Broadwater Responses to NYSDOS Information Requests, Response A-4 (BW24112-24118).
194 January 2008 Response to Comments at 96-97 (BW31061-31062).

An open-cut trench, however, would disrupt a large area and would result in habitat destruction and negative beach effects to the sensitive shoreline environment and, potentially, the National Seashore area.

2. Construction in Great South Bay

Pipeline construction for Alternative 2 would cross Great South Bay for over a mile, which would involve dredging to remove sediment. Great South Bay is the largest shallow estuarine bay in New York State, with extensive back barrier and tidal creek salt marshes, eelgrass bed, and intertidal flats. As stated in the Significant Coastal Fish and Wildlife Habitat Rating Form – Great South Bay – West, the Bay is "one of the largest coastal wetland ecosystems in New York State" with "commercial hard clam industry of regional significance, sportfishing of statewide significance," and an area that "supports some of the largest concentrations of wintering waterfowl, nesting harriers, black rails, hard claims, and estuarine fish in New York State" with a rating of "irreplaceable."[195] In light of the fragile and ecologically important nature of Great South Bay, construction of a pipeline in this area would lead to significant adverse coastal effects related to habitat disturbance and destruction, water quality impacts due to turbidity and sedimentation, and physical disturbances to marine organisms and waterfowl. Damage to wildlife could be especially severe given the late summer/early fall construction schedule described in the Objection. These timeframes overlap with some of the most productive nursery and feeding area seasons for marine finfish and shellfish.[196] In comparison to other shoreline areas of Long Island, there are currently no mapped utilities constructed to come ashore in Great South Bay.[197] Construction of a 30-inch pipeline requires a significant disturbance, especially in a shallow water environment such as Great South Bay, and is completely contrary to the designation assigned by NYSDOS to protect this area's important and sensitive coastal resources.

3. Adverse Effects to Benthic Communities

In addition to increased benthic impacts resulting from pipeline construction in major shipping fairways for Alternatives 1 and 2 (discussed above), previous Broadwater analysis of the turret-moored FSRU proposed for Alternative 2 has indicated a significant level of long-term benthic community impacts

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195 Supplemental Document IV at 1 (SD161).
196 Id. at 2 (SD162).
197 Broadwater Additional Alternatives Analysis (BW18215).

associated with this technology.[198] A turret-moored system would consist of up to 12 anchor chains approximately 700 meters long. These chains would reside in the water column and as the orientation of the FSRU adjusts with the prevailing current, the chains would drag across the bottom of the seafloor, thereby creating a permanent benthic community disturbance area of 385 acres throughout the 30-year life of the Project, as well as providing a constant source of increased turbidity and impacts to water quality.

4. Increased Risk of Vessel Collision

The location of Alternatives 1 and 2 in the Atlantic Ocean south of Long Island would create a greater risk of collision with other vessel traffic than the Project in the Sound. According to the FEIS, a LNG terminal "constructed south of Long Beach could result in increased likelihood of vessel conflicts and a greater probability of vessel collisions and allisions."[199] The volume of vessel traffic associated with the Port of New York/New Jersey ("PNYNJ") in the Atlantic is much greater than that for the Sound. The PNYNJ is the third largest port in the United States, has the largest civilian population contained within a U.S. port area and is the largest port in the United States for the movement of petroleum. The Vessel Traffic Service monitors 1400 *daily* commercial vessel movements in the PNYNJ. 4,902 port calls, or 9,804 ship movements of vessels greater than 10,000 tons deadweight occurred in PNYNJ from November 2005 to October 2006.[200] New York pilots advise that the approximate number of ship movements is 11,000 to 12,000 per year. In contrast, ports within Long Island Sound experienced an average of 2,300 commercial vessel arrivals *per year*.[201] Increased levels of traffic are generally associated with increased collision risk.[202] In addition, historical collisions have generally taken place between large vessels and

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198 Broadwater Responses to NYSDOS Information Requests, Depth Restrictions and Buoy Impacts (BW24101-24104); FEIS § 3.1.2.2 (BW28874-28878).

199 FEIS § 4.4.1.3 (BW29209)

200 Atlantic Sea Island Group, LLC, Safe Harbor Energy LNG Deepwater Port License Application, Docket No. 28535, Ex. N (Marine Vessel Traffic Patterns) §§ 4.1 – 4.4, 4.6 (BW38818-38822).

201 Coast Guard WSR § 2.2.1 (BW7610).

202 Broadwater Responses to NYSDOS Information Requests (BW24067-24074). An example being the recent collision of the tanker *Axel Spirit* with the Ambrose Tower (http://persystem.com/go/doc/802/181195).

well-lighted navigation objects in precautionary areas,[203] which suggests a similar risk potential for an FSRU moored in the Atlantic south of Long Island.[204]

A review of other Deepwater Port approvals suggests that there could be a sizeable "Area To Be Avoided" designated around an Atlantic LNG terminal, which could impinge upon and disrupt the Traffic Separation Scheme ("TSS") for the PNYNJ.[205] The proposed FSRU location for Alternative 2 lies at the outskirts of the Ambrose-Nantucket traffic route, and any associated SSZ would partially occupy the confines of the TSS, meaning that any vessels departing or approaching the PNYNJ would need to deviate from its normal course to avoid the FSRU. The close proximity of Alternatives 1 and 2 to the PNYNJ would mean that transiting LNG carriers and their associated SSZs could disrupt normal navigation.

5. Federal, State and Local Park Impacts

The pipeline for Alternative 2 crosses several areas of parkland, including the Fire Island National Seashore, Robert Moses State Park and Captree State Park, for a total parkland impact of 3.27 acres.[206] The potential for significant impacts to pristine beaches and other parkland from pipeline construction is significant, especially when the possible failure of HDD is considered. In contrast, the Project has no associated impacts to beaches or public parklands.

iii. Element 3 – Conclusion

Because the alternatives to the Project proposed by NYSDOS are not consistent with the enforceable policies of the LISCMP, have not been described with requisite specificity, and are neither available nor reasonable, Element 3 of 15 C.F.R. § 930.121 is satisfied.

IV. CONCLUSION

Based on the foregoing, the Secretary should override NYSDOS's Objection to the Project.

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[203] A "precautionary area" is "a routing measure comprising an area within defined limits where vessels must navigate with particular caution and within which the direction of traffic may be recommended." 33 C.F.R. § 161.2.

[204] http://www.app.com/apps/pbcs.dll/article?AID=/20071105/NEWS/71105006.

[205] Broadwater Responses to NYSDOS Information Requests (BW24075-24088).

[206] Broadwater Additional Alternatives Analysis (BW18215-18217, BW18223).

Dated: July 7, 2008

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CERTIFICATE OF SERVICE

I hereby certify that the foregoing Initial Brief on Appeal of Broadwater Energy LLC and Broadwater Pipeline LLC Under the Coastal Zone Management Act and the associated Appendix was served this 7th day of July 2008, by first-class mail unless otherwise indicated, on the following persons at the addresses listed below.

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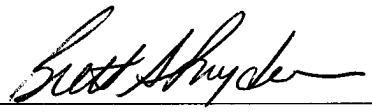

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