

**UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION**

**BROADWATER ENERGY LIQUEFIED  
NATURAL GAS PROJECT**

**DOCKET NOS. CP06-54-000  
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**COMMENTS OF ATTORNEY GENERAL RICHARD BLUMENTHAL OF  
CONNECTICUT ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT**

**SUMMARY**

I oppose the Broadwater project because it is an unacceptable security danger, an environmental atrocity, and an aesthetic monstrosity. The deficiencies in this Draft Environmental Impact Statement (DEIS) are stark and stunning.

The Long Island Sound is a vital and vulnerable treasure. Long Island Sound contributes at least \$5.5 billion to the regional economy each year. The continued attempts by large utility companies to industrialize this national treasure - to create an industrial development corridor - threaten our vital natural resources, economic interest, public safety, quality of life, and marine ecosystem.

This DEIS fails to meet the minimum standards of the National Environmental Policy Act (NEPA) because it does not, and cannot, fully and accurately evaluate the environmental impacts of this mammoth project on the Long Island Sound ecosystem. Its evaluation of critical environmental issues is plainly, demonstrably and indefensibly wrong. Further, critical studies of important aspects of the project have not been completed or, in some cases, not even started, and parts of the project rely on plans, technology and systems that do not exist. Non-existent plans cannot be studied and

evaluated, as the law requires. Further, FERC continues its steadfast, but illegal, refusal to consider regional needs as a whole, and to approve only the least damaging alternatives, rather than the first plans to cross the finish line. This draft environmental impact statement, therefore, is illegal and fundamentally deficient and must be withdrawn until it can be properly completed.

Among the central deficiencies in this draft document, the following are most dramatic:

" Even though the U.S. Coast Guard itself says that it lacks the resources to protect Broadwater and its delivery tankers, the DEIS offers no plan to provide that protection - simply assuming that it will somehow be arranged later.

" Even though no government, public agency or private party has the ability to provide emergency response to a fire, accident, attack or other disaster at the Broadwater facility, the DEIS offers no emergency response plan - thus obstructing legally required evaluation of an emergency's environmental consequences.

" Even though Hurricanes Katrina and Rita destroyed 50 oil platforms and drill rigs in the Gulf of Mexico in 2005 and new design standards for anchoring systems to better withstand similar storms are still under development, the DEIS presumes there is a reliable method of attaching the Broadwater mooring system to the floor of the Sound.

" Even though there is real risk that the Broadwater facility could break loose in a hurricane or other disaster, the DEIS gives no meaningful consideration to how that event would affect shipping and commerce in the Sound.

" Even though the Broadwater pipeline will be buried well within the reach of the heavy anchors of large ships, the DEIS gives no consideration to the potential catastrophe of pipeline damage from an anchor strike.

" Even though every single bit of evidence from past utility installations in the Sound is to the contrary, the DEIS assumes that the pipeline trench habitat and ecology will naturally recover after the pipeline is installed.

" Even though the DEIS concedes that this project will cause long term damage to essential fish habitats, it has failed to complete an evaluation of the nature and extent of that impact.

" Even though the law - NEPA - plainly requires full evaluation of the reasonable alternatives to a major project such as Broadwater, the DEIS simply, and unlawfully, refuses to conduct it all, asserting that no study of regional gas needs and how to meet them is needed before considering piecemeal approval of individual proposals all along the Eastern Seaboard.

" Even though the law requires this "alternatives" analysis, the DEIS undertakes no meaningful comparative environmental analysis of any pending alternative proposals.

" In short, despite obvious environmental dangers and damage, the DEIS provides no analysis of the environmental impact and destruction to the natural resources of Long Island Sound from a fire, explosion, attack or accident at the Broadwater facility.

Even in its incomplete form, the DEIS plainly establishes that the Broadwater proposal threatens immense damage to human health and safety and the critical environment of Long Island Sound, a precious national resource. The risks of serious

accidents or attacks associated with the Broadwater project are real and substantial, as proved by the United States Coast Guard Waterway Suitability Report (WSR), incorporated in the DEIS, and the recently published New York State Office of Homeland Security Focus Report: Maritime Terrorist Threat, dated February 21, 2006, ("NY Terrorist Report"). The project raises the clear and present danger of an accident or attack causing catastrophic and lasting damage to human life, the environment, and commercial and recreational use of the Sound. It shows that no one can provide the level of protection and safety the public has a right to expect.

Defying clear facts, this DEIS comes to the unsupportable conclusion that the risks can be mitigated or minimized and therefore this project can proceed. The DEIS thus is clearly flawed and requires sweeping revision. Compounding the failure, FERC staff has failed to apply the legal procedures required by NEPA, rendering the DEIS legally flawed as well.

While the Northeast undeniably needs additional supplies of clean energy, there are far safer and sounder ways to obtain it. Numerous other projects are under review by FERC, including new major pipelines and safer and environmentally less damaging offshore terminals in New Jersey and Maine. FERC has so far not fulfilled its legal and common sense obligations to consider all reasonable alternatives for new clean energy supplies for the Northeast together, and to permit only the most prudent, safest, least damaging proposals necessary to ensure adequate natural gas supplies. A careful, honest, complete evaluation will show that Broadwater is among the least safe, most dangerous and damaging proposals, and it should not be approved.

## I. NEPA

The National Environmental Policy Act, 42 U.S.C § 4321, *et seq.* (“NEPA”), mandates that federal agencies involved in activities that may have significant impact on the environment must complete a detailed statement of the environmental impacts and project alternatives. NEPA provides, in pertinent part, as follows:

The Congress authorizes and directs that, to the fullest extent possible . . .

(2) all agencies of the Federal Government shall -- . . .

(C) include in every recommendation or report on proposals for legislation and other major Federal actions significantly affecting the quality of the human environment, a detailed statement by the responsible official on --

(i) the environmental impact of the proposed action,

(ii) any adverse environmental effects which cannot be avoided should the proposal be implemented,

(iii) alternatives to the proposed action,

(iv) the relationship between local short-term uses of man's environment and the maintenance and enhancement of long-term productivity, and

(v) any irreversible and irretrievable commitments of resources which would be involved in the proposed action should it be implemented.

42 U.S.C. § 4332.

NEPA is a statute that is primarily procedural. It directs that certain issues must be studied and that the reviewing agency must take a “hard look” at these issues, but does not direct what result an agency must reach. Federal appellate courts have been very clear, however, that NEPA is an important federal law and compliance is mandatory. “NEPA was created to ensure that agencies will base decisions on detailed information regarding significant environmental impacts and that information will be available to a

wide variety of concerned public and private actors. *Morongo Band of Mission Indians v. Federal Aviation Administration*, 161 F.3d 569, 575 (9th Cir. 1998).” *Mississippi River Basin Alliance v. Westphal*, 230 F.3d 170, 175 (5th Cir. 2000).

Thus, the fundamental goal of an evaluation under NEPA is to require responsible government agencies involved with a given project to undertake a careful and thorough analysis of the need for that project and its impacts before committing to proceed with the project. As the Tenth Circuit has held:

The purpose of NEPA is to require agencies to consider environmentally significant aspects of a proposed action, and, in so doing, let the public know that the agency's decisionmaking process includes environmental concerns. *Baltimore Gas & Elec. Co. v. Natural Resources Defense Council*, 462 U.S. 87, 97, 76 L. Ed. 2d 437, 103 S. Ct. 2246 (1983); *Sierra Club v. United States Dep't of Energy*, 287 F.3d 1256, 1262 (10th Cir. 2002).

*Utahns For Better Transportation v. United States Dept. of Transp.*, 305 F.3d 1152, 1162 (10<sup>th</sup> Cir. 2002)

As the District of Columbia Circuit has held:

"NEPA was intended to ensure that decisions about federal actions would be made only after responsible decision-makers had fully adverted to the environmental consequences of the actions, and had decided that the public benefits flowing from the actions outweighed their environmental costs." *Jones v. District of Columbia Redevelopment Land Agency*, 162 U.S. App. D.C. 366, 499 F.2d 502, 512 (D.C. Cir. 1974). . . .

*Illinois Commerce Com. v. Interstate Commerce Com.*, 848 F.2d 1246, 1259 (D.C. Cir. 1988).

It is not only the government decision-makers who are to be served by an EIS. As one court noted: “The purpose of an EIS is to ‘compel the decision-maker to give serious weight to environmental factors’ in making choices, *and to enable the public to* ‘understand and consider meaningfully the factors involved.’ *County of Suffolk [v.*

*Secretary of Interior*], 562 F.2d at 1375 (citing *Sierra Club v. Morton*, 510 F.2d 813, 819 (5th Cir. 1975)).” *Town of Huntington v. Marsh*, 859 F.2d 1134, 1141 (2d Cir. 1988)

The standard of review of a NEPA environmental impact study is well established. As the United States Court of Appeals for the Second Circuit has stated:

The sufficiency of an EIS is determined according to the "rule of reason," under which the EIS will be upheld as adequate if it has been compiled in good faith and sets forth sufficient information to enable the decision-maker to consider fully the environmental factors involved and to make a reasoned decision after balancing the risks of harm . . . against the benefits to be derived from the proposed action, as well as to make a reasoned choice between alternatives. *County of Suffolk v. Secretary of Interior*, 562 F.2d 1368, 1375 (2d Cir. 1977), *cert. denied* 434 U.S. 1064, 55 L. Ed. 2d 764, 98 S. Ct. 1238 (1978).

*Town of Huntington v. Marsh*, 859 F.2d 1134,1140 (2d Cir. 1988).

## **II. The Project.**

The Broadwater Project is immense in its size and scope – and its devastating impacts. Not only is its sheer physical size and physical impact enormous, but it is proposed for a uniquely valuable and sensitive environment.

As described in Broadwater’s own documents, the facility will be composed of four interrelated elements. The largest will be the floating storage and regassification unit (FSRU). The FSRU is planned to be about the length of four football fields -- over 1,200 feet long, 200 feet wide and over 100 feet high, with a draft of 40 feet. DEIS, pp. 2-22, 2-3, WSR, p. 2. The FSRU is designed to hold up to 8 billion cubic feet of natural gas along with the necessary machinery to transform the liquefied product into its gaseous form at capacities of up to a billion cubic feet per day. *Id.* The FSRU will be anchored to the seafloor by a mooring system that will cover 13,180 square feet. DEIS, p. 2-12. It will be the first and only example of an entirely untested vessel type. *See*,

Interim Report of the Long Island Sound LNG Task Force, March 8, 2006, (Task Force Report), p. 25. No floating LNG facility of its kind exists anywhere in the world. In effect, it is a huge experiment, filled with billions of cubic feet of flammable gas.

The second element of the project is a planned 21.7 mile long undersea thirty inch pipeline from the FSRU to the Iroquois Gas Transmission System (IGTS) pipeline. DEIS, p. 2-16. Broadwater plans to employ an underwater plow to install the pipeline. However, if bedrock or other seafloor conditions are unfavorable, particularly in the Stratford Shoals region, the company has indicated that it may pursue other methods. DEIS, section 2.3.2.2.

The third element of the Broadwater project comprises land based systems, including buildings for maintenance and other logistical support. The fourth and last element of the project, the LNG tankers that will reload the FSRU, will have an important impact on the Sound. These tankers, ranging from the existing 125,000 cubic meters capacity to an as yet unbuilt 250,000 cubic meters size, will transit the narrow entrance to the Sound every 2-3 days and will anchor next to the FSRU for unloading of LNG, resulting in an approximately 20 to 30 percent increase in average annual foreign-flag vessel arrivals. WSR Report, pp. 55 *et seq.*, 103, 123.

If the project is built, the Coast Guard has determined that the FSRU and the LNG tankers will be surrounded by exclusion zones barring all recreational and commercial shipping access to several square miles of the Sound. The FSRU will be surrounded by an exclusion zone 1210 yards in any direction from the anchoring system. WSR, p. 3. The individual LNG carriers will have an oval shaped exclusion zone 2 miles ahead of

the bow of the vessel, 1 mile behind from the stern and 750 yards on either side. WSR, p. 3-4.

### **III. COMMENTS**

There are four main categories of errors of law and fact in the DEIS. First, the Commission has issued the draft document without completing all the necessary scientific and technical studies, and as a consequence, the existing analysis is inadequate and its conclusions fatally compromised. Second, the DEIS fails to adequately recognize the fragility of the ecosystem of Long Island Sound and simultaneously underestimates the impacts of construction and the consequences of a major accident or attack on the facility. Consequently, the DEIS arrives at the erroneous conclusion that the risks to human health and safety and the environment are manageable when they are not.

Third, the DEIS fails to consider the probable cumulative environmental impacts of the Broadwater project along with the host of other, major utility projects planned or being built in the Sound. Finally, the DEIS's alternatives analysis is hopelessly inadequate and fails properly to examine this project in the context of other competing projects that provide clearly preferable alternatives.

#### **A. Incomplete Information.**

The DEIS is premature because it is impossible to produce an accurate description of the risks and impacts of this project when crucial scientific and technological information is not available because it does not exist.

No vessels comparable in size and equipment to the proposed Broadwater FSRU and the anticipated mega-tankers that will serve it yet exist. Interim Report of the Long Island Sound LNG Task Force, March 8, 2006, (Task Force Report), p. 25. Nowhere in

the world has any company created a floating regassification system even remotely like the one proposed here. The American Bureau of Shipping, which will provide technical services for Broadwater, has referred to the “concept of combining a floating re-gasification unit and distribution network with a yoke moored LNG hull” as a “first time combination of systems.” *See*, letter from ABS to Shell Trading (US) Company, July 27, 2005, page 1, attached to United States Coast Guard WSR Report, Sept. 21, 2006, Appendix A, Broadwater Correspondence. In conducting its review, ABS informed Broadwater that it would be using the “ABS Guidance Notes on Review and Approval of Novel Concepts.” *Id.*, letter from ABS to Shell Trading US Company, dated March 9, 2006, page 1. The DEIS itself clearly recognizes that the final design and specifications for the FSRU are not yet complete by stating that “Broadwater has indicated that final design and material specifications for the FSRU would be determined in consultation with a ship classification society.” DEIS, p. 2-3. Furthermore, the LNG carriers that are to resupply the FSRU have also never been built and are approximately twice the size of the biggest carriers that now exist.<sup>1</sup>

Thus, while Broadwater and the DEIS blithely assume that the facility will be safe because there have been 60 years of largely safe marine transport of LNG, this assumption overlooks the fact that what is being proposed is radically different and vastly larger than what has existed before. Stated simply, there is no safety “track record” for

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<sup>1</sup> According to the Coast Guard WSR Report, LNG carriers currently in service have a total capacity of approximately 138,000-144,000 cubic meters, WSR, page 9, and planned carriers for the Broadwater project would reach approximately 250,000 cubic meters.

the FSRU because no such thing has ever existed.<sup>2</sup> Over the past 60 years, marine transport of LNG has always relied on land-based regassification and storage facilities. Similarly, the planned mega-carriers are yet to be built and thus there is no basis to assume that they can be safely maneuvered or anchored in the Sound, particularly in adverse weather conditions.<sup>3</sup>

The DEIS fails to address the issue of Broadwater's reliance on untested technologies. Therefore, it has failed to take a "hard look" at this central safety and security issue and so the DEIS is incomplete in this respect.

The DEIS also affirmatively acknowledges that certain critical elements of the project have not been studied or even designed yet. For example, Broadwater plans to use pile-driving during the construction of the critical yoke mooring system (YMS).

However, as the DEIS itself states, "the specific methods to be used [will] be determined

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<sup>2</sup> Further, FERC exaggerates the facts with its claim that natural gas facilities are safe based on their past record. In 1944, an LNG tank breached, a vapor cloud ignited, and the fire killed 128 people. Cabrillo Port Liquefied Natural Gas Deepwater Port, DEIS ("Cabrillo DEIS"), Appendix C, p. C-1. In 1973 a Texas Eastern Transmission LNG tank was undergoing repairs and a fire developed, causing the temperature in the tank to rise, creating enough pressure to dislodge the top of the tank, crushing 40 workers. *Id.* In 1979 in Maryland, LNG leaked through a pump at a terminal and a spark caused an explosion, killing one and seriously injuring another. *Id.* at p. C-2. In 2004, 27 people were killed and 56 injured in a fire at an LNG facility in Algeria. *Id.* at p. C-3.

<sup>3</sup> It is also an exaggeration to claim that marine transport of LNG is completely safe. In 1965, the *Jules Verne* leaked LNG, instantly fracturing deck plates. Cabrillo DEIS, Appendix C p. C-1. In 1974 in Massachusetts, LNG leaked from a valve and, once again, fractured a vessel's deck. *Id.* In 1977, a worker was frozen to death when a valve came into contact with cryogenic temperatures and LNG was released. *Id.* at p. C-2. In 1979, not one, but two ships -- the *Mostefa Beb-Boulaid* and the *Pollenger* -- experienced valve failures leading to leakage leading to metal fractures in either deck plates of tank cover plates. *Id.* A similar incident occurred in 1985 on the tanker *Isabella*. *Id.* at C-3. Finally, the NY Terrorist Report notes that "released LNG would be more difficult to contain at sea than on land since it would disperse faster on the ocean. LNG also vaporizes more quickly on water because the ocean provides a relatively enormous heat source." NY Terrorist Report, p. 14.

after completion of more detailed geotechnical surveys.” DEIS, p. ES-8. The DEIS slips over this glaring deficiency by suggesting that Broadwater “coordinate with [National Marine Fisheries Service] to determine appropriate measures to avoid and minimize” impacts. *Id.*

It is astonishing that FERC claims to have produced a DEIS when it fully acknowledges that the geotechnical work necessary for the key FSRU safety system has not been done. Because the geotechnical work has not been done, no credible or reliable study of the pile-driving system and its environmental impacts can be done. Because the installation system cannot be evaluated, there is no means by which the overall construction impacts can be fully considered and, even more ominously, it is impossible to determine the ultimate strength and holding ability of the YMS.

This latter issue is of greatest concern. The closest analogues to the FSRU are the fixed oil and gas platforms in the North Sea and Gulf of Mexico. Hurricane Katrina destroyed 46 oil platforms and 4 drilling rigs in August, 2005. Hurricanes Destroyed 109 Oil Platforms: US Government, Agence France-Presse, [//www.terraily.com/](http://www.terraily.com/), Oct. 4, 2005. Hurricane Rita destroyed 63 platforms and 1 drilling rig in September, 2005. *Id.* Katrina damaged a further 20 platforms and 9 rigs. Rita caused serious damage to 30 platforms and 10 rigs. *Id.*

Katrina, while powerful, was ultimately determined by the National Hurricane Center to be only a Category 3 storm at landfall, on a rating system which extends to Category 5. Service Assessment, Hurricane Katrina August 23-31, 2005, U.S. Dept. of Commerce, National Oceanic and Atmospheric Administration, page 1. In addition to the ever present threat of fog (encountered 10-12 percent of the time between April and

August) and ice (which periodically can cover most or all of the Sound and has blocked ferry movements in the past), the WSR Report shows that forty tropical cyclones (16 tropical storms and 24 hurricanes) have struck southern New England since 1936 and Long Island Sound is much narrower than the Gulf of Mexico, with a dense concentration of marine vessels and landward population centers. WSR Report, pp. 44-46.

If the FSRU is torn loose in a storm, there is practically nowhere it could go without endangering commercial shipping or seacoast communities. Therefore, FERC must analyze the consequences of a Class 5 storm on the FSRU and whether it is possible to protect the marine resources of the Sound in the event the anchoring system fails *before* it can begin to evaluate the full potential impacts of this project. In this regard, the Coast Guard's WSR report notes that, in the wake of Katrina, the agency is reevaluating its design standards for securing offshore energy facilities. As the report states:

“Because of the damage that did occur during these hurricanes, the Minerals Management Service (MMS) is reviewing the API RP 2A design standard, which is the design standard Broadwater Energy has proposed to use for the designing the fixed portion of the mooring system. To date, this review has not been completed.” WSR, p. 116.

In the face of the uncontroverted fact that a huge amount of energy infrastructure built to current design standards failed during Hurricane Katrina, there is absolutely no basis for asserting that this proposed facility, with its mooring system construction method as yet unknown, is not likely to break away in a major storm. In fact, recent history suggests exactly the opposite. Absent the presently non-existent new standards, and a strong clear plan for the design and construction of the mooring system, the public

is faced with a DEIS which claims that the project is safe when neither the geotechnical work nor the final construction plans for the anchoring system exists and, at the same time, the standards necessary to review the final system also do not exist. FERC must either assume, plan for, and evaluate the results of the fact that the FSRU will probably break loose in a storm, or await the new Coast Guard standards and a detailed plan regarding construction and operation of the mooring system. It is impossible to conclude, as the DEIS does, that this project has been properly evaluated under NEPA, let alone that it is safe.<sup>4</sup>

In fact, the Coast Guard has been very careful never to say that the project is completely safe or poses no risk, but rather refers to “[p]otential strategies for managing risks” in the WSR’s Risk Assessment section. WSR, p. 112. This assessment clearly identifies numerous risks associated with collisions between an LNG carrier and ferries, and other commercial or private vessels anywhere in the Sound. The report concludes that a collision resulting in minor or moderate consequences could be expected once every 10-50 years and a collision with major consequences every 50-100 years. WSR,

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<sup>4</sup> It must be further noted that FERC has, to date, refused to make public vital information regarding the design, structure and safety of the proposed FSRU. This unprecedented and indefensible policy needs to be immediately reversed before meaningful analysis and public review of the Broadwater project can begin. FERC has classified much of the safety and design information associated with the FSRU as Critical Energy Infrastructure Information (CEII). Once classified, this very important information is withheld from the public, or disclosed only on a very limited basis that makes it virtually impossible to conduct a full public discussion. FERC’s regulations governing CEII classification fail to establish any meaningful standards for granting requests for access. FERC further insists that any person or organization seeking to review this material sign a form to the effect that violation of the terms of release can result in immediate criminal sanctions. The confusion and incoherence of the various FERC regulations and public statements about CEII information do nothing to protect the nation from terrorists and effectively prohibit the robust public discussion regarding the safety of this mammoth project necessary for an analysis under NEPA.

pp. 111-115. According to the Coast Guard, a collision could result in a vapor cloud of gas extending in excess of 4 miles. *Id.* Further, there is an extensive discussion in the WSR of the anticipated duration and extent of a catastrophic fire resulting from a collision. What is not stated is that all of the conclusions about potential fires and safety zones are based on a woefully inadequate data set. As an analysis contained in the Coast Guard's Fall, 2005 Proceedings of the Marine Safety & Security Council, states: "No experimental data are available on pool fires of dimensions comparable to the postulated accident scenarios. Although the radiation of large pool fires can be modeled based on the shape of the flame, the shape of very large pool fires is not known." Liquefied Natural Gas Transportation, by Filippo Gavelli, Ph.D. and Harri Kytomaa, Ph.D., Proceedings of the Marine Safety & Security Council, Fall, 2005 p. 33. These authors add that "[e]mpirical data on the influence of waves on the spreading of the LNG pool is limited." *Id.* Thus, while the potential for a collision resulting in a mammoth fire is recognized, no adequate data set exists to determine the shape and therefore size of an LNG pool fire or the effect, if any, of wave action on such a fire.

What can be confidently shown is that, there is insufficient emergency personnel or equipment to respond to any such catastrophe. As the Coast Guard WSR states ominously: "Based on current levels of mission activity, Coast Guard Sector Long Island Sound currently does not have the resources required to implement the measures that have been identified as being necessary to effectively manage the potential risk to navigation safety and maritime security associated with the Broadwater Energy proposal." WSR Report, pp. 156-157.

No reinforcements will apparently be available for Sector Long Island Sound. Recent news reports show that the Coast Guard's multi-year, multi-billion dollar Deepwater project designed to provide new ships, planes and helicopters to replace aging and outdated equipment, has foundered. See Billions Later, Plan to Remake the Coast Guard Fleet Stumbles, NY Times, December 9, 2006. The Deepwater plan was designed to increase the Coast Guard's capabilities at a time when its responsibilities to protect the nations coasts, ports and shipping have materially increased. However, the troubled project has had major cost overruns and design failures. A plan to modernize the Coast Guard's 110 foot cutters, mainstays of the fleet, has been cancelled because the remodeled vessels were found to be unseaworthy. A planned new 147 foot ship designed failed so completely that it has been scrapped. The first of a new, heavy cutter has cost almost twice as much as planned and has structural weaknesses that may threaten its safety. *Id.*

As the Coast Guard itself noted above in its WSR, it has insufficient resources at present to conduct the necessary security mission if the Broadwater project is approved. The Coast Guard's resources will soon be stretched farther with fewer assets and no effective plan to replace or upgrade them. There is no State of Connecticut, State of New York, or federal Fire Department or paramedic unit. Fire and other emergency response units, other than law enforcement units such as the State Police, are provided by towns and municipalities. The small communities along the New York and Connecticut coasts are staffed and equipped to address only their own domestic needs, such as car accidents and fires at homes and small businesses. As the WSR puts it: "Currently the agencies that could potentially provide such assistance do not have the necessary personnel,

training, or equipment.” WSR, p. 157. The PAWSA Report also noted that there are very limited resources immediately available to respond to a major marine fire in the Sound. PAWSA, p. 30.

These facts, fully recognized by all authorities, are noted in the DEIS only to the extent that it recognizes the absence of an emergency response plan and that such a plan “should be developed through a transparent, public process that actively involves the U.S. Coast Guard and appropriate agencies and key officials of state and local governments.” WSR, p. 152. This abandonment of responsibility is unacceptable. The magnitude of the threat posed by this project mandates a complete and comprehensive emergency response plan involving detailed response plans for addressing fires, groundings, collisions, adverse weather incidents and terrorist attacks. Numerous municipal, state and county governmental agencies would need to be involved. Many are likely to refuse to participate. Major questions regarding the lack of sufficient marine firefighting and other equipment would have to be fully and successfully addressed. The WSR also states that, “[a]t a minimum, the plan should address responses to the safety and security scenarios discussed in this assessment as well as events such as hurricane preparation.” WSR Report at p. 153.

The plan required by the Coast Guard in the WSR does not exist, and therefore there is no way to evaluate its adequacy. This failing is critical because an incident’s damage is often determined by the speed and effectiveness of the emergency response. The natural resource damage caused by the *Exxon Valdez* grounding came, less from the initial stranding than from the lack of effective short-term emergency response, including

misguided efforts by Captain Hazelwood to free the vessel.<sup>5</sup> The DEIS cannot evaluate either the effectiveness of the response plan or the maximum total impact of an accident until a final emergency response plan is completed.

The DEIS also lacks any analysis of another critical issue -- the probability of anchor strikes damaging the pipeline. Broadwater intends to install 21.6 miles of 30 inch pipe under the Sound. The top of the pipe will be 3 feet below the seafloor, but Broadwater planned to backfill only about 10% of the pipeline. FERC has stated that it intends to require Broadwater to backfill the entire length. See DEIS, pp. 3-13 – 3-15.

The DEIS contains absolutely no analysis of the risk of anchor strikes on the pipeline from any of the tens of thousands of commercial and larger recreational boats that use the Sound. Connecticut Light & Power Company has an electric cable system that crosses the Sound from Northport, New York to Norwalk, Connecticut. Over approximately 30 years, it has suffered more than 50 anchor strikes severing one or more cables. See Testimony of R. Zaklukiewicz, Connecticut Siting Council, Dckt No. 224, CL&P 1385 Cable Replacement Project, June 5, 2002, p.5, Task Force Report, pp. 74-77. An anchor for a large vessel can easily sink through many feet of sediment into the seabed. Decision of the Department of Environmental Protection, Islander East Application for Water Quality Certificate, released December 19, 2006, (DEP Islander East Decision), p. 43. Even if the FERC recommendation to backfill the entire length of the pipeline is followed, the top of the pipeline will be covered only to a depth of 3 feet. The potential for repeated anchor strikes over the planned thirty year service period of

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<sup>5</sup> Exxon Valdez TED Case Study, <http://www.american.edu/ted/exxon.htm>.

this system cannot be overlooked, yet the DEIS is utterly silent on this important and dangerous issue.

This concern is hardly hypothetical. As noted above, existing underwater infrastructure in the Sound has been damaged by anchor strikes. Severing an electric cable only results in grounding of the current into the seafloor. Hitting a natural gas pipeline brings more serious results. A spud anchor dropped from the *Dave Blackburn* on October 23, 1996, in Tiger Pass, Louisiana, struck a 12 inch underwater natural gas pipeline owned by Tennessee Gas. National Transportation Safety Board (NTSB), Safety Recommendation, P-98-26 and -27, October 16, 1998, p.1. “[N]atural gas released from the pipeline enveloped the stern of the dredge and an accompanying tug. . . . Within seconds. . . the natural gas ignited. The resulting fire destroyed the dredge and the tug.” *Id.* This NTSB report concludes, “[a]s shown by other fatal accidents investigated by the Safety Board that involved damage to pipelines traversing navigable waterways, underwater pipelines represent a risk for both recreational and commercial vessels.” *Id.*, p. 3. The Broadwater DEIS contains *no* discussion of the risk of accidents involving rupture or breaching of the 21.7 miles of proposed pipeline.

Further, Long Island Sound -- both the seafloor and the water column -- has been designated an essential fish habitat (EFH) by NMFS. DEIS, p. ES-10 The DEIS admits that there would be “long term” impact to EFH-designated species, but at this point, FERC has merely prepared a draft EFH Assessment and has “request[ed] that NMFS consider this draft EIS as notification of initiation of EFH consultation.” DEIS, ES-10. The DEIS, therefore, has failed to fully evaluate yet another important impact from this project on the environment.

It is instructive to compare the Broadwater DEIS with the impact statement prepared by the Army Corps of Engineers, and rejected as insufficient by the Second Circuit in *Town of Huntington v. Marsh*, 859 F.2d 1134 (2d Cir. 1988). In *Huntington*, the court concluded that necessary “data was insufficient to permit an informed site designation decision by the Corps. The vast bulk of material . . . was not analyzed in the study.” *Id.* at 1141.

The Court emphasized that, even when a government agency is

satisfied with its [EIS], public scrutiny of the basis for the Corps' decision is "essential to implementing NEPA." 40 C.F.R.1500.1(b). *See Sierra Club v. United States Army Corps of Engineers*, 701 F.2d 1011, 1029 (2d Cir. 1983) (EIS must set forth sufficient information for general public to make informed evaluation). We note in particular the comments by agency experts from the Department of Interior Office of Environmental Project Review, the Department of Commerce Office of Marine Pollution Assessment, and the Fish and Wildlife Service which indicated that evaluation of the merits of WLIS III as a dumpsite was made difficult or impossible by the lack of sufficient data in the EIS submitted. For these reasons, we hold that the Corps violated NEPA by not including analysis of the types, [and] quantities . . .of waste disposal in its EIS.

*Huntington*, at 1143. Here, of course, the EFH assessment, along with various technical studies described above, including those related to the YMS anchoring system, do not exist or are not complete. Therefore, it is similarly improper for FERC to issue this DEIS until those reports and studies are finished and available for public review.

Similarly, the DEIS states that “the primary noise impact during construction would be associated with pile-driving activities for the YMS. Broadwater has not provided technical verification of the specific underwater levels during Project operation.” ES-11. Thus, the noise levels have not been determined yet, either. Faced with this obvious lack of data regarding the “primary noise impact” of the YMS

construction effort, the DEIS blandly states: “[W]e have recommended that Broadwater complete informal consultation with NMFS, FWS, and NYSDEC to avoid and minimize potential impacts. . . .” ES-11. FERC admits it has no data on noise impacts or the effect of noise on mammalian and other sealife, suggests that the applicant informally confer with various agencies, and then issues a DEIS that concludes that the overall impacts of the Project are minimal.

Ultimately, it will be impossible for FERC to claim that it has based its decision on detailed information regarding significant environmental impacts and that information will be available to a wide variety of concerned public and private actors, *Morongo Band of Mission Indians v. Federal Aviation Administration*, 161 F.3d 569, 575 (9th Cir. 1998),” *Mississippi River Basin Alliance v. Westphal*, 230 F.3d 170, 175 (5th Cir. 2000), when vital information and studies have not been completed, or even begun, regarding important aspects of a major project.

The pervasive failure to fully evaluate, or even address, significant adverse impacts from this Project underscores the fundamental failure of the DEIS to satisfy the minimum requirements of NEPA. NEPA obligates reviewing agencies to provide decision-makers and the public with detailed information regarding *all* potential impacts. In this case, the minimum necessary information does not yet exist and the central policy of NEPA -- to ensure informed decision making -- is violated.

## **B. Environmental Impacts**

The importance of Long Island Sound -- environmentally, esthetically, and economically -- cannot be overstated. Over centuries, for different peoples and cultures, it has been a constant, precious source of nurture and nature. The Sound is a unique

estuary environment, where the tidal, sheltered waters support unique communities of plants and animals. Interim Report of the Long Island Sound LNG Task Force, March 8, 2006, (Task Force Report), pp. 28-29. Birds, mammals, fish, shellfish, and other wildlife depend on estuarine habitats as places to live, feed and reproduce. Numerous marine organisms, including many commercially valuable fish and shellfish species, depend on the Long Island Sound estuary at some point in their development. The Sound has been listed as an estuary of national significance. 33 U.S.C. § 1330(a)(2)(B). The DEIS itself notes that “[m]arine and freshwater influences have combined with the various substrates in nearshore and offshore areas to result in a wide assortment of natural habitat types around the Sound. . . . As a result, Long Island Sound supports a wide variety of fish (almost 100 species), birds, marine mammals, sea turtles, and invertebrates (including bivalves, lobsters, crabs, and benthic communities).” DEIS, p. 3-2.

Long Island Sound is also economically important to the Connecticut-New York region for a variety of commercial and recreational purposes. Task Force Report, pp.34-36. The Connecticut Long Island Sound Task Force Report puts the total use value at approximately \$5.5 billion. Task Force Report, pp. 29, 34.

FERC is obligated under NEPA to produce a detailed and comprehensive analysis of all impacts of the Broadwater project on all relevant marine resources in the Sound, including, but not limited to, commercial and recreational fin fishing and shellfishing, water quality, aquatic plant resources, marine mammals, and waterfowl and migratory birds. As the DEIS itself states, its purpose “is to provide the public and the permitting agencies with information about the potential adverse and beneficial environmental

impacts of the proposed Project and its alternatives. . . .” DEIS, p. ES-1. The DEIS, however, failed to do this.

Perhaps the greatest single analytical failure in the DEIS involves its fundamental failure to recognize the impacts to natural resources and the ecosystem of Long Island Sound from a catastrophic fire or shipwreck. Natural gas is a highly flammable product and its storage and transportation has resulted in accidental fires and explosions, sometimes of massive proportions. “With the amount of flammable material that LNG contains, it has the potential to be an extremely dangerous chemical, if handled improperly.” Accidents, Incidents, Mistakes, and the Lessons Learned From Them, J. Nicklous, Proceedings of the Marine Safety & Security Council, Fall 2005, p.22. This same source notes that, in Cleveland, Ohio in 1944, failure of a tank of LNG led to a major fire which killed 128 people, injured 225 more and damaged up to 475 acres. *Id.*

The DEIS nowhere evaluates the potential for massive natural resource damage caused by a fire, explosion or sinking of a major LNG carrier or the FSRU. This omission is unacceptable because the possibility of such a disaster is clear. LNG tanker accidents have occurred repeatedly. In 1974, the *Methane Princess* was damaged after grounding at or near port. Cabrillo DEIS, p. C-2. In 1979 the *El Paso Paul Kayser* suffered severe bottom damage after it became stranded. *Id.* In 1980 the *LNG Libra* fractured its tail shaft and in 1984 the *Melrose* caught fire in its engine room. *Id.* In fact, the Coast Guard WSR itself explicitly states that “[c]ollisions involving LNG carriers in The Race, Block Island Sound and Eastern Long Island Sound, areas that are part of the thoroughfare used by vessels transiting Block Island Sound and Long Island Sound,

account for the majority of the potential navigation safety risk associated with the Broadwater Energy proposal.” WSR, p. 123.

The numbers of vessels involved is astronomical. According to the Coast Guard, there are as many as 180,000 registered recreational vessels in Connecticut, 80,000 in New York, and 43,000 in Rhode Island. *Id.* at 33-34. In addition to the more than 300,000 recreational boaters, 5613 U.S. flagged commercial vessels and 1466 foreign flagged vessel arrived in Long Island Sound between 2003 and 2005. *Id.* at 25. Some of these vessels are more than 900 feet long and these numbers do not include the various ferry services making more scores of passages daily across the Sound and carrying millions of passengers and vehicles each year. *Id.* at 24-26. Accentuating the problem is the fact “that the proposed location of the FSRU is in the vicinity of a commercial vessel thoroughfare.” *Id.* at p. 33. Commercial vessel traffic is expected to increase. *Id.* at 23. Even so, the DEIS has no comprehensive analysis of the damage a collision would have on the natural resources in the likely impact area.

Further, The U.S. Navy maintains an important nuclear submarine base at New London, Connecticut and Electric Boat has a nuclear submarine construction facility nearby. Consequently, nuclear submarines frequently cross the Sound through the Race. Obviously, a collision between a nuclear-powered and armed vessel and an immense commercial tanker laden with highly flammable natural gas could create an unmitigated catastrophe. Such a collision is not impossible at all. In 2002, the *Norman Lady*, an LNG carrier, was involved in a collision with the *U.S.S. Oklahoma City*, a nuclear powered attack submarine, east of the Strait of Gibraltar. *Id.* at C-3. The LNG carrier suffered a breach of its double bottom dry tank area and took on seawater, but did not

sink. More recently, on January 8, 2007, another nuclear powered attack submarine, the *U.S.S. Newport News*, collided with the Japanese supertanker *Mogamigawa* in the Straits of Hormuz, a 34-mile wide body of water considerably wider than Long Island Sound. Japan Seeks Probe of Ship Collision, Associated Press, January 10, 2007. The risks and dangers shown by these accidents are clear, but the DEIS is utterly silent on the consequences.

Some parts of the DEIS's environmental impacts section contain what appear to be deliberately misleading statements. For example, the DEIS states that there are no active faults through Long Island Sound. DEIS, p. 3-5. That statement, while technically correct in its most restricted sense, ignores the fact that the 400+ mile long Eastern Border Fault bisects the Sound from New Haven, Connecticut across to Long Island and points south.<sup>6</sup> While it is not known to be actively moving at the present, low to moderate earthquakes from active faults in Canada connected to the Eastern Border Fault regularly transmit seismic energy south along this historic fault that lies not far to the east of the FSRU.

Similarly, the DEIS states that the pipeline trench "would be allowed to naturally recover." DEIS, 3-15. This will not happen because it cannot happen. As every study to date of pipeline impacts to the seafloor of the Sound has shown, the substrate does not recover and the benthic environment is permanently "converted" from its original state as a natural seafloor ecosystem into a utility trench.

The FEIS produced by FERC for the Islander East Pipeline Project fully acknowledges that natural gas pipeline installation causes permanent "long-term

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<sup>6</sup> USGS *Mesozoic Basins*, <http://3dparks.wr.usgs.gov/nyc/mesozoic/mesozoicbasins.htm>.

conversion of shellfish habitat.” Islander East FEIS, Dckt. No. CP01-384-000, p. 3-71.

The Connecticut Department of Environmental Protection has noted that damage caused by installation of the Iroquois pipeline in 1991 is persistent and long-lasting. *See*, DEP Islander East Decision, p. 39, Islander East FEIS, Dckt. No. CP01-384-000, p. 3-70.

Further, during the Islander East hearings, uncontroverted evidence was introduced that anchor scars up to six feet deep and other holes left by dredging and lay barges still exist and prevent use of the area for shellfishing, years after construction was completed. DEP Islander East Decision p. 43.

As the Connecticut DEP has determined: “Time does not necessarily heal the scars left by underwater utility installation.” DEP Islander East Decision, p. 47. The DEP continues:

Based on agency experience, it is difficult, if not impossible to restore the seafloor to pre-construction conditions because depressions in the sediment become areas of either erosion or deposition. . . . [D]redging and general excavation of the substrate breaks up the compact fine grain sediment and allows water to “fluidize” the consistency. Once these sediments are disturbed by dredging, they will no longer exhibit the consolidation, high density and cohesiveness of the undisturbed, in-situ sediments and they would be easily eroded in areas of high current. Alternatively, depressions left on the seafloor in areas of lower current velocity may become traps fro fluidized sediments. This phenomenon is mentioned in the [Islander East] FEIS at 3-65 regarding impacts associated with anchors and cable sweep: “These long lasting depressions can act as sediment traps that develop considerably different communities from the original deposits (Hall, 1994). The persistence of these depressions would represent a long-term conversion of benthic habitat.

DEP Islander East Decision, p.47. There is more than abundant evidence for the “persistence” of impacts associated with utility projects. The DEP noted that a air photo taken on November 1, 2001 clearly shoes visible impact scars from the 1967-1969 installation of the Northeast Utilities cables between Connecticut and Long Island. *Id.*

pp. 47-48. *See also* Task Force Report, pp. 74-77 (evidence of continued visibility of habitat damage 35 years after installation.)

Pipeline projects in New York have also had unequivocally negative long-term impacts associated with pipeline construction. Dr. William T. Hogarth of the National Oceanic and Atmospheric Administration stated, regarding the proposed Islander East pipeline, that

The physical displacement of the existing habitat and hydration of the sediment will diminish or exclude resource use for relatively long periods of time. Evidence of this from the Hudson River collected from benthic profiling performed by LaMont-Doherty Geological Observatory for the State of New York (*New York State Department of Environmental Conservation, 2003*) indicates that other utility crossings, undertaken in the Hudson even decades ago, continue to have discernable adverse impacts on the aquatic resources in the project alignment. As a specific example, benthic profiling of a water line installation between Newburgh and Wappinger in 1974 indicates that the site has not fully recovered to preconstruction conditions.

Letter, Dr. Hogarth to NOAA General Counsel for Ocean Services, June 3, 2003, p. 2.

The DEIS is devoid of a single scientific study or expert conclusion that a pipeline trench can ever return to its preconstruction state. To the contrary, the DEIS itself briefly mentions the recent Eastchester Expansion Project in Long Island Sound and states: “Post-construction monitoring of the bathymetry along the Eastchester Expansion route has shown that attempts at mechanically backfilling the trench were not successful and that natural backfilling of the trench had not substantially occurred along most of the pipeline route. . . .” DEIS, p. 3-43. Therefore, all evidence continues to show that once the seafloor of the Sound is damaged by anchor scars and pipeline trenches, it never returns to its natural state and the marine resources in the trench area suffer for decades.

Finally, not only does the DEIS ignore the safety concerns associated with pipeline ruptures to the public, it is also silent as to the environmental consequences of an anchor strike or other breach of the 20+ miles of proposed pipeline. Two major accidental releases of natural gas in the Sea of Azov in 1982 and 1985 “drastically disturbed the composition and biomass of the water fauna and caused mass mortality of many organisms, including fish and benthic mollusks.” Natural Gas in the Marine Environment, S. Patin, based on *Environmental Impact of the Offshore Oil and Gas Industry*, p. 3, translated by Elena Cascio. Despite the known commercial and environmental importance of Connecticut’s seafood industry, the DEIS contains *no* mention of the potential impacts of an undersea pipeline rupture on marine resources.

### **C. Terrorism**

Contrary to the claims of the DEIS, the Broadwater Project will be a tempting target for terrorists. Recent authoritative reports clearly show that both maritime activities and energy infrastructure remain important terrorist targets. For example, The Federal Bureau of Investigation’s Efforts to Protect the Nation’s Seaports (“FBI Report”), a March 2006 report prepared by the U.S. Department of Justice, Office of the Inspector General, fully acknowledges “the vulnerability of seaports and maritime activities to a terrorist attack.” FBI Report, page ix. The report continues, “[b]ased on suspicious activity reports and the vulnerability of ports, [the 2004 National Threat Assessment (NTA)], concludes that al Qaeda will most likely resume its maritime strategy. The NTA names vehicle-borne improvised explosive devices as the type of weapon that al Qaeda will most likely use for a maritime attack, and cites maritime facilities, infrastructure, merchant vessels, and warships as the most likely maritime targets.” *Id.*, p. 52.

It is not only the Department of Justice that has concluded that the United States faces a direct, if not increasing, threat of maritime terrorism. The recently published New York State Office of Homeland Security Focus Report: Maritime Terrorist Threat (“NY Terrorist Report”), dated February 21, 2006, states that terrorists are “increasingly shift[ing] their focus to maritime operations,” in particular in order to “inflict[] catastrophic economic harm.” NY Terrorist Report, p. 2. “[I]nformation gleaned as a result of the November 2002 capture of al Qaeda’s nautical specialist, Abd al-Rahim al-Nashiri, confirmed that the Moroccan cell was just the crest of a planned wave of nautical terrorism.” *Id.* “The strategy called for ramming underway vessels with explosive-laden speedboats, detonating vessel-borne improvised explosive devices in ports, attacking large cargo ships and supertankers . . . .” NY Terrorist Report, p. 3. “Among the vessels that could be used by terrorists to create a massive vessel-borne improvised explosive device (VBIED) are large ships carrying liquefied petroleum gas (LPG) and liquefied natural gas (LNG), crude oil, toxic chemicals, and ammonium nitrate.” NY Terrorist Report, p. 14. “An ignited LNG vapor cloud would generate [] extremely high heat output and cause extensive loss of life and damage to property. Moreover, released LNG would be more difficult to contain at sea than on land since it would disperse faster on the ocean. LNG also vaporizes more quickly on water because the ocean provides a relatively enormous heat source. For these reasons, most analysts conclude that the shipping, loading and off-loading LNG are significant terrorist targets.” *Id.* The Broadwater project thus provides an attractive target for purposes of economic jihad – conveniently near New York City, an established target for terrorism.

This threat is real. Al-Qaida operatives have repeatedly attacked energy infrastructure systems in Saudi Arabia and Iraq. A seaborne attack was made on the French tanker *Limburg* in 2002 and there was a separate similar attack on a gas tanker in Yemen in 2001. Cabrillo DIES, page C-5. Further, there have been several successful terrorist and/or pirate attacks on tankers and shipping in the Middle East and Southeast Asia including the infamous seizure of the *Achille Lauro*. *Id.*

Clearly, terrorists desire to attack the United States energy infrastructure and they have a demonstrated capability to launch seaborne attacks or hijacking of surface vessels. Further, terrorist have already been able to launch airborne attacks within the United States and, while the Federal Aviation Administration (FAA) has established aircraft restriction zones under 14 CFR Sections 91.143 and 99.7 around the White House, Mount Rushmore, the St. Louis Arch and Disney World, the DEIS completely fails to address issues of security from the air. FERC must determine the nature and extent of this threat and convincingly explain how it will be controlled. At a minimum, FERC must consult fully with the FAA regarding all necessary and appropriate air security measures and their impacts on air and marine traffic, commerce, and the environment.

Thus, the DEIS acknowledges that a terrorist attack could cause greater “thermal radiation” than the accidental releases it described. However, because FERC discounts the possibility of a terror attack because it assumes that terrorists would be focused on destroying people and property, FERC concludes there is no need to consider the potentially massive collateral damage to the environment. In the face of clear determinations by responsible government agencies of the risk of maritime terrorist

attacks on energy shipping and infrastructure, this conclusion is a flat violation of FERC's duties under NEPA.

In fact, the Coast Guard has noted that the consequences of an accident or other incident involving the FSRU would be especially high in terms of overall environmental damage and particularly damage to aquatic resources. As the Coast Guard Report adds, Long Island Sound is a 'fragile' and "stressed ecosystem" even without the proposed project. PAWSA Report, p. 35.

#### **D. Cumulative Impacts**

NEPA requires a reviewing agency to consider the impact on the environment resulting from the total cumulative effects of the contemplated action and other past, present, and "reasonably foreseeable" future actions. *See* 40 C.F.R. 1508.7 (1990). A consideration of potential cumulative impacts is an integral and critical element of an environmental impact statement ("EIS") under NEPA:

Finally, . . . when several proposals . . . that will have cumulative or synergistic environmental impact upon a region are pending concurrently before an agency, *their environmental impacts must be considered together.*

*Churchill County v. Norton*, 276 F.3d 1060, 1075 (9th Cir. 2001) (Internal quotation marks omitted)(emphasis added). *See also*, *Custer County Action Ass'n v. Garvey*, 256 F.3d 1024, 1035 (10th Cir. 2001); *Mississippi River Basin Alliance v. Westphal*, 230 F.3d 170, 175 (5th Cir. 2000); *Colorado Envtl. Coalition v. Dombeck*, 185 F.3d 1162, 1176 (10th Cir. 1999) ("[a]n environmental impact statement must analyze not only the direct impacts of a proposed action, but also the indirect and cumulative impacts of 'past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions.'")

Federal regulations are clear. A reviewing agency must consider "[w]hether the action is related to other actions with individually insignificant but cumulatively significant impacts. Significance exists if it is reasonable to anticipate a cumulatively significant impact on the environment." 40 C.F.R. 1508.27(b)(7). The relevant implementing regulations further define cumulative impact as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions . . . . Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." 40 C.F.R. 1508.7

The Broadwater DEIS recognizes "a wide variety of projects and activities in the general area that, in concert with the proposed Broadwater Project, could potentially result in cumulative impacts." DEIS, 5-14. However, the DEIS then states that FERC chose only to evaluate 12 of these plans. Even within this limited subset of projects, the DEIS only finds two projects, Islander East Pipeline and Eastchester Expansion, worthy of actual discussion. After a brief review, contained in a total of four paragraphs, the DEIS asserts that the impacts of these projects "would generally result in temporary and minor effects" and that "only a small cumulative effect is anticipated when the impacts of the [Broadwater] Project are added to past, present, or reasonably foreseeable future Projects in the area." *Id.*

The DEIS reaches this conclusion by ignoring the facts. It is a matter of public record that the Islander East Pipeline Company intends to drive a major pipeline for 22.6 miles under the Sound not far from the proposed Broadwater FSRU. *See*, DEIS fig. 3.11-1; Final Environmental Impact Statement for the Islander East Pipeline Company, FERC

docket no. CP01-384-000.<sup>7</sup> Construction will displace hundreds of thousands of cubic yards of sediment. *Id.* at 3-44. In fact, the impacts from the planned Islander East project are so substantial that FERC determined that an EIS, not a far less demanding Finding of No Significant Impact (FONSI) was necessary. Further, the Islander East FEIS itself notes that the project will result, not just in some temporary construction impacts, but in permanent impacts to significant areas of the seafloor. *Id.* at 3-71.

It is illogical for FERC to conclude that the Islander East pipeline will have a significant impact alone but not in combination with Broadwater. Broadwater also plans to build a 21.6 mile long underwater pipeline which will create major impacts to the seafloor. There can be no doubt that the impacts of these two major projects need to be considered together, in essence as a 42 mile long pipeline. The seabed, of course, is unaware of the corporate ownership of any particular pipe and for the purposes of NEPA, it is the impact to the affected resource, not the ownership of the projects, that determines when a cumulative impact analysis is required.

Once again, it is instructive to compare the Broadwater DEIS with the Army Corps' similarly defective document in *Town of Huntington v. Marsh*, 859 F.2d 1134 (2d Cir. 1988). Huntington also involved a proposed project in the Sound. The Corps' EIS was rejected for, among other reasons, an inadequate cumulative impacts analysis. The Second Circuit noted:

The objective criteria by which this Court will evaluate the Corps' EIS are discussed extensively in *Natural Resources Defense Council, Inc. v. Callaway*, 524 F.2d 79, 88-89 (2d Cir. 1975). That case is strikingly similar to the instant case in that the Callaway decision involved a

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<sup>7</sup> On December 19, 2006, The Connecticut Department of Environmental Protection denied Islander East a certificate of consistency with Section 401 of the Clean Water Act for its project. This decision has been appealed by Islander East.

challenge to an EIS allegedly deficient in its discussion of the types, quantities and cumulative effects of dredged waste disposal projects in the Long Island Sound. There the plaintiff claimed that several projects were pending while the EIS was being prepared by the U.S. Navy and that those projects were sufficiently foreseeable to have been included in the statement. This Court held in *Callaway* that the EIS failed to meet NEPA's standard of comprehensive evaluation, citing the CEQ guidelines for preparation of an EIS. *Id.* at 89. We so hold here.

*Huntington, supra.* at 1141-1142.

The Court added

it is well settled that the cumulative effects of a proposed federal action must be analyzed in an EIS. The Supreme Court in *Kleppe v. Sierra Club* has stated:

when several proposals for . . . actions that will have a cumulative or synergistic environmental impact upon a region are pending concurrently before an agency, their environmental consequences must be considered together.

427 U.S. 390, 410, 96 S. Ct. 2718, 49 L. Ed. 2d. 576 (1976). The genesis of this requirement is in the CEQ guidelines which provide that an EIS should analyze cumulative impacts when to do so is "the best way to assess adequately the combined impacts of similar actions." 40 C.F.R. 1508.25(a)(3). We do not take issue with particular conclusions reached by an agency after it has taken a "hard look" at environmental factors involved. *See City of New York v. U.S. Dep't of Transp.*, 715 F.2d at 748 (NEPA mandates no particular substantive outcomes). However, it is improper to defer analysis of the types, quantities and cumulative effects of waste dumping when designating a new waste disposal site.

*Huntington, supra*, at 1142-1143.

Similarly here, it is improper and a violation of NEPA to defer analysis of the cumulative impacts of the Broadwater Project with the known and foreseeable impacts of the Islander East pipeline and other projects on water quality, benthic environment, fin fish and shellfish resources and the overall ecosystem of Long Island Sound.

This point is reinforced by the very recent case of *Oregon Natural Resources Council v. U.S. Bureau of Land Mgt.*, No. 05-35245, 2006 U.S. App. LEXIS 29688 (9th

Cir. Dec. 4, 2006). In *ONRC*, the Ninth Circuit remanded an environmental assessment performed by the Bureau of Land Management because, as here, it lacked the requisite site-specific information and an adequate evaluation of the cumulative environmental impacts. *Id.* at \*9. As the Court noted:

[*Kern v. United States BLM*, 284 F.3d 1062, 1069-60 (9<sup>th</sup> Cir. 2002) addressed a similar cumulative impact objection to EAs. Like the Mr. Wilson EA, the EAs at issue in *KSWC* did not contain objective quantified assessments of the combined environmental impacts of the proposed actions. *KSWC*, 387 F.3d at 994. The discussion of future foreseeable actions consisted of "an estimate of the number of acres to be harvested. A calculation of the total number of acres to be harvested in the watershed is a necessary component of a cumulative effects analysis, but it is not a sufficient description of the actual environmental effects that can be expected from logging those acres." *Id.* at 995. The EAs also stated that environmental concerns such as air quality, water quality, and endangered species would not be affected. *Id.* However, "[t]he EA is silent as to the degree that each factor will be impacted and how the project design will reduce or eliminate the identified impacts. This conclusory presentation does not offer any more than the kind of general statements about possible effects and some risk which we have held to be insufficient to constitute a hard look." *Id.* (internal quotation marks omitted). Both the Mr. Wilson and the *KSWC* EAs "do not sufficiently identify or discuss the incremental impact that can be expected from each successive timber sale, or how those individual impacts might combine or synergistically interact with each other to affect the [watershed] environment." *Id.* at 997.

*ONRC*, at \*11-\*12.

The Broadwater DEIS suffers from the same deficiencies. Important quantitative assessments of the impact of this project are lacking because the underlying information does not exist. As noted above, the Coast Guard's design standards for the yoking system are in the process of being rewritten after Hurricane Katrina and are not yet available. Therefore, important information about the survivability of the FSRU is lacking. In addition, the study of impacts to essential fish habitat has not been completed and no adequate analysis of the effects of a grounding or shipwreck in The Race, or

elsewhere, on natural resources has been done. Similarly, while the DEIS recognizes that the discharge of an average of 5.5 million gallons of water a day from the FSRU would have “long term” impacts, no effort is made to evaluate the cumulative effect of these thermal impacts along with the thermal impact of the Cross Sound Cable and planned Islander East Project, on the known heat sensitive benthic communities of the Sound. *See*, DEIS, p. ES-31. Without the individual impact analysis components, it is impossible to compile a cumulative impacts analysis of the effect of this project, let alone the other known and reasonably foreseeable projects. As in *ONRC*, FERC has provided only a “conclusory presentation” of a handful of potential impacts without sufficient data and analysis and then claimed that this is enough “because we say it is.” *Id.* at \*9. This is manifestly insufficient under NEPA.

Finally, it should be noted that FERC has clear authority to conduct what is termed a comparative hearing when multiple projects meet the defined project need and purpose. *See*, Rule 503, 18 C.F.R. § 385.503; *Ashbacker Radio Corp. v. FCC*, 326 U.S. 327 (1945).

In this case, the DEIS acknowledges its NEPA analysis should include a study of the cumulative impacts of all known or planned projects, as well as a full analysis of what alternatives would satisfy project need and purpose. FERC, however, has failed to perform this analysis and thereby thus far failed to comply with NEPA.

#### **E. Comparative Alternatives Analysis.**

A central responsibility of any EIS is an evaluation of the public need for the project and a careful review of any reasonably foreseeable alternatives that could meet

that need with fewer adverse impacts. As the United States Court of Appeals for the Second Circuit said over thirty years ago, the

requirement that the agency describe the anticipated environmental effects of proposed action is subject to a rule of reason. The agency need not foresee the unforeseeable, but by the same token neither can it avoid drafting an impact statement simply because describing the environmental effects of and alternatives to particular agency action involves some degree of forecasting. . . . It must be remembered that the basic thrust of an agency's responsibilities under NEPA is to predict the environmental effects of proposed action before the action is taken and those effects are fully known.

*Scientists Institute For Public Information, Inc. v. Atomic Energy Commission*, 481 F.2d 1079, 1092 (2d Cir. 1973).

What is required is a review of projects that are reasonably foreseeable. Reasonable forecasting and speculation is thus implicit in NEPA, and we must reject any attempt by agencies to shirk their responsibilities under NEPA by labeling any and all discussion of future environmental effects as 'crystal ball inquiry.' . . . But implicit in this rule of reason is the overriding statutory duty of compliance with impact statement procedures to 'the fullest extent possible.'

*Scientists Institute For Public Information, Inc. v. Atomic Energy Commission*, 481 F.2d 1079, 1092 (2d Cir. 1973). *See also, Natural Resources Defense Council, Inc. v. Morton*, 458 F.2d 827, 837 (D.C. Cir. 1972) (“[T]he requirement in NEPA of discussion as to reasonable alternatives does not require ‘crystal ball’ inquiry. Mere administrative difficulty does not interpose such flexibility into the requirements of NEPA as to undercut the duty of compliance ‘to the fullest extent possible.’”)

“NEPA was created to ensure that agencies will base decisions on detailed information regarding significant environmental impacts and that information will be available to a wide variety of concerned public and private actors. *Morongo Band of Mission Indians v. Federal Aviation Administration*, 161 F.3d 569, 575 (9th Cir. 1998).”

*Mississippi River Basin Alliance v. Westphal*, 230 F.3d 170, 175 (5th Cir. 2000). As the Ninth Circuit recently stated:

When we consider the purposes that NEPA was designed by Congress to serve, what was done here is inadequate. Congress wanted each federal agency spearheading a major federal project to put on the table, for the deciding agency's and for the public's view, a sufficiently detailed statement of environmental impacts and alternatives so as to permit informed decision making. The purpose of NEPA is to require disclosure of relevant environmental considerations that were given a "hard look" by the agency, and thereby to permit informed public comment on proposed action ...

*Lands Council v. Powell*, 379 F.3d 738, (9th Cir. 2004).

While an analysis of alternatives is a clear NEPA requirement, this DEIS contains no such analysis at all. The DEIS lists many potential alternative projects and then simply states without discussion, explanation, or analysis, that the environmental or other impacts of the alternatives would be too great.

The DEIS alternatives section begins with an artificial and highly misleading statement of project need. "The purpose of the Project is to establish an LNG marine terminal capable of receiving imported LNG . . . storing and regasifying the LNG at average sendout rate of 1.0 bcf/d. The terminal would provide a new source of reliable, long-term, and competitively priced natural gas to the Long Island, New York City, and Connecticut markets. . . ." DEIS, 4-1.

Thus, the DEIS sets up as a project purpose the goal of having a "marine terminal" to "provide a new source of reliable, long-term, . . . natural gas." This project purpose confuses public need with Broadwater's private purpose. Specifically, if the point of the project is to supply natural gas to New York and Connecticut, there is no reason that only a marine regasification terminal will do and certainly no reason that such

a terminal must achieve a certain sendout rate. A land based regasification terminal or two smaller terminals could easily meet the predetermined need for 1.0 bcfd. Also, a nearby, but out-of-region terminal could supply the necessary natural gas.

Even with the skewed definition of project purpose set out in the DEIS, the document's alternatives section is inadequate. For example, while it recognizes the fact that public officials have advocated a regional siting plan for LNG plants, FERC merely states that "we do not believe that a regional siting study needs to be concluded prior to conducting the site-specific review of the Project. Rather, FERC's responsibility is to review applications as they are filed." DEIS, 4-2.

This shocking statement shows clearly FERC's full intention to abdicate any role in actually understanding and planning for the region's energy needs and future. Instead, FERC proposes to continue to confine itself to merely responding to individual industry profit-driven initiatives, rather than conducting any meaningful analysis of reasonable alternatives. Clearly, in an environment where, according to the DEIS itself, there are a number of proposed, very expensive, and obviously duplicative energy-related infrastructure projects, an objective, regional, multi-state planning and analysis approach is the only method that makes logical sense. It is also plainly required to comply with alternatives analysis mandated by NEPA. Instead, however, the DEIS affirmatively rejects that approach in favor of reviewing every proposal singly as it arises, while wearing blinders to block out all consideration of other, competing proposals.

The DEIS then summarily, and with no apparent scientific analysis, dispenses with a number of conservation and renewable energy projects planned for the region, such as Roosevelt Island Tidal Energy Project, the Orient Point Tidal Energy Project and

several other tidal projects, as well as a number of major wind projects, with the statement that they “would offset only a small part of the projected energy demand.” DEIS, p. 4-5. While these projects do not claim to meet all of the region’s energy needs, they could collectively contribute significant new power supply, without use of fossil fuels, and obviate some of the need for this project. If the overall need is reduced, then other, smaller potential LNG projects would now become viable alternatives. FERC’s comment that “we have eliminated the use of alternative sources of energy from further consideration,” DEIS, p. 4-6, is without meaningful analysis, and therefore also in violation of NEPA’s requirements for meaningful consideration of alternatives.

Similarly, there is insufficient detailed analysis of a number of other proposed regional natural gas projects. For example, the Weaver’s Cove LNG terminal, which is much further along than Broadwater in the regulatory process, is recognized as a new source of LNG imports, but is dismissed from consideration because, evidently, the existing Algonquin pipeline would need upgrading to bring gas to New York. DEIS, 4-7. Specifically, the DEIS states that, to move the necessary gas, additional compression and pipeline upgrades are needed and that this “would result in environmental impacts that would be greater than those anticipated from . . . the proposed Project.” DEIS 4-8. However, nowhere in the DEIS is there an indication of how many new compressor stations or what new piping would be needed or where. Much of the Algonquin pipeline infrastructure is already built in heavily impacted industrial areas. Additional work there might have minimal environmental impact. Further, the comparison of marine impacts to land impacts is not one-for-one. It is not enough to say that an acre of marine impact is better than 2 acres of land impact. In many cases, the technology to mitigate or avoid

land impacts is vastly more advanced than for marine impacts. Further, as noted above, it is often possible to site land impacts in commercial or industrial areas of limited environmental importance. The DEIS does not contain the minimal information necessary to actually measure, let alone compare, the impacts of these two competing projects.

Next, the DEIS utterly discounts a series of proposed projects currently being considered. For example, the MarketAccess Project, a part of the larger Northeast-07 Project, includes planned upgrades to existing and some new pipeline construction that would result in major new transmission capacity for the region and would tap into significant supplies of Canadian gas. DEIS, 4-10. Further, most of the proposed work would be along existing, already-impacted pipeline rights-of-way. Therefore, the Northeast – 07 Project, unlike Broadwater, would not devastate pristine and untouched seafloor and may have lower new impacts to the environment. However, the DEIS merely says that this is not an alternative to Broadwater because it does not meet the “objectives of providing a source of imported gas and additional natural gas storage facilities.” DEIS, 4-13. This statement ignores the fact that Northeast-07 would permit major new sources of Canadian gas to reach New York and that additional storage facilities could be built essentially anywhere on land. Therefore, contrary to FERC’s summary dismissal of the Northeast – 07 Project, this latter proposal is a direct alternative to the Broadwater Project and may well have substantially reduced environmental impacts while not relying on untested technology.

The DEIS is similarly inadequate in its treatment of numerous other planned pipeline projects including the Tennessee, Sentinel, and Dominion Hub projects. *See,*

DEIS, 4-7 through 4-13. In every case, the DEIS concludes that these projects will carry insufficient gas and result in greater impacts than Broadwater. However, nowhere does the DEIS contain a shred of analysis showing why these projects will supposedly cause greater impacts. Furthermore, the DEIS contains no analysis of how the regional need for gas would be affected by any one or all of these projects.

Further, the DEIS contains only conclusory statements, not analysis, of potential onshore LNG terminals. For example, various commentators suggested re-using the decommissioned Shoreham Nuclear Power Station on Long Island as an LNG terminal. The DEIS fully acknowledges that “Shoreham . . . could provide a sufficient exclusion zone for LNG storage and regasification facilities. In addition, because the site already contains buildings and structures typical of heavy industry, use of the site would minimize visual impacts.” DEIS, 4-23. The DEIS then concludes, however, that air emissions and noise impacts from construction from re-using the Shoreham facility would be too great and that “[o]verall, the environmental impacts associated with an LNG terminal and regasification facility at the Shoreham site would be substantially greater than those of the proposed Project.” DEIS, 4-24.

This conclusion is utterly unexplained. The Shoreham site is, as noted in the DEIS, already heavily industrialized and may have no meaningful natural resources left to impact. The FSRU site is pristine, and the pipeline corridor’s proposed 21.7 miles of largely untouched seafloor has also never been impacted. It defies logic to see how reconfiguring a dead nuclear power plant will cause more environmental damage than trenching miles of seafloor in an estuary of national significance. FERC asserts that

Broadwater is superior without any discussion or analysis, let alone detailed analysis, of the relative impacts of the two projects.

Perhaps the greatest failing of the DEIS alternatives discussion, however, relates to its consideration of the Safe Harbor Energy Project, a proposed LNG terminal with double the capacity of Broadwater, designed to supply the New Jersey and New York markets with new gas supplies and planned for construction off the shore of New Jersey. DEIS, 4-10. Faced with a larger project in a clearly superior location outside the narrow confines of Long Island Sound, the DEIS merely states that Safe Harbor is not an effective alternative because it would require “a permanent impact to a large area of the seafloor in the Atlantic Ocean,” “could affect commercial shipping,” and would require “new pipeline through areas that do not currently have a gas transmission pipeline.” DEIS, pp. 4-20, 4-15.

In saying the above, the DEIS ignores the obvious fact that Broadwater will cause “a permanent impact to a large area of the seafloor” in the much more sensitive and confined Long Island Sound and that Broadwater is also located in the immediate vicinity of major commercial shipping lanes. In addition, the fact that the Safe Harbor project would entail some undefined amount of new pipeline construction in no way disqualifies it from serving as an alternative to Broadwater. The Broadwater Project itself includes 21.7 miles of underwater pipeline installation in a critical marine environment and the DEIS nowhere indicates where the new Safe Harbor pipeline would be installed or details any environmental impacts of that pipeline.

The DEIS is also devoid of any analysis or discussion of the overall impact of Safe Harbor on the region. Because it proposes to import up to 2 bcf/d, Safe Harbor could

easily obviate the need for Broadwater *and* any number of the smaller .1 to .3 bcfd pipeline projects discussed in the DEIS. DEIS, 4-20. Thus, the true comparison is not Safe Harbor versus Broadwater, but Safe Harbor versus Broadwater, Sentinel, Islander East, etc. The DEIS, therefore, needs to balance the impacts from Safe Harbor, primarily landside pipeline construction in heavily populated and industrialized areas in New Jersey, against many more miles of landside pipelines in rural and residential areas in New York and elsewhere and vastly increased marine impacts in Long Island Sound. The DEIS fails to do so, again in violation of the law.

Exactly the same analysis also needs to be done with respect to the proposed Neptune Deepwater Port and Northeast Gateway projects in Massachusetts, the Quoddy Bay LNG, and Downeast LNG projects in Maine, the Canaport LNG and Bear Head LNG terminals in Canada, and several other LNG terminal projects referred to in the DEIS but never fully analyzed or considered. DEIS, 4-18

The alternatives analysis in the DEIS is utterly inadequate. It fully recognizes the host of projects under review by FERC at this time, but makes no effort to evaluate the actual regional need and determine the best fit of terminals and pipelines to meet that need. It also engages in no serious attempt to analyze environmental impacts of alternatives. To the contrary, each project is viewed in isolation, both from the realities of regional need and from each other. This approach fails to meet both the legal requirements of NEPA and the energy requirements of the public.

Ultimately, the alternatives section of the DEIS fails to comply with the express terms of NEPA, as well as the NGA, in that it does not include a consideration of all reasonably foreseeable alternatives. NEPA requires that an EIS, to be complete, include

a discussion of all reasonably foreseeable alternatives. “Agencies must explore and evaluate all reasonable alternatives, 40 C.F.R. § 1502.14.” *Mississippi River Basin Alliance v. Westphal*, 230 F.3d 170, 175 (5th Cir. 2000); *See, Custer County Action Ass’n v. Garvey*, 256 F.3d 1024, 1039 (10<sup>th</sup> Cir. 2001)(“To comply with the National Environmental Policy Act and its implementing regulations, [relevant federal agencies] are required to rigorously explore all reasonable alternatives... .”) The DEIS fails to meet these standards.

## CONCLUSION

Broadwater is an immense and unique project. While no one doubts that additional supplies of natural gas are needed, federal law mandates that FERC carefully consider *where* facilities to process these supplies should be located. The highly sensitive character of Long Island Sound is clearly unsuited for a facility of this type. The DEIS is incomplete and inadequate in numerous critical respects most notably in that the design standards for anchoring the system are not complete and the emergency response plans for addressing fires, collisions, and terrorist attacks have not been begun. The law requires FERC to carefully consider all the safety and security risks, particularly those related to accidents and terrorism threats, the economic consequences to the region in the event of an accident or attack, reasonable project alternatives, the cumulative impacts of all the relevant projects, and the likely environmental and other impacts of this project in the EIS. In the absence of full consideration of all legally required factors, the DEIS is gravely deficient and cannot form the basis for a legitimate final environmental impact statement.

Respectfully submitted,

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Dated: January 22, 2007

**UNITED STATES OF AMERICA  
BEFORE THE  
FEDERAL ENERGY REGULATORY COMMISSION**

**BROADWATER ENERGY LIQUEFIED  
NATURAL GAS PROJECT**

**DOCKET NO. CP06-54-000  
CP06-55-000  
CP06-56-000**

**CERTIFICATE OF SERVICE**

I hereby certify that I have this day served the foregoing document upon each person designated on the official service list compiled by the Secretary in this proceeding.

Dated at Hartford, Connecticut this 23<sup>rd</sup> day of January, 2007.

/s/ Robert Snook  
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