

IN39 – Franklin Bloomer

Unofficial FERC-Generated PDF of 20070123-0030 Received by FERC OSEC 01/22/2007 in Docket#: CP06-54-00

ORIGINAL

Franklin Bloomer
11 Pincrest Road
Riverside, CT 06878

FILED
OFFICE OF THE
SECRETARY

January 15, 2007 2007 JAN 22 P 3:56

FEDERAL ENERGY
REGULATORY COMMISSION

Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Attention: Ms. Magalie R. Salas, Secretary

Re: Docket No. CP06-54-000
CP

Ladies and Gentlemen:

I write to oppose the liquefied natural gas facility proposed to be built by Broadwater Energy in the middle of Long Island Sound.

Such a facility simply does not belong in the middle of a busy major waterway, which is also an important recreational amenity, surrounded by millions of people. Long Island Sound can, and should, be better used as part of the region's transportation infrastructure, but the impact of the security zone around the facility and the clearance of lanes for the transit of LNG tankers to and from the facility will detract from more effective use of Long Island Sound's ports.

As a recreational boater, I am appalled at the prospect of the transit lanes and security zones. I have owned a sailboat during much of my life, and I have sailed past the proposed location of this facility many times, frequently several times in a year. The transit lanes would presumably prevent crossing the Sound east of the facility during whatever period they are kept clear. The security zones would also present a major obstacle to a sailboat, particularly when proceeding west against the prevailing southwesterly winds in the Sound. A sailboat heading for western Long Island Sound would either have to tack south of the facility before reaching it, putting its course along the Long Island shore where there are no good ports between Plum Gut and Port Jefferson, or to sail north of the facility and lose whatever windward advantage the sailboat might have before reaching it. Sailboats move at slow speeds. Even in favorable winds, a sailboat would be facing significant detours and consequent delays.

Long Island Sound is a major reason why coastal Connecticut and the north shore of Long Island enjoy the quality of life that they do. The Sound is perhaps the most important element in defining the "sense of place" of the region. It is heavily used for recreation, not just sailboats (mine is relatively small, 29') but power boaters and fishermen. The introduction of a major industrial facility in the middle of the Sound would have a huge and very negative impact.

IN39-1

The safety and security zone of each LNG carrier would cover an area of approximately 2,040 acres (3.2 square miles), and only one carrier would be present inside the pilot stations at any one time. The entire transit path of an LNG carrier would not be an exclusion zone. As described in the EIS and WSR (Appendix C of the final EIS), the amount of time for the LNG carrier and its associated safety and security zone to pass any single point is about 15 minutes (the length of the safety and security zone from front to back would be about 3.7 miles), and the only exclusion area along the LNG carrier path would be the 2,040 acre (3.2 square-mile) area around the single LNG carrier. All other portions of the carrier route, both in front of and behind the carrier's safety and security zone, would be available for use. In addition, if authorized, it is expected that Coast Guard would require Broadwater to schedule LNG carrier transits to minimize impact to other waterway users, to the extent practical, as recommended by the Coast Guard in Section 8.4 of the WSR (Appendix C of the final EIS). Section 3.7.1.4 of the final EIS has been revised to more clearly describe this issue. The closest point of the proposed safety and security zone around the FSRU would be more than 8 miles from the nearest New York shoreline and more than 9 miles from the nearest Connecticut shoreline. That would leave a substantial area for sailboats to traverse in that portion of the Sound. As noted in Section 3.1.2.3 of the WSR and in Section 3.5.5.1 of the final EIS, the highest density of recreational boating is within 3.5 miles of the shoreline; therefore, most recreational boating would not be affected by the proposed safety and security zone around the YMS and FSRU.

IN39-2

The impacts of the FSRU and its proposed safety and security zone on recreational boating and fishing are addressed in Section 3.5.5.1 of the final EIS. Our assessment indicated that the impacts would be minor and would last for the duration of the Project.

IN39-1

IN39-2

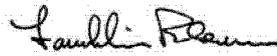
IN39 – Franklin Bloomer

IN39-3

The LNG industry has a relatively good safety record, but the risks inherent in cooling gas to a liquid state and then converting it back to a gaseous state are well known. This type of facility should be located in a place where the consequences of an incident would not be so serious.

I urge FERC not to support this ill-conceived proposal.

Very truly yours,



Franklin Bloomer

IN-39-3

As stated in the final EIS (Sections 2.1.1.1, 2.3.1.1, 3.10.2.1, and 3.10.2.2), federal regulations, industry standards, and classification society rules would govern the safe design, construction, and operation of the FSRU and would serve to minimize the risks to the extent possible. The proposed offshore location of the FSRU further reduces the risk to the public.

ORIGINAL

MEMORANDUM

January 8, 2007

FOR: Citizens Campaign For The Environment

FROM: Dr. Stephen T. Tettelbach, Ph.D.
Professor of Biology, C.W. Post Campus of Long Island University

SUBJECT: Comments on the Broadwater LNG Project Draft Environmental Impact Statement

2007 JAN 16 P 4: 16
CP06-54-0

The overall conclusion reached in the Draft Environmental Impact Statement (DEIS) for the Broadwater LNG Project proposed for Long Island Sound (November 2006 document) is that minimal impacts would result from the construction and operation of the LNG terminal; however, several assumptions upon which these conclusions are based appear to reflect misinterpretations of the scientific literature. In some cases, quantitative data cited in support of conclusions are not provided in the report or attached references. In other cases, potential impacts are summarily dismissed with very little discussion. I will address two areas specifically in my comments: the potential effects of the proposed LNG terminal on marine life of Long Island Sound and the potential effects of the onshore support facilities proposed for Greenport and/or Port Jefferson, New York.

The discussion of the potential impacts of the LNG pipeline on marine life focuses on American lobsters, *Homarus americanus*, and commercially and recreationally important finfish species, but omits some important scientific evidence which is integral to the discussion of these potential impacts. The DEIS states, without providing any references, that juvenile or epibenthic phase lobsters are located in shallow water less than 30 feet deep (pg. 3-45) and thus pipeline installation would have little if any effect on lobsters during these stages of their lives. However, Sclafani (2001) stated that, when planning surveys of distribution of juvenile lobsters in western Long Island Sound, more juvenile lobsters were expected to occur in deeper than shallower waters. The DEIS states (pg. 3-45) that "Installing the pipeline during winter would avoid impacts to a portion of the adult lobster population because they would have migrated offshore." It is well known that lobsters in Long Island Sound are essentially non-migratory (see review in Howell et al., 2005), and thus confining pipeline installation to winter months would not be expected to reduce mortality of adult lobsters because they would not have migrated out of the area. The potential impacts of crossing Stratford Shoal with a 54 ft wide, 4000 ft long trench are dismissed as "negligible" (pg. 3-46 DEIS) due to the timing of planned excavation activities associated with pipeline installation, but again, this is based on the incorrect notion that lobsters will have migrated out of the area. The recent mass mortality of lobsters in Long Island Sound and the poor condition of the remaining stock are well documented; further damage to this important resource can only exacerbate the problem.

In discussion of backfilling of the proposed pipeline trench with rock (pg. 3-44 DEIS), the suggestion is made that this would provide habitat for potential attachment of oysters and mussels. This is an incorrect assumption: oysters (*Crassostrea virginica*) and mussels (*Mytilus edulis*) found in Long Island Sound are known to occur from the intertidal zone to a depth of 10 meters (Abbott and Dance, 1986) which is much shallower than the depth of the proposed trench (~95 ft = 29 meters). One potential impact of backfilling the proposed trench with rock, which is not mentioned in the DEIS, is

IN40-1

IN40-1

Thank you for your comments. Section 3.3.1 of the final EIS has been updated to reflect the results of recent lobster studies in Long Island Sound as they relate to depth distribution and migration.

IN40-2

IN40-2

Section 3.3.1.2 of the final EIS has been updated to identify the species that may utilize hard substrate, including invasive species. As stated in the final EIS, the final backfilling methods would be determined in concert with federal and state resource agencies; and the 2-mile portion of the trench that Broadwater has proposed to backfill with engineered material could be covered with a layer of native substrate, thereby eliminating the conversion to hard bottom substrate and potential invasive species habitat.

IN40-2 that it may provide better substrate for attachment of larvae of the colonial tunicate *Didemnum*, which has had major impacts on sea scallops and other benthic fauna on George's Bank, and which has been newly reported in eastern Long Island Sound (National Undersea Research Center, 2006). Providing additional hard-bottom substrate in the form of rock lining the pipeline trench might contribute to the spread of this invasive species in Long Island Sound.

IN40-3 Another significant omission in the Draft EIS is the data from the quantitative benthic surveys done by the Broadwater team, which are briefly described on pg. 3-39. Methods and specific results are not provided, and no references are provided either. A general listing is made of benthic invertebrates encountered during video surveys, but without knowing the particular species and the numbers encountered there is no way to judge the potential impacts of the proposed dredging. The invertebrate species mentioned, e.g. amphipods, shrimp, crabs, are very important prey items for the commercially and recreationally important finfish species found in Long Island Sound.

IN40-4 There are several incorrect assumptions and misinterpretations which plague the discussions of potential impacts to marine life from the intake of seawater for normal operations of the FSRU and LNG carrier operations. The intake is proposed from a depth of 40 ft below the water line (pg. 2-8 DEIS). The statement is made that "... phytoplankton and zooplankton communities generally are confined to the top (0-16 ft) of the water column in Long Island Sound during summer and late fall" and the implicit assumption is that since the intake is well below this depth range that impacts to plankton will be greatly reduced. First of all, while some stratification of waters in Long Island Sound does occur during summer months, Conover (1956) showed that the vertical distribution of phytoplankton was fairly uniform from surface to bottom in Long Island Sound. Peterson (1985) studied the vertical distribution of different life stages of the abundant copepod *Temora longicornis* in Long Island Sound and found that while eggs were most abundant in the top 5 m of the water column, each successive life stage (i.e. larvae, juveniles and adults) was found deeper in the water column; adults lived at or near the sediment surface. The latter author is cited as the source for the statement noted above, from pg. 2-8 of the DEIS, so it appears that this information was misconstrued.

IN40-5 Estimated impacts of impingement/entrainment of plankton, including fish larvae, by the Broadwater operation are probably grossly underestimated. Results of the Poletti Ichthyoplankton Program (PBS & J/LMS 2003) and the Broadwater study of plankton are summarized in the Draft EIS, and are used as the basis for calculation of the numbers of larval fish expected to be impinged/entrained by the Broadwater operation. A mesh size of ~0.333 mm (=333µm) is commonly used for such sampling, however, Houde and Lovdal (1984) indicated that only about 10% of fish larvae may be retained by 0.333-mm mesh in inshore areas of Biscayne Bay, Florida. It is stated on pg. 3-58 of the DEIS that seawater intake for the Broadwater LNG terminal will impinge/entrain millions of fish eggs and larvae, but based on the retention efficiency quoted above their estimated mortality rates for fish larvae may be underestimated by a factor of 10. Calculated estimates provided in the Draft EIS of entrainment/impingement mortality due to the estimated intake of 28.2 mgd of seawater (=10.3 billion gallons per year) for normal operations of FSRU and LNG carrier operations speak only of ichthyoplankton and lobster larvae, but say nothing of the myriad species of phytoplankton and zooplankton, which support the Long Island Sound food web. Deevey (1956) reported maximum densities of net zooplankton from Long Island Sound that were higher than 200,000 individuals per cubic meter. Thus, losses of zooplankton and phytoplankton from entrainment/impingement will easily number in the trillions. The proposal is made in the DEIS to use a fine-mesh screen (<0.2 inches) on intake pipes to lower the rate of impingement/entrainment. If, for argument's sake, a screen of 0.1 inches (=2.54 mm) is used, this will exclude virtually no phytoplankton and only the largest invertebrate larvae (Johnson & Allen, 2005). But this is a moot point because the proposed flow rate

IN40-6

IN40-3 As discussed in response to comment SA2-17, Section 3.3.1 of the final EIS has been updated to provide additional detail on the benthic communities documented along the pipeline route, based on Broadwater's field studies. Additional details regarding the benthic studies conducted by Broadwater in April and May 2005 can be found in Resource Report No. 3 – Fish, Vegetation, and Wildlife in FERC's docket for the Broadwater LNG Project (Docket No. CP06-54-000, Accession #20060130-4018). The document describes the protocol and provides detailed results of the video surveys of the seafloor and, more importantly, the collection and laboratory analysis of benthic samples along the proposed pipeline route.

IN40-4 While Peterson (1985) did report that the depth distribution of an individual copepod species varied by lifestage, Peterson (1983) reported that the general phytoplankton and zooplankton community of Long Island Sound was generally confined to the surface waters during summer and fall.

IN40-5 As discussed in our response to OC5-15, the final EIS has been updated to identify the expected impacts to phytoplankton and zooplankton associated with water intakes. As with ichthyoplankton, Section 3.3.2.2 of the final EIS concludes that the impact would be negligible (less than 0.1 percent of the standing stock of the central basin of Long Island Sound). Because the percent of plankton loss was calculated based on the proportion of the volume of central Long Island Sound that would be used by the proposed Project, changes in the density estimates due to net efficiency would not alter the conclusion that the proposed Project would impinge/entrain less than 0.1 percent of the standing stock in central Long Island Sound.

IN40-6 Section 3.3.2.2 of the final EIS has been updated to more clearly describe potential impacts to phytoplankton, although it was never intended to convey that intake screens would prevent phytoplankton entrainment. In fact, entrainment estimates assumed that there were no screens. The comparison of the impacts to water resources for the proposed Broadwater Project to the Port Pelican Project is grossly inappropriate because the Port Pelican Project would use over 100 million gallons of seawater a day to vaporize gas, resulting in reducing the seawater temperature by 20 F as explicitly described by Thompson (2004). The Broadwater Project would not use any seawater to vaporize LNG. Because FSRU water would primarily be used for ballast, the temperature of discharges from the FSRU would approximate ambient water temperatures.

IN40-6 (0.5 ft per second) is well beyond the swimming speeds reported (Johnson & Allen, 2005) for marine zooplankton, including crab and shrimp larvae (0.1 ft/sec), bivalve mollusk larvae (0.01 ft/sec), fish larvae (0.1 ft/sec), and adult copepods (0.005 ft/sec). Thus, the thought that plankton will somehow avoid impingement and/or entrainment in the intake water of the Broadwater facility is nonsense. In a discussion of the Port Pelican Liquid Natural Gas (LNG) processing facility proposed for coastal Louisiana, Thompson (2004) concluded that use of a fine-mesh screen intake (<0.2 inches) and intake flow rate of 0.5 ft/sec (the same as proposed for the Broadwater project) "...would allow most larger organisms to avoid impingement at the intake structures, but water passing through the facility will undergo mechanical, pressure, temperature, and chemical (NaOCl [= chlorine bleach]) shock. Some entrained eggs and larvae may survive any one of these adverse conditions (Cada et al. 1981, Muessig et al. 1988), but the combination of these stresses will be lethal to almost all organisms passing through the facility." She further stated that "[u]ntil shown otherwise, we must assume that all fish and invertebrates will die after entrainment and simultaneous exposure to these four environment stress factors." Thompson (2004) concluded by stating that the Port Pelican Liquid Natural Gas (LNG) processing facility would effectively "sterilize" the entire water column (83 ft. depth) of a large area around the facility.

IN40-7 Phytoplankton and zooplankton entrained in the Broadwater intake would not only be lost to the future recruitment of their respective populations, but they would also be lost to the food web which supports the valuable finfish and shellfish populations of the Sound. These losses of plankton will be exacerbated by the daily discharge of sodium hypochlorite (i.e. chlorine bleach) and wastewater described for normal operations of the Broadwater facility (pg. 3-59 Draft EIS). Lighting of the external areas of the FSRU, which would be visible to a distance of 0.6 miles (pg. 3-59 Draft EIS), would potentially attract marine organisms from an area of ~1.13 square miles; light is known as a powerful cue for the depth regulation of larvae of several species of bivalve mollusks and other marine invertebrates (Levinton, 2001) and thus the process of larval attraction by Broadwater lights might further amplify losses due to e impingement/entrainment in intake water at the FSRU. It should be emphasized that impacts due to entrainment/impingement of plankton will occur on a continual basis while the Broadwater project is in operation.

IN40-8 Potential impacts of onshore support facilities to the villages of Greenport and Port Jefferson are effectively dismissed in the DEIS. But the fact is that, using Greenport as the example, the proposed 15.1 acre operations site would occupy most of the Greenport waterfront. The existing waterfront here includes Mitchell Park, with its carousel and ice skating rink; docks for transient vessels, commercial fishing boats, and the Shelter Island ferries; as well as numerous restaurants and shops. The proposed site plan calls for "...a warehouse for storage and handling of spare parts, tools, and equipment; dock space for berthing four tugs, a workshop for tug maintenance; and a waterfront staging area capable of supporting container transfer cranes, large trucks, and a personnel transfer and boarding area." Large containers would also be stored here. The facility would all be surrounded by a perimeter security fence, which can be estimated to be 3100 ft. (~0.6 miles). The statement that "...use of these onshore facilities as proposed by Broadwater, would not result in land use conversion or impacts" (pg. 3-90 DEIS) is patently absurd. Additional details of the impacts of the activities associated with the land-based facility can be surmised from the mention of "container transfer cranes". This implies that the 4 tugs will be bringing in large containers to the land-based facility, to be carted away by "large trucks". Large containers brought in by water necessitate barges. The movement of tugs with barges in tow through the narrow entrance to Orient Harbor and into Greenport Harbor raises serious concerns about potential navigational hazards to the heavy recreational boat traffic in this area.

IN40-7 Section 3.3.2.2 of the final EIS has been updated to provide additional detail on potential impacts to phytoplankton, and the final EIS concludes that there would be no significant impact to phytoplankton communities associated with water discharges or lighting. Any minor influences of lighting on predator-prey relations and plankton could negligibly affect plankton populations but also could result in a correspondingly beneficial effect on the species that prey upon them.

IN40-8 The commentor has stated that the onshore facilities would be on a 15.1-acre site. We do not know the origin of that number. Broadwater did not state that it would use 15.1 acres onshore, and we did not use that number in the EIS. If the commentor used the borders depicted in Figures 2.4-2 and 2.4-3 to estimate the area of the facilities, the calculation is not appropriate. The borders depicted in those figures indicate the area within which a facility would be selected, not the actual border of the facilities themselves. We have clearly repeatedly, and correctly described that new construction for the offshore facilities would be limited to a security fence and checkpoint. Impacts associated with use of the onshore facilities, including impacts to marine traffic, are addressed in Sections 3.5.2.3, 3.7.2.3, and 3.8.5 of the final EIS. As noted in those sections, Broadwater would use existing onshore facilities to support offshore operations. By using existing facilities for Project-related activities that would be similar to current use of the facilities, we do not anticipate significant additional impacts.

IN40-9

In summary, the potential impacts of the Broadwater LNG facilities proposed for Long Island Sound and the communities of Greenport and Port Jefferson, NY are grossly understated and, as such, do not accurately portray the environmental and social costs of the project.

Literature Cited

Abbott, R.T. and S.P. Dance. 1986. Compendium of Seashells. American Malacologists, Inc., Melbourne, FL. 411 pp.

Cada et al. 1981. p. 111-122 In: Jensen, L. D. (ed.). Issues associated with impact assessments: Proceedings of the 5th national Workshop on Entrainment and Impingement.

Conover, S.A.M. 1956. Phytoplankton. Bulletin of the Bingham Oceanographic Collection Volume 15: Oceanography of Long Island Sound, 1952-1954, pp. 62-112.

Deevey, G.B. 1956. Zooplankton. Bulletin of the Bingham Oceanographic Collection Volume 15: Oceanography of Long Island Sound, 1952-1954, pp. 113-155.

Houde, E. D. and J. A. Lovdal 1984. Seasonality of occurrence, foods and food preferences of ichthyoplankton in Biscayne Bay, Florida. Estuarine, Coastal and Shelf Science 18: 403-419.

Howell, P., J. Benway, C. Giannini, K. McKown, R. Burgess and J. Hayden. 2005. Long-term population trends in American lobster and their relation to temperature in Long Island Sound. Journal of Shellfisheries Research 24(3): 849-858.

Johnson, W.S. & D.M. Allen. 2005. Zooplankton of the Atlantic and Gulf Coasts: A Guide to Their Identification and Ecology. Johns Hopkins University Press, Baltimore. 379 pp.

Levinton, J.S. 2001. Marine Biology: Function, Biodiversity, Ecology, 2nd. Edition. Oxford University Press, New York. 515 pp.

Muessig, P. H., J. R. Younf, D. S. Vaughan and B. A. Smith 1988. Advances in field and analytical methods for estimating entrainment mortality factors. p. 124-132 In: Barnhouse, L. W., R. J. Klauda, S.D. Vaughan and R. L. Kendall (ed.). Science, law, and Hudson River power: a case study in environmental impact assessment. American Fisheries Society, Monograph 4, Bethesda.

National Undersea Research Center. 2006. Space Invaders: Non-native ascidians in the Long Island Sound. <http://www.nurc.uconn.edu/about/events/event0014/index.htm>.

PBS & J/LMS. 2003. Charles Poletti Power Project, Studies to Determine the Effects of Entrainment and Impingement, Volumes 1 and 2. Prepared for New York Power Authority.

Peterson, W.T. 1985. Abundance, age structure and in situ egg production of the copepod *Temora longicornis* in Long Island Sound, New York. Bulletin of Marine Science 37:726-738.

IN40-9

The comments provided have enhanced the review of the Project and, had they been provided during the lengthy scoping process, would have enhanced the draft EIS. However, as explained in our previous responses, we have conservatively assessed the impacts of the Project and supported our conclusions with field surveys, scientific literature, and the professional judgment of numerous scientists who have spent the last 2 years carefully understanding and evaluating the project. We appreciate that a document of the size and scope of the draft EIS would contain some mistakes and are thankful for reviewers who pointed out those errors and drew appropriate conclusions based on their magnitude and content.

Unofficial FERC-Generated PDF of 20070119-0087 Received by FERC OSEC 01/16/2007 in Docket#: CP06-54-00

Sclafani, M. 2001. An evaluation of juvenile lobster (*Homarus americanus*) distributions in western Long Island Sound. Proceedings of the Long Island Sound Lobster Health Symposium, November 29 - 30 2001, Ronkonkoma, NY. Available at:
<http://www.seagrant.sunysb.edu/LLOBSTERS/LISLI-Day1-BkgdMat.pdf>

Thompson, N.B. 2004. Potential Impacts of Liquid Natural Gas Processing Facilities on Fishery Organisms in the Gulf of Mexico. http://sero.nmfs.noaa.gov/dhc/lng/lng_ws_memo.pdf.

FEDERAL ENERGY REGULATORY COMMISSION

BROADWATER LNG PROJECT (CP06-54-000 AND CP06-55-000)

DRAFT ENVIRONMENTAL IMPACT STATEMENT
COMMENT FORM

<p>Comments may be left at the FERC table or mailed to the FERC:</p> <p>If you prefer to mail your comments, please send an original and two copies of your comments to:</p> <p>Margate R. Salas, Secretary Federal Energy Regulatory Commission 888 First St., N.E., Room 1A Washington, DC 20426</p> <p>Reference Docket Nos. CP06-54-000 and CP06-55-000 on the original and both copies, and label one copy of your comments for the attention of the Gas Branch 3, DG2E.</p>	<p>Comments may be submitted to the FERC via the Internet on the FERC's website:</p> <p>See the instructions at http://www.ferc.gov under the "e-Filing" link and the link to the User's Guide. Prepare your comments in the same manner you would if you were providing a letter and save the comments to a file on your hard drive. Before you can submit comments you will need to create an account by clicking on "Sign-up" under "New User?." You will be asked to select the type of submission you are making. This submission is considered a "Comment on Filing."</p>
---	---

COMMENTS (PLEASE PRINT) --additional space on opposite side of page

<p>IN41-1</p>	<p>THE MAP AT THE BEGINNING OF THE DRAFT ENVIRONMENTAL STATEMENT PUTS BRANFORD IN THE WRONG LOCATION VERSUS THE SHORELINE. HOW ACCURATE CAN THE REST OF THE INFORMATION BE?</p>
<p>IN41-2</p>	<p>ALTHOUGH THE ENVIRONMENTAL RISK OF WASHING UP THE WATERS OF THE SOUND DURING MAY BE DEEMED ACCEPTABLE, MINIMAL BY YOUR STUDY THE CIRCULATION</p>

IN41-1 Thank you for your comment. We have revised Figure 2.1-1 to more accurately depict the location of Branford.

IN41-2 As discussed in Section 3.2.3.2 of the final EIS, during LNG off-loading, the LNG carriers would uptake water for cooling. Upon discharge, the water would mix and cool rapidly to within 1 °F above ambient temperature at a distance of about 75 feet from the point of discharge. The thermal plume would tend to rise from the discharge point toward the water surface, losing heat all along this path. Thus, thermal discharge from the proposed Project would not be significant enough to influence global climate change nor be influenced by global climate change.

Commentor's Name and Mailing Address (Please Print Clearly):

SARAH SORENSON
69 COURT ST.
BRANFORD CT. 06405

COMMENTS (continued)

IN41-2

LONG TERM IMPACT OF THAT WARMING
COMBINED WITH THE TREND TOWARD
GLOBAL WARMING IS UNACCEPTABLE TO
THE NEXT SEVEN GENERATIONS OF OUR
CHILDREN. THE SOUND IS A FRAGILE ECO-
SYSTEM THAT IS ALREADY COMPROMISED.
WE CANNOT PREDICT THE CONSEQUENCES OF
FURTHER DEGRADATION OF ITS WATER
QUALITY AND TEMPERATURE.
THEY SAID THE TITANIC WOULDN'T
SINK.

FEDERAL ENERGY REGULATORY COMMISSION

BROADWATER LNG PROJECT (CP06-54-000 AND CP06-55-000)

DRAFT ENVIRONMENTAL IMPACT STATEMENT
COMMENT FORM

<p>Comments may be left at the FERC table or mailed to the FERC:</p> <p>If you prefer to mail your comments, please send an original and two copies of your comments to:</p> <p>Margale R. Salas, Secretary Federal Energy Regulatory Commission 888 First St., N.E., Room 1A Washington, DC 20426</p> <p>Reference Docket Nos. CP06-54-000 and CP06-55-000 on the original and both copies, and label one copy of your comments for the attention of the Gas Branch 3, DG2E.</p>	<p>Comments may be submitted to the FERC via the Internet on the FERC's website:</p> <p>See the instructions at http://www.ferc.gov under the "e-Filing" link and the link to the User's Guide. Prepare your comments in the same manner you would if you were providing a letter and save the comments to a file on your hard drive. Before you can submit comments you will need to create an account by clicking on "Sign-up" under "New User?" You will be asked to select the type of submission you are making. This submission is considered a "Comment on Filing."</p>
---	--

COMMENTS (PLEASE PRINT) *—additional space on opposite side of page*

I am strongly opposed to the Broadwater LNG project in Long Island Sound.

As a sailor, I am deeply concerned about the safety issues that will directly impact me that arise with establishing safety zones around both the terminal and around inbound LNG tankers. My husband and I have experienced near collision on two occasions in fog in the Race and Plum Gut. As you know, there is only a small window of opportunity to sail through these passages with minimum current and it is busy. I cannot imagine encountering a LNG tanker passing through those narrow waterways in restricted visibility. This past year, in good weather, we encountered a submerged submarine that was being towed by a Coast Guard vessel. In this case, we called the towing vessel to determine how much clearance we needed to leave. It was not at all obvious. We modified our course considerably and avoided collision but were considerably delayed in arriving at our destination.

In addition to these personal safety concerns I have carefully reviewed the arguments pro and

Commentor's Name and Mailing Address (Please Print Clearly):

Naomi S. Myers
15 Palmer Lane
Riverside, CT 06878

COMMENTS (continued)

con more broadly and have concluded that the project is fatally flawed for these reasons:

- Long Island Sound is our regional heritage and no private entity has the right to compromise its esthetic beauty, limit its use by boaters, or threaten its ecology. Congress has declared it an Estuary of National Significance. The Long Island Sound Stewardship Act signed recently by President Bush defines it as a "national treasure of great cultural, environmental and ecological importance."
- I agree with the conclusion reached by Attorney General Richard Blumenthal that the Coast Guard is clearly incapable of providing the necessary security. In a letter to Roman Salas, Secretary of FERC, dated December 20, 2006 he said in part, "Now, newly disclosed information shows that safety risks of this project are far greater than previously realized because the Coast Guard will clearly lack the capacity to protect the public as deemed necessary under its own report regarding the Broadwater proposal. This new information shows that the Coast Guard's plan to expand and upgrade its fleet is a colossal failure and provides strong new evidence that the Coast Guard cannot address accidents or attacks on the proposed Broadwater Energy facility of tankers supplying it."
- The U.S. government has failed to create a comprehensive long-term energy plan. Part of such a plan would define regional requirements for energy growth and conservation. In the absence of adequate guidelines, realistic alternatives to the Broadwater project have been inadequately addressed in the draft EIS. For example, the need for the Broadwater terminal is insufficiently justified given the two LNG terminals in eastern Canada that will come on-line in 2008, two years before the Broadwater terminal. As many as fifteen other LNG terminals on the east coast are also under review.
- The roles of greater energy efficiency and alternative energy generation have been dismissed in the Draft EIS as having little impact on growing energy needs. Yet several independent studies strongly support the opposite conclusion.
- National "energy security" requires reducing our dependence on imported energy from unstable regions of the world. That goal applies to imported LNG as well as oil. Most of the LNG will be imported from highly unstable or potentially hostile countries.
- The Draft EIS fails to provide adequate scientific data to support its conclusions on a number of important issues. On December 7, 2006 expert witnesses testified before the Connecticut Long Island Sound LNG Task Force. They presented examples of the failure to use up-to-date data or to properly acknowledge where data is lacking that are essential for properly characterizing the environmental impact of the Broadwater project. Among other issues that were inadequately treated was the complex and uncertain behavior of earthquakes that can occur at the proposed terminal location. Other testimony pointed out that the depth of the mud layer at the mooring site, in the absence of adequate data, remains highly uncertain, possibly requiring much longer pilings to reach bed rock.

In conclusion, I find the proposed Broadwater terminal unnecessary, potentially highly dangerous, and an affront not only to the citizens most affected in Connecticut and New York, but to the nation at large.

Naomi S. Myers

IN42-1

IN42-2

IN42-3

IN42-1 Section 4.3.2 of the final EIS evaluates the potential of each existing, approved, and planned LNG terminal in the region to serve as an alternative to the proposed Broadwater Project. Based on this analysis, we determined these alternatives would not satisfy the projected natural gas nor overall energy needs of the target market with less environmental impact than the proposed Broadwater Project.

IN42-2 We recognize that energy efficiency and alternative sources of energy generation are important components of the national, regional, and local energy plans. However, based on the studies referenced in the EIS, we have concluded that, even with such measures, there will be a growing demand for natural gas in the markets targeted by the proposed Project.

IN42-3 Specific responses to the specific technical comments made by the experts that testified to the Connecticut LNG Task Force are provided below as a subsection (PM5) of this appendix entitled "January 16, 2007 Connecticut Meeting Summary." The issues identified by the experts are addressed in the final EIS, particularly in Sections 3.1 and 3.3. Some the issues simply required clarification. For example, Broadwater does not propose to drive pilings to the bedrock strata at the proposed location of the FSRU.

FEDERAL ENERGY REGULATORY COMMISSION

BROADWATER LNG PROJECT (CP06-54-000 AND CP06-55-000)

DRAFT ENVIRONMENTAL IMPACT STATEMENT
COMMENT FORM

<p>Comments may be left at the FERC table or mailed to the FERC:</p> <p>If you prefer to mail your comments, please send an original and two copies of your comments to:</p> <p>Magalie R. Salas, Secretary Federal Energy Regulatory Commission 888 First St., N.E., Room 1A Washington, DC 20426</p> <p>Reference Docket Nos. CP06-54-000 and CP06-55-000 on the original and both copies, and label one copy of your comments for the attention of the Gas Branch 3, DG2E.</p>	<p>Comments may be submitted to the FERC via the Internet on the FERC's website:</p> <p>See the instructions at http://www.ferc.gov under the "e-Filing" link and the link to the User's Guide. Prepare your comments in the same manner you would if you were providing a letter and save the comments to a file on your hard drive. Before you can submit comments you will need to create an account by clicking on "Sign-up" under "New User?". You will be asked to select the type of submission you are making. This submission is considered a "Comment on Filing."</p>
---	---

COMMENTS (PLEASE PRINT) –additional space on opposite side of page

I am strongly opposed to the Broadwater LNG project in Long Island Sound. My judgment is based upon my experiences as a sailor on the Sound and as an informed citizen.

As a boater, I am deeply concerned about the safety issues that will directly impact me that arise with establishing safety zones around both the terminal and around inbound LNG tankers. I have experienced near collision on two occasions in fog in the Race and Plum Gut. I cannot imagine encountering a LNG tanker passing through those narrow waterways in restricted visibility. Will the Coast Guard restrict LNG tanker passage under those conditions? What happens even under good visibility conditions if I inadvertently find myself within the exclusion zone of a tanker? What action will a Coast Guard escort vessel take? Will it warn me and will I be subject to a fine? Why should I be burdened with making the correct judgment that I am more than 750 yards away or more than two miles ahead or more than one mile astern? I doubt most seamen can visually make a sufficiently accurate distance judgment.

Continued on the opposite side:

Commentor's Name and Mailing Address (Please Print Clearly)

STEPHAN A. MYERS
15 FAUNAL LANE
RIVERSIDE, CT 06878

IN43-1

IN43-1

As stated in the Section 3.10.4.5 of the final EIS, "Minimum visibility conditions would need to be satisfied before the LNG carrier would be allowed to proceed inbound." Incoming LNG carriers would remain at sea, outside Long Island Sound, until there is a long enough time span of suitable weather for the carrier to enter and complete berthing, unloading, deberthing, and departure transit.

As part of implementing the proposed moving safety and security zone, the Coast Guard would conduct routine Broadcast Notice to Mariners, notifying the public of the implementation of the safety and security zones. Escort tugs and Coast Guard vessels escorting the LNG carriers would also serve as an additional layer of on-scene notification.

COMMENTS (continued)

In addition to these personal safety concerns I have carefully reviewed the arguments pro and con more broadly and have concluded that the project is fatally flawed for these reasons:

- Long Island Sound is our regional heritage and no private entity has the right to compromise its esthetic beauty, limit its use by boaters, or threaten its ecology. Congress has declared it an Estuary of National Significance. The Long Island Sound Stewardship Act signed recently by President Bush defines it as a "national treasure of great cultural, environmental and ecological importance."
- I agree with the conclusion reached by Attorney General Richard Blumenthal that the Coast Guard is clearly incapable of providing the necessary security. In a letter to Roman Sales, Secretary of FERC, dated December 20, 2006 he said in part, "Now, newly disclosed information shows that safety risks of this project are far greater than previously realized because the Coast Guard will clearly lack the capacity to protect the public as deemed necessary under its own report regarding the Broadwater proposal. This new information shows that the Coast Guard's plan to expand and upgrade its fleet is a colossal failure and provides strong new evidence that the Coast Guard cannot address accidents or attacks on the proposed Broadwater Energy facility of tankers supplying it."
- The U.S. government has failed to create a comprehensive long-term energy plan. Part of such a plan would define regional requirements for energy growth and conservation. In the absence of adequate guidelines, realistic alternatives to the Broadwater project have been inadequately addressed in the draft EIS. For example, the need for the Broadwater terminal is insufficiently justified given the two LNG terminals in eastern Canada that will come on-line in 2008, two years before the Broadwater terminal. As many as fifteen other LNG terminals on the east coast are also under review.
- The role of greater energy efficiency and alternative energy generation have been dismissed in the Draft EIS as having little impact on growing energy needs. Yet several independent studies strongly support the opposite conclusion.
- National "energy security" requires reducing our dependence on imported energy from unstable regions of the world. That goal applies to imported LNG as well as oil. Most of the LNG will be imported from highly unstable or potentially hostile countries.
- The Draft EIS fails to provide adequate scientific data to support its conclusions on a number of important issues. On December 7, 2006 expert witnesses testified before the Connecticut Long Island Sound LNG Task Force. They presented examples of the failure to use up-to-date data or to properly acknowledge where data is lacking that are essential for properly characterizing the environmental impact of the Broadwater project. Among other issues that were inadequately treated was the complex and uncertain behavior of earthquakes that can occur at the proposed terminal location. Other testimony pointed out that the depth of the mud layer at the mooring site, in the absence of adequate data, remains highly uncertain, possibly requiring much longer pilings to reach bed rock.

In conclusion, I find the proposed Broadwater terminal unnecessary, potentially highly dangerous, and an affront to the not only the citizens most affected in Connecticut and New York, but to the nation at large.

Stephen D. Myers

IN43-2 Please see our response to comment IN42-1.

IN43-3 Please see our response to comment IN42-2.

IN43-4 Please see our response to comment IN42-3.

IN43-2

IN43-3

IN43-4

IN44 – Francis Robert Denig

I am a resident of Long Island and a professional mariner who makes a living from the Long Island Sound, so the debate over the Broadwater project is of particular concern to me. Initially, I had some of the same concerns that today are expressed by the project's staunchest opponents. However, it can not be ignored that we live in an area that can only depend on remote access to fuel supplies, and that the limitations of our present energy infrastructure plays a significant role in regional energy cost. Precaution is a necessary and healthy when reviewing proposals such as Broadwater's, but so is clear reasoning and impartial logic. That is why I have come to support the Broadwater project.

New pipelines, LNG terminals located elsewhere, and most of all renewable energy sources are all need in addition to Broadwater, but none are practical substitute for Broadwater. We have some of the highest energy cost in the country, and all indications suggest that things will only get worse unless we make improvements to our infrastructure. We need to act now. FERC's Draft Environmental Statement, and the LNG industries respectable safety record should provide assurance to us that Broadwater's proposed terminal is a low impact, safe, and viable solution to one of our regions most significant problems.

As a member of our maritime community I have had first hand experience with most of the agencies and organizations that will be involved in this project, and have developed a great deal of confidence in our ability to work together effectively and efficiently. The local maritime community has the ability to provide the essential support services that will be crucial to the safe and productive operation of Broadwater's proposed LNG terminal, and we will rise to the occasion in a matter that everyone in the region could be proud of.

This project will bring the Long Island Sound one step closer to reaching its full potential in a balance which will not diminish its diverse environment and beauty. I can understand why there are so many emotionally driven concerns about the project; Long Islanders love Long Island and only want what is best for their families and the environment. As I mentioned before, precaution is good, but only to a point. We can not allow precaution to derail progress when reasonability indicates that progression is sound.

Francis Robert Denig

IN44-1

IN44-1 Thank you for your comment.

ORIGINAL

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

RE: Docket No. CP06-54

2007 JAN 16 P 4: 53

The draft EFI for the Broadwater LNG project fails to adequately address a number of issues. Among these are:

- IN45-1 1. **Global environmental perspective.** The scientific community is in general agreement that a global warming trend is occurring and that this is most likely a direct consequence of carbon emissions. The draft EFI addresses emissions in a limited geographic area. The project's true extent is much wider. Accounting should be made for the total global carbon emissions as a consequence of the construction, operation and retirement of: the sources of LNG, the supply carriers, the FSRU, YMS, pipes, concrete, etc. Similar global accounting should be done for other forms of environmental degradation related to the project. Mitigation plans should be demanded.
- IN45-2 2. **Marine mammals.** The Marine Mammal Protection act limits speed to 10 knots. The bulk of the document, including the Coast Guard's WSR, bases transit times past a given point on a 12-15 knot speed. Any suppositions using a higher speed need to be reexamined.
- IN45-3 3. **Induced corrosion.** Some studies suggest that the composition of natural gas from varied sources may be enough different to induce unexpectedly rapid corrosion in pipelines. The consequences would be unplanned disturbances to the marine environment for inspection, repair and cleaning of the lines over the lifetime of the project. The corrosion would reduce the reliability of smaller pipes at the end of the distribution line with consequent environmental damage on shore. Since the Broadwater consortium lists a number of potential LNG sources, the draft needs to address this concern.
- IN45-4 4. **Ferry no-entry zone.** COTP LI Sound Zone regulations establish, around ferries, a no entry zone to commercial vessels of greater than 300 tons. Presumably the 1200 yard circular radius of the zone is to ensure the safety of ferry passengers in the vicinity of large, unwieldy vessels. It would seem particularly unwise to grant prior exemption rights in the case of LNG carriers conveying large quantities of volatile material. There should be no exemption. Any sections of the Draft EFI (e.g. disruption to commerce) should reflect this prohibition.
- IN45-5 5. **YMS.** The robustness of the YMS is a key factor in the overall safety of the project. Design failures are not unheard of in fabricated structures. With a shield of security over the design and an apparent lack of detailed geologic study of the exact site, the public should expect more than the third party review recommended.
- IN45-6 6. **Security and safety assumptions.** There are two major assumptions behind the safety and security analysis in the WSR. First is that Broadwater operations would be an unlikely terrorist target; that it is too remote and that any events are unlikely to induce the terror of a close-in

IN45-1 The EIS has been prepared in accordance with NEPA requirements and as such is focused on the aspects of the proposed Project within U.S. jurisdiction. Carbon emissions associated with the proposed Project within U.S. jurisdiction are described in Section 3.9.1.2 of the final EIS. It is not known at this time which LNG chain or chains would provide LNG to the Project. At least in the beginning, it is expected that an existing LNG chain and currently operating LNG carriers would deliver product to the Project. Globally, this means an alternative destination for these vessels but does not mean that they would not otherwise be operating somewhere in the world.

IN45-2 As stated in Sections 3.4.1.1 and 3.7.1.4 of the final EIS, when transiting in Block Island Sound and Long Island Sound between the Race and the FSRU, carriers likely would be traveling at a speed of about 12 knots, based on current navigation practices in those areas. Broadwater has provided draft vessel strike avoidance measures and has committed to continue coordination with NMFS. In addition, we have included a recommendation in Section 3.4.1.2 that Broadwater continue consultations with NMFS to develop a set of whale strike avoidance measures specific to the Broadwater Project.

IN45-3 We are not aware of any studies that indicate that pipeline corrosion can result from slight changes in gas composition. FERC is aware of allegations that gas composition changes led to gas line leaks in Prince George's County, and we investigated the Washington Gas Light (WGL) assertion that gas composition was a "key contributing factor" to gas system leaks in two different proceedings, Dominion Cove Point LNG's application in Docket No. CP05-130-004, et al. (Dominion Cove Point LNG, LLP 2006) as well as AES Ocean Express, LLC complaint against Florida Gas Transmission Company in Docket No. RP04-249-001 (AES Ocean Express, LLC v. Florida Gas Transmission Company 2007).

Based upon the research and studies conducted by the parties in both of these proceedings, the Commission concluded the claim that re-vaporized LNG caused an increase in leaks in pipeline seals was based upon a flawed analysis (Dominion Cove Point LNG, LP 2006). The Commission also determined there is no evidence that re-vaporized LNG would have a detrimental effect on seals which had been properly maintained (Dominion Cove Point LNG, LP 2007). Further, the Commission concluded that none of the tests, studies or actual experiences have demonstrated that re-vaporized LNG that meets the proposed interchangeability standards will cause LDCs or their end users problems (AES Ocean Express, LLC v. Florida Gas Transmission Company 2007).

IN45-3 (Continued)

We revised Section 2.4.2 of the EIS to provide additional information on gas interchangeability and on the agreement between IGTS and Broadwater to address gas interchangeability issues as documented in the IGTS letter dated April 11, 2006 and filed in the FERC docket for the Project.

IN45-4 Evaluations of the potential impacts on commercial shipping (including ferry service) due to the proposed safety and security zones surround LNG carriers were based on the premise that no vessels would be permitted within the safety and security zones (see Sections 3.6.8 and 3.7.1.4 of the final EIS). As a potential mitigation measure to reduce the reported impacts, the Coast Guard indicated that it would consider, under certain conditions, allowing a ferry into the safety and security zone around a carrier (see Section 3.7.1.4 of the final EIS). The Coast Guard would be responsible for enforcement of the safety and security zones proposed for the FSRU and the LNG carriers. Decisions regarding whether or not vessels would be granted access into the proposed safety and security zone around an LNG carrier would be made by the Coast Guard and would be dependent upon specific conditions at the time.

IN45-5 FERC and the Coast Guard have evaluated the design of the YMS, and if FERC provides Broadwater with an initial authorization, both FERC and the Coast Guard would continue with design reviews (see Section 3.10.2.3 of the final EIS and Section 8.4.2 of the WSR [Appendix C of the final EIS]). This would include reviews of final geotechnical engineering studies associated with the YMS design. An independent certifying entity would conduct the design review to confirm or refute the findings of FERC and the Coast Guard; this is an accepted practice in the review of major projects. The proposed Broadwater Project would only be authorized to proceed to operation by FERC only if the detailed design information meets all relevant design requirements.

IN45-6 The risks posed by the FRSU and the associated LNG carriers, including the risk of a terrorist attack, were evaluated in a Project-specific safety assessment. The risk of a terrorist attack was evaluated with input from experts in homeland defense. As stated in Section 8.4 of the WSR (Appendix C of the final EIS), the Coast Guard made the preliminary determination that with implementation of the recommended mitigation measures, the risks of operation of the FSRU and the associated LNG carriers could be managed. Also, if a terrorist attack on the FSRU were to occur, and if it were successful in causing a large LNG release and pool fire, the consequence analyses show that the thermal effects would have a duration of 1 to 2 hours and an impact radius that would not threaten onshore areas.

attack with a large body count. We question this. Modern news styles endlessly repeat stories over multiple forms of media. A large scale thermal event in this area, which is surrounded on all sides by tens of millions of residents, would, unquestionably, be frightening. The slightly remote location on open water could make an assault easier by permitting unimpeded attack from a variety of directions. These comments along with the WSR admission that terrorist techniques may change over time suggest the first assumption of the analysis is shaky. The second assumption (primarily based on Sandia modeling) is that double hull construction would reduce the likelihood of breaching the LNG tanks to the limited scenario shown in the hazard zones of the WSR. The modeling needs closer examination. J. Havens (Fall 2005, Proceedings of the Maritime Safety & Security Council, pp.30-31) suggests that cascading failure brought on by such events as brittle metal fracture and rapid phase transition could open the vessels to much larger releases of gas. He says modeling methods for predicting thermal intensity of large pool fires need further experimental data for verification. Havens also points out that unconfined vapor cloud explosions (UCVE) can occur if the cargo contains significant amounts of gas components heavier than methane and that a UCVE hazard may occur from a higher boiling point enrichment of components brought on by contact with water. Also, we do not see a public discussion of damage which might occur from the crash of a large commercial or military aircraft [Since the modeling may be flawed and further experimental data needed, the wisest analysis would be to work from a worst case scenario. Worst case here defined as release of all the LNG and any other flammable substances on board. Study of worst case extent of asphyxiation, hypothermal damage and of thermal radiation would allow the public a better chance to judge potential dangers and enable first responders an opportunity to acquire enough training and equipment for a disaster.

IN45-6

IN45-7

IN45-8

IN45-9

IN45-10

IN45-11

7. **Consultation with potentially affected.** It is unclear whether certain high interest entities have had in-depth involvement with the Coast Guard WSR working groups. The entities would include residents and property owners, and the operators of the Plum Island research station which are within one of the 3 hazard zones of the present model. The chance of a drifting vessel getting close enough to Millstone Power station and the fuel farms in New Haven to present a safety hazard was considered to be very remote. We wonder if this and the other working assumptions precluded any serious discussion with facility operators as to their safety limits in the event the working assumptions were to prove wrong. Indeed, Millstone was denied permission to convert Unit 1 to gas power because of safety concerns to the adjoining nuclear plants. First responders in all the shoreline towns should have had, at the very least, a working group to identify local needs and concerns.

8. **Meteorologic concerns.** The draft EIS gives short shrift to light and sound pollution from the operation of the FSRU. Fog horns, gas flaring, operation and warning lights, security area marking buoys, mechanical noises from operation on-board and from all the security, supply and support craft will be distorted, amplified and redirected by the fog, low hanging clouds, water reflections etc. common to a marine environment. The potential polyphony of light and sound requires a higher level of study to address effects on the habitat and visual blight.

9. **Adrift and the Weather.** Breaching of an off-course ship receives some consideration in the draft EIS but simple grounding remains an issue. Bathymetric maps should have been used to create a closest approach line to shore for a drifting FSRU or gas carrier. Such maps would enable us to determine where harbors and shipping lanes might be blocked, a concern of the C Long Island Sound Task Force. Hazard zones from these closest approach lines could identify inland areas of particular risk. This is of concern because, as the draft notes, allisions, collision

IN45-6 (Continued)

Havens (Havens 2005) addressed issues associated with consequences after an initial release, although none of them were related to the potential for double-hulled LNG tank breaches through groundings, collisions, or allisions. Havens also identified areas for further research, including cascading failure due to brittle fracture and rapid phase transition; experiments with large pool fires; and the potential for enrichment of higher boiling point components potentially resulting in an unconfined vapor cloud explosion (UVCE).

We have addressed cascading failures and the appropriateness of the methods used for the risk analysis in Section 3.10.3.2 of the final EIS. While experimentation with large-scale pool fires may be useful in fine tuning modeling methods, modeling in accordance with the Sandia guidance gives thermal hazard radii that are, according to the Haven's article, the "best available" estimates.

Regarding cascading failure, sequential failure of tanks would extend the duration of the thermal hazard and is expected to increase the thermal hazard radius by 20 to 30 percent. A report by the Government Accountability Office (GAO) (GAO 2007) presents a survey of experts who work in areas related to LNG risk, hazards, and consequence modeling. Regarding the worst-case of a cascading tank scenario, 12 of 16 agreed that the fire or heat hazard distance would not increase by more than 20 to 30 percent over the single tank failure base case. Use of that basis would result in a thermal hazard radius for a worst-case scenario that would not extend to any onshore area. As for thermal hazard modeling methods, a total of 11 of 16 experts in the GAO survey were of the opinion that current methods for estimating LNG fire heat hazard distances are "about right" or too conservative.

IN45-7

FERC staff believes that a scenario involving an incident with an aircraft and the FSRU is highly unlikely. However, if a scenario did occur, we believe that the incident would not significantly alter the worst-case scenarios examined in Section 3.10.3 of the final EIS. We also believe that the scenario would result in an ignition source and therefore impacts would not significantly extend beyond Hazard Zone 2. The outer limit of Hazard Zone 2 for the FSRU is about 7.8 miles from the nearest shoreline and is substantially farther from most shorelines of Long Island Sound.

- IN45-8 The worst-case modeled in the WSR (Appendix C of the final EIS) was simultaneous failure of three FSRU cargo tanks. This is a highly unlikely scenario. Cascading failure may be more likely but would result in a shorter consequence distance, with reduced intensity over a longer period of time. The use of thermal radiation as a worst-case impact in lieu of asphyxiation or “hypothermal damage” is consistent with the guidance provided by Sandia (2004) and the review of experts presented in the GAO Report (GAO 2007).
- IN45-9 The Coast Guard determined that the Plum Island and Millstone facilities would not be affected based on the water depths in the vicinity of the facilities: Hazard Zone 2 of a grounded LNG carrier that released LNG would not reach either facility. If Broadwater receives initial authorization from FERC, it would be required to coordinate with the federal, state, and local agencies to develop an Emergency Response Plan-as described in Section 3.10.6 of the final EIS. The plan would address local needs and concerns along with a wide variety of potential incidents and response procedures. If the plan is not sufficient or if either FERC or the Coast Guard has additional concerns regarding safety or security associated with implementation of the plan, Broadwater would not be authorized to initiate construction.
- IN45-10 Section 3.9.2.2 of the final EIS discusses the cumulative impact of airborne noise that would be generated from normal operation activities. It is estimated that the combined noise from operational activities would not be discernable above ambient noise at a distance of less than 1 mile from the source. Foghorns mounted on the FSRU would be heard at a distance of 2 miles, and would need to sound every 20 seconds in poor visibility. The noise generated by the foghorn would be barely perceptible onshore. Sections 3.5.1 and 3.5.6 of the final EIS summarize the visual and lighting elements of the FSRU, YMS, and proposed fixed safety and security zone. Section 3.3.5 of the final EIS includes a recommendation that Broadwater file its final FSRU lighting plan with FERC for review, and Broadwater would not receive authorization to proceed if FERC does not approve of the plan.
- IN45-11 Section 3.10.4.4 of the final EIS has been revised to address the potential hazards associated with an incident that results in an LNG carrier grounding.

20070119-0086 Received by FERC OSEC 01/16/2007 in Docket#: CP06-54-00

IN45-12 [and breaks from mooring during storms or icing would be the most difficult to assist with service ships. Discussion is lacking on the techniques and hazards of off-loading LNG from a grounded and immovable ship. While the vessels are in more danger and under less control, weather conditions may also produce other unseen hazards. As noted in 6 above, additional experimental data is warranted for proper modeling. This should consider storm mixing and reactions over ice.

IN45-13 [10. Geopolitical/economic consequences Using LNG makes us even more dependent on foreign sources of supply. Supply may be less secure and from questionable regimes. Increased supply can delay us from developing effective conservation policies and new energy technologies. Neither contracted supply sources nor customers have been identified. The Broadwater project is one of a number of LNG supply proposals resulting from recent changes to pipeline and energy regulations. These changes will, effectively, create monopoly supply positions for the first few built. Many of us believe the policy changes were flawed from the start, that a more regional policy is needed to determine siting of the limited number of terminals required to meet projected needs. We also believe that Broadwater is an ill conceived project. Its safety analysis is based on flawed assumptions and modeling that would place an untried design in a body of water of national significance, closely surrounded by tens of millions of people. Even the modicum of security identified in the WSR would inconvenience the public and create significant cost increases for manpower and equipment.

IN45-14 [

Creig O. Peterson
 56 Walnut Hill Road
 East Lyme, CT 06333-1023
 January 8, 2007

IN45-12 Off-loading of a grounded vessel would be a component of the Emergency Response Plan, which is addressed in our response to comment IN45-9. Our response to comment IN45-6 addresses the issue of additional data for modeling.

IN45-13 The Commission is responsible for reviewing applications for authorization of energy projects. We have no legal authority to conduct regional studies of energy needs or to develop energy policy. However, we have conducted an extensive review of available studies on energy needs for the region that would be served by the proposed Project, and we provide a summary of the relevant information in Section 1.1 of the final EIS.

IN45-14 We addressed portions of this comment in response to comment IN45-6. While the combination of technologies proposed for the FSRU is a new concept, the separate LNG receiving, storage, regasification, and sendout technologies are proven. As stated in the final EIS (Sections 2.1.1.1, 2.3.1.1, 3.10.2.1, and 3.10.2.2), federal regulations, industry standards, and classification society rules would govern the safe design, construction, and operation of the FSRU. The Coast Guard evaluated the safety and security aspects of operation of the FSRU (and the LNG carriers) and made the preliminary determination, as reported in Section 8.4 of the WSR (Appendix C of the final EIS), that with implementation of the mitigation measures it has recommended, the risks associated with operation of the FSRU and LNG carriers would be manageable. The outer edge of Hazard Zone 2 would be about 7.8 miles from the nearest shoreline; therefore, a major incident at the FSRU would not, directly affect onshore populations. Finally, Section 3.10.6 of the final EIS describes the requirements of the Emergency Response Plan that Broadwater must prepare, including a Cost-Sharing Plan for both emergency responses and security activities that involve federal, state, and local agencies. FERC must approve the plan prior to authorizing construction of the proposed Project.

... RECEIVED BY OF 20070126-0284 Received by FERC OSEC 01/23/2007 in Docket#: CP06-54

ORIGINAL

RECEIVED

DEC 15 2006

Dear Broadwater:

I am writing this letter as an indication of my support for your project. I encourage you to use this letter as a demonstration of my support as the New York Secretary of State moves forward on a determination of your application for a Consistency Determination under the New York Coastal Zone Management Act (Docket F-2006-0345).

My support is based on the following:

The Coast Guard report said that the Broadwater project can operate safely in the Sound with the addition of their recommended safety and security measures.

The Federal Energy Regulatory Commission (FERC) Draft Environmental Impact Statement (DEIS) said that Broadwater would have limited adverse environmental impacts with the mitigation measures proposed by Broadwater and the recommendations proposed by FERC and the Coast Guard.

The project will help reduce regional energy prices and what I pay as a consumer. I cannot think of many new energy projects that are built with private money and save me money too.

In order to make progress in meeting our air quality goals, we need more natural gas to replace fuel sources such as oil and coal in older power generation facilities.

The Sound is an important body of water. But we must recognize that it is a working Sound as well – with much commerce on the Sound. Those who claim this project will “industrialize the sound” need to visit the Sound and see the Sound as it really is.

Broadwater has committed to helping to restore and enhance the Sound through their Social Investment Program – this means additional dollars toward many important conservation programs.

Finally, someone is proposing a practical solution. In conclusion – if not now, when?

Thank you for taking my letter into consideration.

Sincerely,

John C. Baal

Full name: John C. Baal

Street: 10 HUNTERS ROAD

Town: LONG BEACH

State: NEW YORK

Zip: 11764

IN46-1 Thank you for your comment.

IN46-1

FILED
DEPT. OF THE
ENERGY
1801 JAN 23 10 21 58
NEW YORK

YAHOO! MAIL

From: "philipberns" <philipberns@sboglobal.net>
To: "Cheryl Dunson" <cvdunson@yahoo.com>
Subject: Broadwater comments
Date: Thu, 18 Jan 2007 10:38:47 -0500

Perhaps someone with better website navigation skills can find the elusive correct email address, or call them to ask? Here are my comments. Thanks!

Comment on filing Gas Branch 3, D&E
OUR WATER NOT BROADWATER
CP06-54-000 CP06-55-000

Long Island Sound is owned by the citizens of New York and Connecticut and no part of it should be given to one private entity for its exclusive use.

Note that General FERC is only responsible for part of the project's fate; Broadwater will also face New York's review of impacts to the public's rightful use, water quality, and air quality.

- It is a congressionally declared estuary of national significance.
- It contributes \$5.5 billion to the regional economy every year.
- It is surrounded by one of the most densely populated areas of the country and already faces huge hurdles to restore it to its healthy splendor.
- Federal, state and local governments along with organizations, educational institutions and individuals have contributed over a billion dollars to restore Long Island Sound's health. Broadwater is a backwards leap on that investment.

The natural gas complex that Shell Oil's Broadwater subsidiary is proposing for Long Island Sound currently placed approximately 11 miles south of Connecticut and nine miles north of New York-this puts it in New York waters, just where Broadwater wants it, out of the reach of Connecticut's stringent Long Island Sound (LIS) energy infrastructure siting standards.

- Broadwater is a monstrosity-nearly 28 stories tall from waterline to flare-tower, 200 feet wide, and four football fields long.
- Broadwater's industrial complex will receive two to three weekly shipments of LNG via tankers that will enter the Sound through the narrow, constricted, eastern-most access point.

http://us.f603.mail.yahoo.com/ym/ShowLetter?box=Inbox&MsgId=7811_28116855_4568... 1/18/2007

IN47 – Philip Berns

Yahoo! Mail - cvdunson@yahoo.com

Page 2 of 7

• More than 50 towns in New York and Connecticut, 55,000 citizens, 100 groups, all four U.S. Senators, nearly the entire LIS Congressional delegation, Connecticut Attorney General Blumenthal, Connecticut Gov. M. Jodi Reil and Suffolk County Executive Steve Levy have spoken out against the ill-conceived Broadwater proposal.

• Broadwater would industrialize and privatize Long Island Sound making a large area off limits to residents.

IN47-1 [Broadwater would be environmentally destructive.

• Broadwater is unsafe and unnecessary. Energy and Alternatives

IN47-2 [• Broadwater is unnecessary. Our region's actual needs are very specific - we have and will continue to have enough gas on all but the peak demand days of the year (a few during the winter), so, in our energy planning, we need to focus on facilities designed for those peak periods: Broadwater is not designed to help with these peak problems.

IN47-3 [• An enormous facility like Broadwater is not designed to meet the needs of Connecticut and New York and is not well suited for New York and Connecticut requirements-it is designed to feed the national grid. Better infrastructure for storage of natural gas which is well suited to meeting peak demand. The LNG facility being built in Waterbury, Conn., is better suited for Connecticut's needs.

• Maximizing electric and gas efficiency programs to achieve energy independence should be the first order of business. We can affect demand for natural gas by building on Connecticut and New York's existing energy efficiency programs and renewable portfolio standards, and by investing in new gas efficiency programs.

IN47-4 [• We can expand our success in electric efficiency into the natural gas area as well. Synapse Energy Economics has concluded that over the next decade, we can save enough energy in New York and Connecticut through efficiency and renewable investments to more than offset predicted increases in natural gas use.

IN47-5 [• Even if we don't invest in more storage, renewables and efficiency, our needs are on their way to being met by other new LNG import facilities and

http://us.f603.mail.yahoo.com/ym/ShowLetter?box=Inbox&MsgId=7811_28116855_4568... 1/18/2007

IN47-1 As described throughout the final EIS, the proposed Broadwater Project would be constructed in accordance with federal and state regulations and permitting requirements, as well as additional FERC recommendations to further avoid and minimize potential environmental impacts.

IN47-2 Based on the studies referenced in Section 1.1 of the final EIS, we have concluded that the markets targeted by the proposed Project (Long Island, New York City, and Connecticut) have a need for additional gas supplies, not just in times of peak demand but throughout the year. The proposed Project is specifically designed to service these markets.

IN47-3 As described in Sections 1.0 and 2.0 of the final EIS, the Project has been designed to meet the natural gas needs of New York City, Long Island, and Connecticut. The only inferred benefit to the "national grid" would be that some of the gas currently dedicated to the target markets could be transported elsewhere.

IN47-4 We have addressed the Synapse report in Section 1.1.5.4 of the final EIS.

IN47-5 Section 4.0 of the final EIS evaluates a wide variety of alternatives to the proposed Broadwater Project that could provide projected natural gas and other energy demands of the New York City, Long Island, and Connecticut markets. These alternatives include energy conservation; renewable energy sources, including wind and tidal power; and other existing and proposed LNG terminal and pipeline projects. We determined that each of these alternatives either could not meet the projected long-term energy needs of the New York City, Long Island, and Connecticut Markets or could not meet these needs without resulting in greater environmental impacts than the proposed Broadwater Project.

IN47-5

pipeline capacity upgrades being built in the region.

• We have experienced an explosion of LNG proposals in the last two years. There are approximately 65 North America proposals in various stages and it has been estimated by energy experts that only 7-12 will be built. This means that 7 out of every 8 proposals to FERC are expected to NOT be needed to meet future supply.

• Of those import facilities located in the US, one has been built and 18 more have been approved.

• Two facilities in Canada are currently being built and are designed to feed the Northeast through the Maritimes and Northeast Pipeline.

• In late December 2006, Massachusetts approved two ocean-based LNG proposals.

• Our federal government must approach LNG siting in a thoughtful way. Right now, energy companies are throwing ideas against the wall to see which ones will stick.

• There are commonsense approaches to meeting the region's energy needs that do not require the industrialization of a large portion of the Sound.

IN47-6

• Broadwater Energy has failed to identify any compelling local or regional need that would justify the impact that this proposed LNG terminal would have on the environmental, economic, recreational and historical value of Long Island Sound.

• Most of the gas from the facility would not benefit LI or Connecticut - it would be sent elsewhere.

Public Use

IN47-7

• The three hazard zones associated with the Shell project could significantly affect important natural resources within 70 square miles of the industrial complex.

• Because Broadwater would be in the middle of LIS, surrounded by those who use the Sound, there would have to be a restricted area around the facility for reasons of safety and security.

• This quarantine will result in the inability of the public to use this

http://us.f603.mail.yahoo.com/ym/ShowLetter?box=Inbox&MsgId=7811_28116855_4568... 1/18/2007

IN47-6

As described in Section 1.1 of the final EIS, there is a general consensus that the demand for natural gas is expected to increase due to a combination of increasing demand from electrical generators, increasing population, and increasing per capita energy consumption. At the same time, net pipeline imports, primarily from Canada, are expected to decrease substantially. We have determined that the Project would have limited impacts if constructed and operated with the mitigation measures we have recommended in the final EIS, and the Coast Guard has made a preliminary determination that the risks associated with the FSRU and the LNG carriers would be manageable with implementation of its recommended mitigation measures.

IN47-7

As described in Section 1.4 of the WSR (Appendix C of the final EIS) and in Section 3.10.3 of the final EIS, Hazard Zone 3 is the area within which an unignited vapor cloud could be present, with a maximum theoretical distance of about 4.7 miles. However, gas would travel only in a downwind direction and would not be present throughout a circular area with a radius of 4.7 miles from the release point; the 70 square miles referred to by the commentor was apparently calculated based on the area of a circle with a radius of 4.7 miles. The actual area covered by an ignitable gas cloud would depend on meteorological conditions but would generally be in an elliptical or cigar-shaped cloud. The impacts on natural resources associated with a release of LNG are addressed in each of the resource sections in Section 3.0 of the final EIS.

IN47 – Philip Berns

Yahoo! Mail - cvdunson@yahoo.com

Page 4 of 7

portion of the Sound – a shift in the historical 'Public Trust Doctrine.'

• LIS is held in trust for the citizens of Connecticut and New York. Predominant commons recognized as subject to the Public Trust Doctrine are tidal and navigable waters. American case law has held that title to lands underlying tidal and/or navigable waters are held by the State in its sovereign capacity as trustee for the benefit of the citizens of the State who have the right to use the waters and adjacent land for navigation and to "fish, hunt, or bathe...."

• Because a large segment of the waters surrounding the platform must be "no boating" and/or "no fishing" area for safety reasons, this could become the first monopoly on parts of Long Island Sound waters. This conflicts with the reality that these waters are for the use of citizens and any intrusion or limits of that public's use must be in the public interest and not an unreasonable interference of that use. In this case the platform will be dominating the right of all people to fish, lobster, and boat.

IN47-8

IN47-8 The impacts on recreational boating and fishing and commercial fishing of the proposed safety and security zone around the FSRU are addressed in Sections 3.5.5.1, 3.6.8.1, and 3.7.1.4 of the final EIS.

• This co-opting of public waters for one private use sets a precedent for future industrial uses of the Sound. It is a slippery slope.

IN47-9

IN47-9 The potential that authorization of the proposed Project could serve as a precedent for further industrialization of the waters of Long Island Sound is addressed in Section 3.5.2.2 of the final EIS.

• The Race is a highly used and tricky part of Long Island Sound and this project will constrain the existing traffic.

IN47-10 There would be approximately 1,562 anchor footprints along the proposed 21.7-mile pipeline route. FERC commissioned a third-party assessment of Broadwater's proposed anchoring impact estimates. This technical assessment (Jaap and Watkins 2007) estimated that if mid-line buoys were used on all eight anchors, anchoring impacts (footprints, drag, and associated cable sweep) would total approximately 64.1 acres. As discussed in Section 3.3.1.2 of the final EIS, recovery of the disturbed area for the Broadwater pipeline corridor would be expected to initiate shortly after active construction and be complete from within a few months to up to 1 to 2 years (Newell et al. 1998).

• Neither the rights of Shell Oil, nor of anybody else, should be put above the rights of New York and Connecticut citizens' to use and enjoy the Sound.

• Broadwater would unfairly exclude citizens from portions of the Sound Environment

• The construction of this project's pipeline will move a tremendous amount of sediment, and, if previous pipeline applications are any indication, it

IN47-10

will produce thousands of barge anchor holes – each big enough to contain a large SUV – and potentially permanently change the layers of Long Island Sound sediment structures that have taken millions of years to form.

IN47-11 These issues are addressed in Sections 3.2.3.2 and 3.10.2.4 of the final EIS.

• Water Quality in the immediate area could be negatively affected by process water intakes and discharges, sewage wastewater treatment, stormwater runoff, liquefied natural gas spills, and any results of an onboard fire and fire suppression chemicals.

IN47-11

http://us.f603.mail.yahoo.com/ym/ShowLetter?box=Inbox&MsgId=7811_28116855_4568... 1/18/2007

IN47 – Philip Berns

Yahoo! Mail - cvdunson@yahoo.com

- IN47-12 [
 - Fisheries could be impacted by invasive species brought to Long Island Sound from the ballast water of the approximately 150 additional foreign tankers planned to service the industrial complex.
 - Fisheries, including juvenile fish and larvae, will be impinged or entrained from the intake of the 5.5-8.2 million gallons of Long Island Sound water used by the facility every day.
- IN47-13 [
 - All air emissions from the supplemental vessels, tankers, and any other Broadwater associated facilities must be considered in the assessment of air impacts.
- IN47-14 [
 - Broadwater would set an industrial precedent for future Long Island Sound development projects.
- IN47-15 [
 - Increases of water and sediment temperature from discharges and gas transport could have a negative impact on Long Island Sound inhabitants
 - The lobster disease that contributed to the lobster die-offs and the oyster diseases associated with the oyster die-offs have both been linked to increased water temperature.
 - Hypoxic conditions in Long Island Sound, a problem both states have been combating, are linked to increased temperatures.
 - The Sound is already a significantly stressed body of water. There may be cumulative impacts when the environmental effects of a single project combine with either temporary or permanent impacts associated with past, present or reasonably foreseeable future projects.
- IN47-16 [
 - In light of the Sound's troubled past, and when considered cumulatively, this project will have an unacceptable adverse impact on the Sound's future.
- IN47-17 [
 - Evening vistas will be ruined by Broadwater industrial lighting. It will continuously light up the night sky and could impact migrating birds.
 - Visual impacts from industrial facilities such as this one are important to consider. The hundreds of thousands of us who live or stroll along the Sound's shores, fish from its stocks, and boat on its waters, see Long Island Sound as a sanctuary - a way to seek refuge from the hectic clutter of our modern lives. The mere presence of a facility such as this will infringe upon that way of life. Economics
- IN47-18 [
 - Citizens could be forced to subsidize Broadwater's project - First

http://us.f603.mail.yahoo.com/ym/ShowLetter?box=Inbox&MsgId=7811_28116855_4568... 1/18/2007

- IN 47-12 As discussed in Section 3.2.3.2 of the final EIS, the LNG carriers would be required to exchange ballast water at least 200 nautical miles offshore, prior to entering Long Island Sound. LNG carriers would take in water from Long Island Sound to offset the LNG cargo that would be offloaded to the FSRU. Therefore, LNG carriers are not expected to discharge ballast water into Long Island Sound because they would arrive in Long Island Sound laden with cargo (see Section 3.2.3.2 of the final EIS). In the unlikely event that LNG carriers did discharge ballast water, the discharge would be conducted in accordance with federal and international regulations, including EPA's pending ballast water measures for foreign vessels, to be enacted in 2008, that are intended to minimize potential impacts of invasive species.
- IN47-13 Please see our response to comment FA2-7. Air emissions from all direct and indirect sources were considered and evaluated in Appendix K (General Conformity) of the final EIS. The General Conformity analysis indicates that all "Reasonably foreseeable emissions from direct and indirect sources associated with the construction and operation of the Project not subject to air permitting are considered in this analysis."
- IN47-14 Please see our response to comment IN47-9.
- IN47-15 As stated in Section 3.2.3.2 of the final EIS, discharges from LNG carriers and the FSRU would not increase the general water temperature of Long Island Sound. However, there would be limited water temperature increases in the immediate vicinity of the FSRU and berthed LNG carriers due to the discharge of cooling water from LNG carriers and the section of exposed riser that would connect the FSRU to the buried pipeline below the seafloor. Please also see our response to OC2-24.
- IN47-16 As described in Section 3.0 of the final EIS, the assessment provided in the final EIS recognizes the historical conditions of Long Island Sound and the recent efforts to improve the quality of the Sound. The Broadwater Project would be constructed and operated in accordance with the laws, regulations, and federal and state permitting requirements designed to protect the environmental quality of the Sound.

IN47-17 The visual impact of the FSRU at night is addressed in Section 3.5.6 of the final EIS. The Visual Resources Assessment used as a part of our analysis of the potential impacts to visual resources is available on the FERC docket for the Project; this document includes simulated night views of the FSRU. Although Broadwater has committed to providing down-lighting and other measures to minimize impacts, we have included a recommendation in Section 3.3.5 that Broadwater submit a detailed lighting plan for the FSRU. Section 3.3.5 of the final EIS has also been updated to discuss potential impacts to migrating birds from lighting.

IN47-18 Because the Coast Guard has not yet prepared a proposal for additional resources (see Section 8.4.2 of the WSR [Appendix C of the final EIS]), we cannot identify the funding source for the additional resources. If additional funding is required for the Coast Guard and results in a need for additional tax revenue, the additional tax would be a nationwide federal tax, not a local one. Section 3.10.6 of the final EIS describes the requirements of the Emergency Response Plan that Broadwater must prepare, including a Cost-Sharing Plan for both emergency responses and security activities that involve federal, state, and local agencies. If funding agreements cannot be developed to the satisfaction of the participating agencies and Broadwater, FERC would not authorize Project construction.

IN47 – Philip Berns

Yahoo! Mail - cvdunson@yahoo.com

Page 6 of 7

IN47-18

the Coast Guard's report found that additional resources, staff, and fire fighting capability are necessary to make Broadwater safe, and second, a federal and local cost sharing provision could make citizens responsible for footing a portion of the town's first responders' bill.

• Electric and gas efficiency programs are among the most cost-effective ways for New York and Connecticut to meet growing demand, to accomplish climate change emission reduction goals and to reduce energy bills. This means that investments in energy conservation will actually allow consumers like you and me to see reductions in our natural gas and electric bills.

Adequacy of the FERC DEIS

IN47-19

• The DEIS used questionable documents that have been superseded by better information.

IN47-20

• The DEIS is a fairly sloppy general overview of the geology of LIS by people who either didn't have knowledge or didn't take enough time to seek the best reference material in support of their arguments.

IN47-21

• There is neither statistical analysis nor quantitative data provided in the DEIS, and as such it is useless to make good predictions on impact and recovery.

IN47-22

• The DEIS does not provide sufficient facts to determine Broadwater's impact on Long Island Sound.

IN47-23

• The document was poorly researched and glossed over numerous issues using minimal literature, analysis or synthesis to reach its conclusion of minimal impacts.

IN47-24

• The DEIS is inadequate to determine the operation and impact of this facility. This was indicated by the 6 pages of detailed design questions that FERC still needed from Broadwater. Without the full design there can be no draft finding of "no significant impact."

IN47-25

• The Emergency Response Plan that impacts the citizens' financial liability and personal safety is not included in this DEIS, as such the public is unable to provide comment on that issue. It is unfair for citizens to not have an opportunity to comment on that Emergency Response Plan prior to the issuance of any permits to Broadwater.

http://us.f603.mail.yahoo.com/y/ShowLetter?box=Inbox&MsgId=7811_28116855_4568... 1/18/2007

IN47-19

The final EIS has been expanded to incorporate recent field studies, literature, and technical input from academia; organizations; the public; and federal, state, and local agencies.

IN47-20

In general, the detail included in an EIS regarding a particular resource is strongly correlated with the potential that the resource either will affect or be affected by a proposed project. Section 3.1.1.1 of the final EIS has been updated to incorporate the most appropriate geological information available for Long Island Sound as it relates to the proposed Project.

IN47-21

Per NEPA guidelines, the final EIS was written to be understood by the layperson. For those interested in additional data and analyses, extensive supporting information is available on the public docket for the Broadwater Project on the FERC website (www.ferc.gov, Docket No. CP06-54-000).

IN47-22

The final EIS presents the most current information pertinent to assessing potential impacts of the proposed Project.

IN47-23

Please see our responses to comments IN47-19, IN47-20, IN47-21, and IN47-22.

IN47-24

The purpose of the EIS is to assess potential impacts to the environment. The specific design criteria mentioned are related to the detailed engineering of the proposed Project and would not be expected to measurably influence the potential environmental impacts during Project construction or operation.

IN47-25

As stated in Section 3.10.6 of the final EIS Broadwater would be required to develop an Emergency Response Plan in consultation with the appropriate federal, state, and local agencies. The plan would include a Cost-Sharing Plan to provide funding for agency participation in emergency response actions and would need to be approved by FERC before Broadwater could receive approval to begin construction.

IN47 - Philip Berns

Yahoo! Mail - cvdunson@yahoo.com

Page 7 of 7

Philip Berns
Attorney-at-Law/City Representative
[1150 Bedford St. - use P.O. Box]
P.O. Box 1221
Stamford, CT 06904-1221
tel: 203 324 2133
fax: 203 602 0044

http://us.f603.mail.yahoo.com/ym/ShowLetter?box=Inbox&MsgId=7811_28116855_4568.. 1/18/2007

ORIGINAL

FEDERAL ENERGY REGULATORY COMMISSION

BROADWATER LNG PROJECT (CP06-54-000 AND CP06-55-000)

FILED
OFFICE OF THE
SECRETARY

2007 JAN 24 P 1:42

FEDERAL ENERGY
REGULATORY COMMISSION

DRAFT ENVIRONMENTAL IMPACT STATEMENT
COMMENT FORM

<p>Comments may be left at the FERC table or mailed to the FERC:</p> <p>If you prefer to mail your comments, please send an original and two copies of your comments to:</p> <p>Margalie R. Salas, Secretary Federal Energy Regulatory Commission 888 First St., N.E., Room 1A Washington, DC 20426</p> <p>Reference Docket Nos. CP06-54-000 and CP06-55-000 on the original and both copies, and label one copy of your comments for the attention of the Gas Branch 3, DG2E.</p>	<p>Comments may be submitted to the FERC via the internet on the FERC's website:</p> <p>See the instructions at http://www.ferc.gov under the "e-Filing" link and the link to the User's Guide. Prepare your comments in the same manner you would if you were providing a letter and save the comments to a file on your hard drive. Before you can submit comments you will need to create an account by clicking on "Sign-up" under "New User?" You will be asked to select the type of submission you are making. This submission is considered a "Comment on Filing."</p>
--	--

COMMENTS (PLEASE PRINT) –additional space on opposite side of page

To whom it may concern

PLEASE RECONSIDER THE ENVIRONMENTAL AND SOCIAL IMPACT OF THE BROADWATER PROJECT AS THERE IS STRONG OPPOSITION TO THIS PROJECT BY RESIDENTS/CITIZENS OF CONNECTICUT AND NEW JERSEY. ENVIRONMENTAL IMPACT STATEMENTS SHOULD BE PREPARED BY AN INDEPENDENT PARTY AND NOT BE SUBJECT TO THE INFLUENCES OF CORPORATE AGENCY AND OR EXTRA-LOCAL INTERFERENCES. WE AS CITIZENS OF THIS STATE AND COUNTRY, WE HAVE RIGHTS THAT SHOULD SUPERSEDE THIS CORPORATE "PROJECT"

IN48-1

IN48-1

In accordance with NEPA, this EIS has been prepared at the direction of the Lead Agency. For this proposed Project, the Lead Agency has been FERC. We have received technical input from a wide range of experts representing academia; organizations; the private sector; the public; and federal, state, and local agencies. Designated cooperating agencies that assisted in the preparation and review of this EIS included the Coast Guard, the Corps of Engineers, the EPA, NOAA, and NYSDOS.

Commentor's Name and Mailing Address (Please Print Clearly)

JASON MANCINI
61 HASTENHART RD.
NORTH STAMFORD CT 06359

IN49 – Roger D. Flood

Unofficial FERC-Generated PDF of 20070126-0094 Received by FERC OSEC 01/24/2007 in Docket#: CP06-54-00

ORIGINAL

Roger D. Flood
101 Van Brunt Manor Road
East Setauket, NY 11733
January 22, 2007

2007 JAN 24 A 11:30
2007 JAN 24

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

Docket No. CP06-54

Dear Secretary Salas:

I am unsure about the details of the technical evaluation process for the LNG structure being proposed for Long Island Sound by Broadwater Energy LLC under CP06-54, but there are several important questions that remain unanswered or unaddressed about the environment in which this structure is to operate. I am a faculty member in the Marine Sciences Research Center at Stony Brook University as well as a resident of the Village of Poquott which abuts Port Jefferson Harbor. I am thus interested in the project on both professional and personal grounds.

Ocean Currents: Table 11-9 in Resource Report 11 lists the design criteria of the YMS. The design criteria for tidal currents is less than 0.45 m/s (0.9 knots) for 99.5% of the time. Tidal currents are not like other environmental parameters (such as wave height or wind gusts that are event related) because maximum tidal current values will occur twice a day in Long Island Sound, with stronger currents during spring tides. Thus it is very likely that the 99.5% value will regularly be exceeded and the YMS and FRSU will need to be designed for stronger currents. Commercial navigation software suggest that maximum tidal currents at the site of the YMS are about 0.6 m/s (1.20 knots). Also, currents in Long Island Sound are the result of both tides and winds. Models of Long Island Sound circulation that use measured winds and pressures to calculate currents, and current measurements themselves, have shown that surface currents of nearly 0.8 m/s (1.6 knots) are common at the YMS, with several hours of flow over 0.9 knots occurring on many tidal cycles. If the maximum current being used to design the terminal and mooring system is indeed 0.9 knots, then it is considerably less than the maximum likely current.

The observation that actual current speeds are higher than those used to design the YMS and FRSU system has several consequences for the YMS and FRSU design and operation. First, the FRSU is designed to pivot around the YMS in response to the prevailing wind, wave and current conditions. During storm conditions the winds, waves and currents probably won't align. The FRSU (with attached LNG tanker) will align at some angle to the wind, waves or current, and drag forces will be somewhat larger than if the wind, waves and current were aligned. The FRSU will have electric thrusters to help control the FRSU alignment during LNG tanker docking. These thrusters may also be

IN49-1 Section 3.10.2.3 of the final EIS has been revised to provide additional information on the design issues raised by the commentator.

IN49-1

IN49-2 needed to align the FRSU for minimum drag when wind, waves and current don't align. The FRSU may also need propulsion units to counter the currents when drag is above the design criteria. Second, Table 3.1-4 (p 57, Appendix D, Draft EIS) lists 0.9 knots as the operational limit for LNG vessel approach, side-by-side mooring, and departure. It is not clear whether "side-by-side mooring" refers to the act of tying up the LNG tanker or the state of the LNG vessel being tied along side the FRSU. However, it is stated that each LNG tanker will be alongside for about 25 hours while cargo is unloaded. Available model results suggests that at many times currents may not fall below 0.9 knots for 25 hours in a row, perhaps for more than a week at a time. Perhaps the FRSU and YMS systems need to be redesigned to withstand currents that could be up to at least twice the present design limits. There will also need to be an environmental model predicting currents at the FRSU site so that LNG Tanker arrival can be scheduled to occur during intervals of low current.

IN49-2 Section 3.10.2.3 of the final EIS has been revised to provide additional information on the design issues raised by the commentor, including design loads with a berthed LNG carrier.

IN49-3

IN49-4 Earthquakes: Report 6 discusses several earthquakes that have occurred in Connecticut and several earthquakes that have occurred in upstate New York that have caused some damage. The report doesn't mention two earthquakes that occurred within the last 26 years to the east and southeast of the FRSU site. A magnitude 3.5 earthquake occurred in Long Island Sound on October 21, 1981, about 25 miles east of the proposed FRSU site. A magnitude 4.1 earthquake occurred near Sag Harbor, LI, on March 10, 1992, about 50 miles east of the proposed FRSU site. Both earthquakes were felt on land, were reported in the newspapers, and are in the current USGS earthquake catalog. The 1992 earthquake at Sag Harbor was originally given a magnitude of 2.8 and reported to have occurred south of Long Island, but its magnitude was revised to 4.1 and its location was finalized near Sag Harbor (<http://www.bc.edu/research/westonobservatory>). A local newspaper article describes damage caused by the 1992 Sag Harbor earthquake, including cracked plaster, cracked concrete steps and dislodged marble tiles. Based on this information, the earthquake probably should be given a Mercalli magnitude of IV to VI. Weston Observatory has produced a map showing where an earthquake of magnitude 2.7 or above is likely in the northeast, and the YMS site falls within one of these areas of likely earthquake activity. The Draft EIS suggests that pipelines can withstand the dislocation caused by small earthquakes, but it is unclear whether a nearby earthquake will cause sediment failure when the pipeline is in place. Without more extensive analysis of sediment characteristics or YMS dynamics so close to an earthquake (even though possibly a small earthquake), it seems prudent to insist that all of the structures and pipelines be designed to resist damage from a nearby earthquake, including sediment failure.

IN49-3 Section 3.10.2.3 of the final EIS has been revised to provide additional information on the design issues raised by the commentor.

IN49-4 Section 3.1.1.3 of the final EIS has been updated to include additional information regarding earthquakes in the Long Island Sound area. The potential for liquefaction is a function of both material type and earthquake size. Section 3.1.1.3 of the final EIS includes a recommendation that Broadwater (1) determine the potential for seismic soil liquefaction beneath the YMS; and (2) file with FERC the survey results quantifying the potential for liquefaction, including any mitigation measures or design features necessary to minimize or preclude the potential for damage to the YMS.

IN49-5 Tanker Approaches to Long Island Sound: The Draft EIS presents two tanker routes to the FRSU site: one north of Block Island and one between Block Island and Montauk Point. The approach to Long Island Sound between Block Island and Montauk Point is presently limited to vessels with draft less than 38 feet, and Figure 3.7-3 suggests that few tracked vessels actually used this route at the present time. LNG tanker use of this route is likely to substantially increase large vessel traffic in this area. The larger LNG tankers are expected to have drafts of 39 feet when fully loaded. Will the larger LNG tankers be sent only partially full so that this route can be used? Will routine use of this

IN49-5 As stated in Section 3.7.1.3 of the final EIS, the Montauk Channel route would be an alternate route, and vessels with a draft greater than 38 feet would not be permitted to transit that route (also see Section 2.3.3 of the WSR [Appendix C of the final EIS]). The Montauk Channel route would be used only for suitably-sized LNG carriers under suitable conditions.

IN49 – Roger D. Flood

Unofficial FERC-Generated PDF of 20070126-0094 Received by FERC OSEC 01/24/2007 in Docket#: CP06-54-00

IN49-6 route for LNG tankers result in future dredging, deepening or sweeping of this route? Also, the proposed LNG tanker routes pass close to The Peconic Estuary, one of 28 estuaries in the National Estuary Program (NEP). The 7550-yard LNG Hazard Zone extends into the Peconic Estuary, and Suffolk County is in the process of defining an aquaculture leasing plan for the Estuary.

IN49-7 Boundary of the New York territorial sea: A number of figures in the Draft EIS incorrectly show the limits of the New York territorial sea. The boundary essentially extends north from a point three miles east of Montauk rather than slanting towards the north-northeast. An accurate representation of this boundary is necessary for proper planning. A shape file of the State-Federal boundary can be found at <http://chartmaker.ned.noaa.gov/csd1/mbound.htm>.

IN49-8 Pipeline Burial: As is noted in the Draft EIS, several of the pipelines previously installed in Long Island Sound have not been properly buried and as a result are easily located from any surface ship equipped with an echosounder. Data we have collected also show an unburied pipeline in Long Island Sound, and I agree with the comment in the Draft EIS that the natural backfill models proposed by Broadwater Energy LLC are not applicable to Long Island Sound. The pipeline needs to be backfilled to protect it from accidental or intentional damage and the surface needs to be left smooth to make it more difficult to identify the precise location of the pipeline.

IN49-9 Heliport: The Draft EIS notes that the heliport on the FRSU is to be permitted for emergency use only, although many details have not yet been decided. There is already considerable low-flying, noisy helicopter traffic over Long Island and any helicopter flights to/from the FRSU would add to that burden. The nature of the emergency needs to be better defined, and only flights related include medical emergencies should be allowed. This should also apply to any heliports on LNG tankers.

Port Jefferson Harbor: The Onshore Facilities Resources Report notes that "Port Jefferson Harbor also is an important potential shellfish producing area, but shellfish harvesting is prohibited or restricted in much of the harbor, including the area surrounding the Port Jefferson site." While this sentence is correct, it also needs to be noted that large areas of Port Jefferson Harbor are essentially open to shellfish harvesting from November 1 to April 30 and as such the harbor is an important commercial and recreational resource (<http://www.dec.state.ny.us/website/regs/part41b.html#008>).

Please let me know if I can provide additional information about these comments.

Sincerely,


Roger D. Flood

3

IN49-6 In the final EIS, we have provided information within each resource section in Section 3.0 on the potential impacts associated with the transit of LNG carriers along the proposed routes.

IN49-7 The figures in the final EIS depict the state boundary lines rather than the 3-nautical-mile boundary lines. The limit of the territorial sea is essentially 12 nautical miles from the shoreline, as depicted in Figures 3.2-1 and 3.2-2 of the WSR (Appendix C of the final EIS).

IN49-8 As described in Section 3.1.2.2 of the final EIS, the pipeline trench would be backfilled and monitored following construction based on backfilling methods and success criteria established in coordination with federal and state resource agencies.

IN49-9 Section 2.4.1 of the final EIS has been revised to describe the proposed use of the helipad in emergency situations.

IN50 – Elizabeth Raisbeck

Unofficial FERC-Generated PDF of 20070126-0284 Received by FERC OSEC 01/23/2007 in Docket#: CP06-54-00

ORIGINAL

January 18, 2007

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

Re: Broadwater Energy Docket Nos. CP06-54-000, CP06-55-000, and CP06-56-000

Dear Secretary Salas:

I am writing as a citizen who lives within a half block of Long Island Sound to request that FERC deny a permit to the Broadwater Project. The proposed LNG terminal in the middle of Long Island Sound will be a serious hazard to an estuary of national significance that contributes \$5.5 billion to the regional economy every year. We are already spending millions to clean up Long Island Sound, millions that will have been wasted if you allow this environmentally damaging project to go forward. Furthermore, the waters of Long Island Sound are held in public trust and cannot be sold off to private entities.

There are far more cost-effective ways to increase our energy supply than putting this most expensive fuel source in the middle of Long Island Sound. A full exploration of these alternatives should be explored in the Environmental Impact Statement before a decision is made.

Sincerely,

Elizabeth Raisbeck
Elizabeth Raisbeck
81 Main Street
Groton, CT 06340

Cc: Honorable Eliot Spitzer, Honorable Jodi Rell

FILED
2007 JAN 23 P 3:56
COMMERCIAL DISTRICT

IN50-1 []
IN50-2 []
IN50-3 []

- IN50-1 FERC, along with input from cooperating agencies, has included multiple conditions in the EIS that Broadwater must comply with in order to proceed with the Project, if it is authorized. We have determined that with the implementation of these conditions, construction and operation of the Project would not significantly impact the existing environment of Long Island Sound.
- IN50-2 NYSOGS is responsible for issuing easements for use of underwater lands of Long Island Sound that are in the State of New York. As described in Section 3.5.2.2 of the final EIS, the proposed Project would not represent the first time the waters of the Sound would be used for private purposes. Commercial and industrial structures in or under offshore waters of the Sound include cable crossings, natural gas and petrochemical pipelines, and two petrochemical platforms. Section 3.5.7.4 of the final EIS addresses environmental issues associated with the Public Trust Doctrine. However, legal issues related to public trust lands are not a component of our environmental review process and therefore are not included in the final EIS.
- IN50-3 Section 4.0 of the final EIS evaluates a wide variety of alternatives to the proposed Broadwater Project and concluded that they could not provide similar volumes of natural gas or energy equivalents to the New York City, Long Island, and Connecticut markets with less environmental impact than the proposed Project. These alternatives include energy conservation; renewable energy sources, including wind and tidal power; and other existing and proposed LNG terminal and pipeline projects.

IN51 – Douglas Hill

Unofficial FERC-Generated PDF of 20070126-0284 Received by FERC OSEC 01/23/2007 in Docket#: CP06-54-00

ORIGINAL



DOUGLAS HILL, ENG.Sc.D., P.E.

18 January 2007

15 ANTHONY COURT
HUNTINGTON
NEW YORK 11743-1327
U.S.A.
TELEPHONE 631-421-5544
TELEFAX 631-421-2999

Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First St., N.E., Room 1A
Washington, DC 20426

Attention: Gas Branch 3, PJ-11.3 (one copy)

Reference: Docket Nos. CP06-54-000 and CP06-55-000, Broadwater LNG Project

Dear Secretary,

I am pleased to have this opportunity to comment upon the Draft Environmental Impact Statement, *Broadwater LNG Project*.

As an engineer and energy analyst, I can appreciate the encyclopedic DEIS, which provides a wealth of relevant information on the environmental suitability of the proposed LNG terminal. In particular, the DEIS responds well to the principal issues raised by those opposing the project on Long Island, who seem oblivious to the present and emerging energy needs of this region. These dubious issues include the so-called "industrialization" of Long Island Sound, the exaggerated visual impact, and the findings of the ingenious report by Synapse Energy Economics, Inc.

However, the purpose of an EIS is, among other things, to identify potential *beneficial* environmental impacts, as you state at the outset. Although the draft is replete with comparisons that show that alternatives to the Broadwater project would have worse effects, I find no explicit statement of the project's benefits.

The essential benefit of the Broadwater LNG terminal is that it will replace additional imported oil.

I must therefore question the vacuous statement that in the absence of the Broadwater FSRU, "the region's increasing energy demands would not be met" (pp. ES-16, 5-15). This suggests that electric power plants would come to a halt, houses would not be heated, etc. The region's energy demands will be met, and without an abundant supply of natural gas undoubtedly in a way that is far worse for the environment.

You describe the situation more precisely under Alternative Energy Sources:

...The area likely would experience a shortage of natural gas for power generation if the Broadwater Project, or a similar new-source project, is not implemented. These shortages could in turn lead to an increased reliance on fuel oil and other non-renewable fuel supply sources for power generating facilities (p. 4-3).

This is clearly evident on Long Island, where three-quarters (2,045 MW) of KeySpan's steam turbines are dual-fuel. These can be switched overnight between natural gas and oil, depending upon fuel availability and comparative price. Switching from natural gas to oil has a number of adverse environmental effects:

2007 JAN 23 P 3 38

IN51-1

IN51-1 The statement from the EIS quoted by the commentator is referring to the region's increasing energy demands, not the current uses of energy.

IN51 – Douglas Hill

- We will depend more on imported oil, with its economic and national security penalties.
- Local air quality would be worse due to the emission of more air pollutants from oil, such as NO_x, SO₂ and mercury.
- There would be more oil traffic from numerous small tankers in Long Island Sound, with greater likelihood of oil spills. These spills would likely be close to shore where, as you point out, the ecological consequences are more serious than in the middle of the Sound. The spilled oil would persist for months, not evaporate like natural gas.
- Most important of all, in my view, the carbon dioxide emissions from these plants would increase by 30 percent overnight.

IN51-2

Your report barely mentions (only p. 4-47) greenhouse gas emissions. It does not emphasize the advantages of natural gas as an immediate substitute for oil to reduce carbon dioxide emissions. This can be seen in the following table:

Fuel	EPA/AP 42 lbCO ₂ /MMBtu	ibC/MMBtu	Ratio
Coal	5,510-6,250	68-77	1.4-1.6
Oil*	25,000 lbCO ₂ /thsd gals	47	1.0
Natural gas	120,000 lbCO ₂ /MM scf	32	0.7

* Low sulfur No. 6

Switching the 2,045 MW of KeySpan steam turbines from oil to natural gas is the equivalent of replacing 613 MW – that is, 30 percent – with renewable energy. Compare this with the 140 MW wind farm south of Long Island planned by the Long Island Power Authority. Taking into account their relative availability (on the order of 80 percent for fossil-fired generators and 25 percent for wind turbines), it would take about 13 such wind farms to achieve eventually the reduction in carbon dioxide emissions that switching from oil to natural gas accomplishes overnight.

The advantages of a copious supply of natural gas to the region are not limited to electricity generation, of course. As you note, the residences and businesses on eastern Long Island continue to run on oil in the absence of service by natural gas. The use of natural gas to replace gasoline and fuel oil in vehicles can be greatly expanded.

IN51-3

Ideally, to demonstrate the *benefits* of the Broadwater LNG terminal, there should be a side-by-side comparison of its environmental impacts, quantified to the extent possible, with those of an equivalent amount of additional imported oil.

Finally, a few minor points:

IN51-4

You say that the Broadwater FSRU, seen from 9 miles away, would appear to be the size of paper clip at arm's length (p. ES-13). If you check your numbers, I think that you will find that the 1,215 foot length at 9 miles subtends an angle that is 0.6 inches wide 2 feet away. This is *half* the size of a standard inch-and-a-quarter paperclip. If you hold up your thumb at arm's length, it is about the size of your thumbnail.

IN51-2

Section 3.9.1 of the final EIS has been updated to discuss the potential air quality benefits of the Project over reasonably foreseeable projects using fuels other than natural gas to meet energy demands. Please see our response to comment OC1-64 regarding greenhouse gas emissions.

IN51-3

Thank you for your comment. While we believe that natural gas provides an important alternative to imported oil, we believe that a quantitative side-by-side comparison of the two would be speculative for the purposes of this EIS.

IN51-4

The commentor is correct. In attempting to relate the FSRU appearance to a common, universally recognizable object (a paper clip held at arm's length), we slightly overstated the relative size of the FSRU to an observer located on the nearest shoreline (9 miles away).

IN51 – Douglas Hill

Unofficial FERC-Generated PDF of 20070126-0284 Received by FERC OSEC 01/23/2007 in Docket#: CP06-54-00

IN51-5

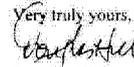
The following terms need to be added to the list of acronyms and abbreviations:

FRU feedgas receiving unit
GBS gravity-based structure
SRV shuttle and regasification vessel

The Long Island region has for a long time been able to take advantage of its coastal location to import oil rather than to use coal to meet its energy needs. The world situation, both as regards the climate and national security, makes it urgent that we now take advantage of our coastal location to import natural gas in preference to oil.

I hope that the factual information presented in the Broadwater environmental impact statement will prevail over the local NIMBY hysteria and demagoguery so that this region is provided with the natural gas it will surely need in great quantity.

Thank you for this opportunity to comment on the DEIS.

Very truly yours,

Douglas Hill

cc: Steve Levy, Suffolk County Executive
Jon Cooper, Suffolk County State Legislator

Dr. Douglas Hill, P.E.

Douglas Hill is a professional engineer registered in New York State. As an energy analyst, he was for 25 years associated with the Energy Technology Systems Analysis Program of the International Energy Agency, initially representing the United States on the project at Brookhaven National Laboratory, then as project head, and subsequently as a consultant. This project developed the MARKAL model, now widely used around the world, for projecting energy futures according to the availability, cost, efficiency, and operational characteristics of existing and anticipated new technologies for acquiring, transporting, using and saving energy. In 1994, together with analysts from Brookhaven Lab and (then) New York State Energy Office, he used MARKAL to project energy futures for New York State, assuming various future restrictions on carbon dioxide emissions. The results indicated the relative importance of conservation, renewables, nuclear power and switching from coal and oil to natural gas in reducing future carbon dioxide emissions. (See D. Hill (ed.) *The Baked Apple? Metropolitan New York in the Greenhouse*, Volume 790, Annals of the New York Academy of Sciences, 1996, pp. 139-150.) In 1991, Dr. Hill was co-author of the *Long Island Energy Plan* prepared for the Long Island Regional Planning Board.

IN51-5 Thank you. The Acronyms and Abbreviations section of the final EIS has been updated to include definitions of FRU, GBS, and SRV.

IN52 – Catherine H. Smith

Unofficial FERC-Generated PDF of 20070126-0284 Received by FERC OSEC 01/23/2007 in Docket#: CP06-54-00

ORIGINAL

90 Foote Hill Road
Northford, CT 06472

2007 JAN 23 P 3 14

January 17, 2007

Margie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, DC 20426

Re: Docket Nos. CP06-54-000, CP06-55-000 and CP06-56-000

Dear Ms. Salas:

I am writing to express my strong opposition to the placement of the Shell's Broadwater and Broadwater Pipeline proposals within the waters of the Long Island Sound. The Sound is critical for many transportation, recreational and environmental uses and the Broadwater proposal threatens each.

Long Island Sound is our regional heritage and a national treasure. It is valued by the citizens of New York and Connecticut and no portion of its waters should be handed over for the exclusive benefit of one private entity. Although the Draft *Environmental Impact Statement (DEIS)* by the Federal Energy Regulatory Commission (FERC) states that Broadwater could cumulatively affect water quality, marine and visual resources, air quality and marine transport, Broadwater continues to be supported by industry.

IN52-1
IN52-2

In addition, I believe the Broadwater project is unnecessary. Our region's actual needs are very specific – we have and will continue to have enough gas on all but the peak demand days of the year (a few during the winter), so, in our energy planning, we need to focus on facilities designed for those peak periods; Broadwater is not designed to help with these peak problems. Synapse Energy Economics has concluded that over the next decade, we can save enough energy in New York and Connecticut through efficiency and renewable investments to more than offset predicted increases in natural gas use.

In summary, we have better alternatives which would be less impactful on the environment and less restrictive on other uses of the Sound. I urge you to reject this proposal.

Sincerely,


Catherine H. Smith

IN52-1

Based on the studies referenced in Section 1.1 of the final EIS, we have concluded that the markets targeted by the proposed Project (Long Island, New York City, and Connecticut) have a need for additional gas supplies, not just in times of peak demand but throughout the year. The proposed Project is specifically designed to service these markets.

IN52-2

Section 1.1.5.4 of the final EIS addresses the Synapse report. As noted in that section, although we agree that the proposed solutions to the long-term energy needs of the region presented in the Synapse report are conceptually sound, they are not practical because they would require major (currently unidentified) commitments of capital for development of renewable resource energy projects and a major commitment by energy users to change use habits, including financial commitments to replace existing equipment. We do not believe it is appropriate to presume that these commitments would develop at the appropriate magnitude or in the necessary timeframe to replace the energy potential associated with the proposed Project.

IN53 – Christopher Zurcher

nonofficial FERC-Generated PDF of 20070126-0090 Received by FERC OSEC 01/18/2007 in Docket#: CP06-5

ORIGINAL

Christopher Zurcher
106 Broad St. #2
Meriden, CT 06450
(203) 364-8523
czurcher@cfenv.org

FILED
OFFICE OF THE
SECRETARY
2007 JAN 24 P 4:33
FEDERAL ENERGY
REGULATORY COMMISSION

Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First Street, NE
Washington, D.C., 20426

Re: Broadwater Energy Docket Nos. CP06-54-000, CP06-55-000, and CP06-56-000

To Whom It May Concern:

When I first heard about Broadwater I thought, "No way." The more I hear from FERC about Broadwater, the more I think, "No way! How can they say that?"

I realize you are part of this Bush administration, but that shouldn't preclude anyone from doing the right thing. And we all know what the right thing is.

IN53-1

You know as well as anyone, and just as energy consultants Synapse from Cambridge have shown, energy conservation and improved energy efficiency is the answer. And those things already exist, i.e. we don't have to destroy an Estuary of National Significance to have those things.

IN53-2

It was our very own Congress that designated Long Island Sound a national treasure. How can FERC go against our own Congress? I don't think that just because big energy is involved that that would justify going against our own Congress, would it?

IN53-3

As someone who calls Connecticut home, I ask that you deny the Shell's application to build Broadwater. It would negatively affect the ecology of Long Island Sound and set a dangerous precedent by allowing the whoring of a portion of this public trust.

IN53-4

I suggest you take another look at alternatives and a slew of other things and rewriting the DEIS realistically.

You're not playing with a bunch of dumbbells, you know. And neither is Shell.

Don't delay the implementation of real solutions we knew about long before Broadwater came along. Don't make a decision that will increase our dependence on foreign fossil fuels.

Most of all, PLEASE DON'T DESTROY MY LONG ISLAND SOUND AND SHORELINE.

Sincerely,

Christopher Zurcher
106 Broad St. #2
Meriden, CT 06450
(203) 364-8523

Cc:

The Honorable Eliot Spitzer
Executive Chamber
State Capitol
Albany, NY 12224

The Honorable M. Jodi Reil
Office of the Governor
State Capitol
210 Capitol Ave.
Hartford, CT 06106

IN53-1 We recognize that measures to reduce demand for electricity and natural gas have been undertaken and will continue in the future. However, as discussed in Section 1.1 of the final EIS, the demand for electricity and natural gas is expected to increase in the region even with those measures. As reported in the final EIS, we have determined that the Project would have limited impacts if constructed and operated with the mitigation measures we have recommended and would not "destroy" Long Island Sound.

IN53-2 As described in Section 3.5.7.2 of the final EIS, implementation of the proposed Project would not be in conflict with the designation of Long Island Sound as an estuary of national significance.

IN53-3 As stated in Sections 3.2.3 (water resources), 3.3.1.2 (benthic resources), 3.3.2.2 (fisheries), 3.3.3 (fisheries of special concern), 3.3.4.2 (marine mammals), 3.3.5.2 (avian species), and 3.4 (threatened and endangered species) of the final EIS, construction and operation of the Project, as proposed by Broadwater, would result in a minor environmental impact; and impacts to resources would be avoided or further minimized with incorporation of our recommendations.

IN53-4 Section 4.0 of the final EIS addresses a wide spectrum of reasonable alternatives and has been prepared in compliance with NEPA regulations and CEQ implementation requirements and guidelines. Although it would be technically feasible for many of the alternatives reviewed to provide gas to the region, the infrastructure improvements required to transport the gas would result in environmental impacts that would be greater than those of the proposed Broadwater Project.

IN54 – Pat Lunden

Pg 1 of 3

CP 06-54-000 AND CP06-55-000

IN54-1 [This letter is to request you reconsider your decision to approve the application of Broadwater energy to install and operate a FSRU in the waters of Long Island Sound. The proposed facility will adversely impact the environment of the sound, both for the marine life within it and for the human life that bonds and interacts both above and below its waters recreationally and commercially. Projects of a lesser magnitude have been rejected for their potential impacts. Your own assessments acknowledge there will be impacts but dismiss them all as minimal or insignificant yet note that you do not know with certainty how or what might occur. It seems not enough time, effort, or research has been undertaken to get a true sense of the potential consequences of such such an undertaking as this. Going forward with this project also suggests a sense of omnipotence or a total disregard for the will of the people. The public and its elected officials have united in a bipartisan effort to make clear our rejection of this proposal. Additionally, this project even if fully implemented will not diminish our nations or our regions dependence on foreign fuels. The project is a potential disaster for the sound. It is not wanted and should not be authorized to go forward. There are alternatives. They need to be reconsidered. This is not the best choice for our region and is completely inappropriate for Long Island sound, an Estuary of National Significance.

IN54-2 [

IN54-3 [

IN54-4 [

IN54-5 [Please reconsider and reject this installation!

IN54-1

The Commission is in the process of reviewing Broadwater's application for the proposed Project. It has not made any decisions on the Project and will not do so until after this final EIS is issued and we have considered all relevant information in the record.

IN54-2

The analysis of impacts presented in the final EIS was prepared by experienced scientists, engineers, and planners, including the input of experts at the cooperating agencies. Our analyses are based on a thorough understanding of existing conditions in the Project area and relevant aspects of the Project. If the Project is implemented, we have included recommendations in the final EIS for monitoring that would either verify our assessment of impacts or result in additional mitigation requirements or other corrective actions.

IN54-3

Our assessment of the potential impacts of the proposed Project began in November 2005, when Broadwater requested that FERC initiate the pre-filing process. From that time until issuance of this final EIS (more than 2 years), the scientists, engineers, planners, and others who prepared this final EIS conducted site inspections; reviewed a large volume of relevant literature (see Appendix B of the final EIS); and discussed the Project and its potential impacts with local experts, including experts at the cooperating agencies. After we issue the final EIS, the Commission will decide whether to authorize the Project, after considering all relevant issues and the information in the record.

IN54-4

Section 4.0 of the final EIS evaluates a wide variety of alternatives to the proposed Broadwater Project and concluded that they could not provide similar volumes of natural gas or energy equivalents to the New York City, Long Island, and Connecticut markets with less environmental impact than the proposed Project. The alternatives we considered included energy conservation, renewable energy sources, and other existing and proposed LNG terminal and pipeline systems.

IN54-5

Please see our response to comment IN54-1.

CP06-54-000 AND CP06-55-000

Throughout the DEIS there was the frequent use of vague terms which give little insight into the true nature of the subjects being discussed. I will cite only one example and ask you to respond to it and consider the point for the entire DEIS.

Executive Summary page 9 - "Operation" Paragraph 3+4 discussed Soundwater usage in the operation. It states two uses, Ballast and Cooling. It does not state what amount of the millions of gallons per day are for cooling. It states that cooling water will be treated with a "Biocide," but does not state what biocide. Is it Chlorine? If so, isn't that a class 8 corrosive hazardous material? What ratio of water to biocide will be utilized? Since the installation is a fixed location, what will be the effect of this daily discharge of this Haz/Biocide/water on the vicinity? Will it create a "dead zone" in the sound? The statement refers to a relatively small discharge. What is relatively small? The statement continues saying you anticipate (not sure but anticipate) the discharge would meet NYS water quality standards for thermal discharges into estuaries. You need more information. Finally you state "impacts to water quality would be minor but would occur for the life of the project". What is minor? What would be the collective effect of 20 plus years of "minor" impacts on that fixed portion of the sound. This is unacceptable.

An additional note, 9 miles out into an 18 mile wide estuary is not "open water"

IN54-6

IN54-6

The Executive Summary is intended to highlight the key findings of the EIS. For additional details on the specific water use and impacts to water quality, refer to Section 3.2 of the final EIS.

CP06-54-000 AND CP06-55-000

As a resident of L.I. I reject this proposal. I am not a scientist but do not believe you need to be one to recognize the potential for damaging this valued resource of ours.

This letter could easily be 50 or 60 pages questioning and citing the lack of truly substantial information contained in the DEIS. I expect many have written such letters and will not duplicate them. I will reiterate that it seems your research was short in nature, perhaps outdated, at times too broad, others too narrow. It neglects many issues that need to be addressed and as such should be undertaken again, collaboratively with area scientists, scholars, environmental groups, etc. This should be done with the intent of discovering facts, not just building an argument to justify your position. In doing so, explain yourselves. Give the data, share the information so everyone can make an informed decision. Reading the DEIS it is impossible to know where FERC's thresholds are for what is acceptable! Just how

IN54-7

IN54-8

IN54-9

IN54-10

severe does the destructive nature of an event or a process need to be before FERC will consider it unacceptable?

How many mitigating factors can dismiss adverse impacts or threats. The failure of FERC to provide provide hard supportable documentable data diminishes its credibility.

The DEIS almost reads like a parent speaking to a child. You know best and you believe everything will be OK and we should not concern ourselves but rather just go about our

lives without questioning your authority or conclusions. Everyone makes mistakes. FERC needs to recognize theirs and go back and investigate the true nature of this proposal's impacts.

Please Reject this proposal.

Pat Lunden

IN54-7

Portions of the concern raised in this comment have been addressed in responses to comments IN54-2 and IN54-3. Further, we prepared the EIS in accordance with the requirements of NEPA and the FERC and CEQ guidelines. As such, the EIS is intended to be a summary of information we considered and understandable to the general public. Detailed data and other information we used in our analysis are available to the public either (1) in the Project record and filed in the docket for the Project (Docket No. CP06-54); or (2) in publicly accessible documents that we have cited in Appendix B of the final EIS. In addition, the introduction to Section 3.0 of the EIS provides our definition of impact levels and durations. Through our NEPA scoping process and with the assistance of scientists and engineering staff affiliated with our five cooperating agencies, all of whom are based in New York or Connecticut, we believe that we have collaborated with area scientists, environmental professionals, and scholars in preparing this EIS.

IN54-8

The final EIS identifies the environmental impacts that are likely to occur. In our environmental analyses of projects, we recommend either design changes or mitigation measures to eliminate or reduce impacts, particularly if we initially determine that an impact would be significant. If we cannot reduce an impact below the "significant" level, we identify that in the project's EIS; and the Commission decides whether that level of impact is acceptable based on consideration of all the issues associated with the project.

IN54-9

Please see our responses to comments IN54-7 and IN54-8.

IN54-10

We prepared and circulated the draft EIS to provide the public with the opportunity to comment on our environmental assessment. We appreciate the information provided by the commentors, and where appropriate, we have revised the EIS in response to comments. Further, in this appendix, we have provided responses to comments raised during the comment period.

IN55 – Denise Ullrich

ORIGINAL FERC-Generated PDF of 20070208-0144 Received by FERC OSEC 01/30/2007 in Docket# CP06-54-C

ORIGINAL

Denise Ullrich
PO Box 752
Shoreham, NY 11786

FILED
OFFICE OF THE
SECRETARY

January 17, 2007

2007 JAN 30 P 3 10

Magalie R. Safos, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E., Room 1A
Washington, DC 20426

Re: Docket Nos. CP06-54-000 and CP06-55-000

To All Concerned Parties:

As lead agency in determining whether or not Shell TransCanada will be permitted to continue to pursue the Broadwater LNG Project to be located in the Long Island Sound, I am requesting that you deny approval of this project based upon the following:

- 1) Long Island is exactly as it's name indicates, an island, surrounded by water. Technically, if a problem occurred in the waters of the Long Island Sound, there is only one way for us to evacuate. Anyone familiar with Long Island traffic would agree our roadways would be inadequate in the event of an emergency.
- 2) Representatives from Broadwater have stated there are no potential terrorist targets on the North Shore of Long Island. Building this FSRU and placing it in the Sound is literally **creating** a potential target.
- 3) Our existing Coast Guard has inadequate resources and staff to insure our safety and the proximity of this proposed project to the nearest Coast Guard station is insufficient.
- 4) Broadwater representatives have brought up September 11th in their presentations and literature. I personally discussed this topic with Captain Peter Boynton, of the US Coast Guard, at a meeting. He agreed with me that if military aircraft could not prevent the attacks on that day, even with advanced knowledge, US Coast Guard vessels would unrealistically be incapable of intercepting an attack in our waters in time to stop it.
- 5) Although a "Safety" Zone will be in place surrounding this FSRU, fishing boats will be permitted to pass through. This is unacceptable

IN55-1 ↓

IN55-1

As indicated in Section 2.2.1 of the final EIS, all marine vessels not related to the Project would be excluded from the safety and security zone around the FSRU unless given specific permission to enter the zone by the Coast Guard Captain of the Port.

Individuals Comments

IN55 – Denise Ullrich

IN55-1

and as a Federal Regulatory Agency, I believe it is imperative for you to review terrorist attacks of the past. For example, the USS Cole was hit by what was thought to be a "fishing boat".

6) As stated at the Public Meeting, on January 11, 2007, by local politicians, millions of dollars and years of work have been invested in both the clean up and preservation of the Long Island Sound. It would be negligent on the part of the Federal Government to allow a private, foreign corporation to jeopardize these efforts and would prove fiscally irresponsible, as well.

IN55-2

Section 3.10.3 of the final EIS describes the potential results of a release of LNG from the FSRU based on methods accepted by experts in LNG risk analysis. Additionally, a spill of LNG would not reach land and have access to an aquifer, and LNG does not mix with or dissolve in water. Therefore, aquifers would not be affected by an LNG spill.

IN55-2

7) As you are aware, Broadwater would create new and unknown risks. Long Island currently has some ongoing concerns regarding pollutants in our aquifers. Although proponents of Broadwater would argue that a spill would more than likely vaporize before becoming a hazard, can you conclude, without doubt, that **8 billion** cubic feet of LNG would simply vaporize? As stated in reports, this FSRU would hold an equivalent of 80 million gallons of LNG. Though I am not a scientist, logically, the components and hazards of LNG would be altered when mixed with either water or air. This potentially threatens the water surrounding the land where our aquifers are now undergoing scrutiny.

IN55-3

As described in Section 1.3 of the final EIS, FERC has authority to authorize LNG import facilities under Section 3 of the NGA. Broadwater has followed the standard procedure for applying for authorization for an LNG terminal and has not appealed to FERC to usurp local government's authority.

8) According to a recent study, several towns on the North Shore of Long Island have an unexplained higher rate of breast cancer. No risk should be taken, which could potentially **exacerbate** this existing problem.

9) There is **NO** guarantee against human error. The recent incident in Riverhead with the Northville Terminals (where no public officials were advised there was a spill for days) should serve as an example how private fuel corporations hold themselves accountable to both the communities where they exist and to the municipalities who they are governed by.

IN55-4

No portion of the waters of Long Island Sound would be sold if the Project is implemented. NYSOGS is responsible for issuing easements for use of underwater lands of Long Island Sound that are in the State of New York. As described in Sections 3.5.2.2 and 3.5.7.4 of the final EIS, the proposed Project would not represent the first time that the waters of the Sound would be used for private purposes. Commercial and industrial structures in or under offshore waters of the Sound include cable crossings, natural gas and petrochemical pipelines, and two petrochemical platforms. Section 3.5.7.4 of the final EIS addresses environmental issues associated with the Public Trust Doctrine. However, legal issues related to public trust lands are not a component of our environmental review process and therefore are not included in the final EIS.

IN55-3

10) It is our government's duty to act for the "good of the whole". Allowing Broadwater, a private Foreign corporation, to appeal to the Federal Government to usurp local government's authority and governing powers over Long Island and Connecticut's waters would set a precedent with unimaginable consequences for all of the United States.

IN55-4

11) No monetary value can be placed upon the waters of the Long Island Sound. Therefore, we should not allow our waters to be sold.

12) On a more personal note (which can be verified through both the Suffolk County and New York State Departments of Health), I moved

IN55 – Denise Ullrich

from an area towards Central Suffolk which local governing agencies allowed to become an **Industrial Hub**. My neighbors, myself and my children all suffered adverse health effects due to this hub. Although I was diagnosed with asthma, I no longer have it since I have moved. My son will unfortunately have asthma for life. My daughter has chronic bronchitis. No one, including the industries located there could have anticipated the impact resulting from human error or improper operation of any of the seven facilities. It took nearly twelve years for the New York State Department of Health to finalize a report, which proves this area to have the highest concentration of ozone in New York State.

IN55-5 [
IN55-6]

Thus far, no one has addressed how Broadwater will impact air quality during offloading and operation. The "artist renderings" do not depict air emission stacks which would be necessary during the heating and regasification process. I believe this is a critical component FERC must take under consideration.

IN55-5 Section 3.9.1.2 of the final EIS describes the air emissions during off-loading and operation of the proposed Project.

IN55-6 The only stack proposed is the emergency flare stack located at the top of the flare tower, which is depicted in Figures 2.1-2 and 2.1-3 of the final EIS. Gas turbine exhaust is recovered and transferred to the SCV system.

13) "Pollutant credits" **should not** be permitted to be swapped from other less detrimental areas, as is the practice with all fossil fuel facilities.

14) As exemplified by LIPA (who is part of the Industrial Hub mentioned under No. 12), although Federal Regulations demand compliance, they are still currently operating a facility built over 50 years ago, without meeting all of today's Federal Requirements. This gives me no confidence in the Federal Energy Regulatory Commission's ability to insure Long Island residents that Broadwater will comply to Government Standards.

15) Broadwater claims the average household will save \$300.00 annually, if approved. A good majority of Long Island residents do **not** heat their homes with gas. The cost to convert heating systems from oil to gas is too expensive for the average homeowner. Additionally, gas heat is **more expensive** than oil heat. Even for residents with gas heat, the potential annual savings will be absorbed by the "cost sharing" required for additional security and safety matters.

IN55-7 [

16) Your Draft Impact Statement indicated that the US Coast Guard will issue Compliance Certificates valid up to one year and in some cases two years for incoming vessels. Considering the security risks we are currently facing today, this is totally inadequate and unacceptable. As Americans, we face daily concerns regarding Homeland Security particularly concerning incoming cargo that is **physically impossible** to monitor fully. Additionally, it will be totally impossible to fully assure the American public, particularly residents of both Long Island and Connecticut, that the foreign vessels anticipated entering Long

IN55-7 The procedure for issuing a Coast Guard Certificate of Fitness is currently in place for existing vessel traffic requiring such certification. If Broadwater is authorized to operate, the Coast Guard would extend the procedure to the LNG carriers associated with the Project. Other requirements associated with safety and security are required by the Captain of the Port Long Island Sound for all foreign vessels, as described in Section 2.3 of the WSR (Appendix C of the final EIS). Additional safety and security measures for the Broadwater Project, if approved for operation, are presented in Sections 4, 5, and 8 of the WSR.

IN55 – Denise Ullrich

Unofficial FERC-Generated PDF of 20070208-0144 Received by FERC OSEC 01/30/2007 in Docket#: CP06-54-00

IN55-8 [

Island Sound, if Broadwater is approved, will be safe and will not pose as security risks. Foreign vessels also are not required to meet the same Government standards of those of the United States.

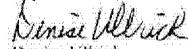
17) Prevention is far more cost effective than remediation. Review any of the numerous Superfund sites on Long Island and it is clear that knowledge gained over the years regarding environmental and health hazards should cause all Government and Regulatory Agencies to act with extreme prudence. **Denying** approval of Broadwater is the **only** sensible, responsible and acceptable response from FERC.

On January 11, 2007, many residents were turned away from the Shoreham Wading River Middle School because of the inability to accommodate the number of people who tried to attend the meeting. My husband and I walked three quarters of a mile to the entrance of the school. On the way in, we spoke to several people who were leaving, due to the crowds and traffic. Like us, they oppose this project vehemently.

I could continue, but have stated issues I felt were the most important. Nonetheless, the other reasons for my opposition towards the Broadwater LNG Project are not any less significant than those I have listed.

In light of the President's speech the other night, it is evident that we as a Nation are facing trying times and our way of life must be protected. Allowing Shell Oil and Trans Canada to place a Liquefied Natural Gas Terminal in our waters is surely not in our best interest. Approving this project would place an insurmountable burden on an already over stressed nation. We do not have the resources to safely secure Broadwater nor can we afford to further risk national security. New Yorkers suffered severely from the events of 9/11 and many Manhattan residents moved to Long Island to guarantee theirs and their family's safety. We on the North Shore willingly pay a premium in our taxes for a quality of life which is unattainable on most parts of Long Island. I never fully understood the difference until I moved. We are unwilling to give this up and we should not be requested to do so. I implore you to assist us in preventing the industrialization of the Sound. Approving the Broadwater LNG Project would be the gravest mistake and an affront to the public you are responsible for protecting.

Sincerely yours,



Denise Ullrich

cc: Governor Eliot Spitzer
NYS Department of State

IN55-8 Please see our response to comment IN55-7.

ORIGINAL

Kevin Ward
40 Soundview Drive
Shoreham, NY 11786

FILED
OFFICE OF THE
SECRETARY
2007 JAN 18 P 3 32
FEDERAL ENERGY
REGULATORY COMMISSION

January 12, 2007

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

Re: Docket Nos. CP06-54-000 and CP06-55-000

Dear Ms. Salas:

This letter is regarding the Shell Oil and TransCanada (aka Broadwater) proposed LNG facility that is to be constructed mid-Long Island Sound. I was scheduled to be speaker number 59 at the January 11th public hearing in Shoreham but due to time constraints, was not able to speak. For the official record, I ~~vahemently oppose~~ this proposal. As your office reviews the transcripts of this meeting, I wholeheartedly endorse the many concerns expressed by the other speakers.

I am a retired engineer with over 40 year's experience working in the defense industry. As an engineer, I evaluated many technical analyses and data not only for what was stated but also for what might have been omitted. At the meeting I was prepared to present my concerns about SAFETY with respect to the Sandia National Laboratory Report (SAND2004-6258) regarding Liquefied Natural Gas (LNG) spill over water.

This report is often referenced when defining the safety regions from a fire/explosion due to LNG release. Broadwater has claimed and FERC appears to endorse that the proposed LNG terminal will be safe at its proposed location. For small manageable spills or breaches, this might be true. My concern focuses around Section 5 of the report dealing with the "INTENTIONAL LNG BREACH, SPILL, AND HAZARD ANALYSES". The introduction to this section is quoted in the following two paragraphs.

"Currently, the potential for an intentional LNG cargo tank breach, the dynamics and dispersion of a large spill, and the hazards of such a spill, are not fully understood, for two primary reasons. First, the combination of LNG ship designs and current safety management practices for LNG transportation have reduced LNG accidents, so that there is little historical

IN56 – Kevin Ward

or empirical information on large breaches or spills, as discussed in Section 4. Second, for an intentional event, existing experimental data on LNG spill dynamics, dispersion, and burning over water cover spill volumes that are more than two orders of magnitude less than the spill volumes being postulated in many recent studies.”

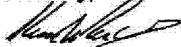
IN56-1

“This lack of information forces analysts to make many assumptions and simplifications when calculating the size, dispersion, and thermal hazards of a spill.”

With the above caveats, the analyses are really best guesses at what might be expected should an overt hostile action against the terminal cause a major LNG release. During my working years, I had very high security clearances and was at times involved with the detection, countermeasure and exploitation of US and foreign weapon systems. I know first hand the capabilities of many portable systems that have been exported to third world and potentially hostile countries. Also, one only has to look at the damage inflicted on the USS Cole to realize what can happen from an unsophisticated weapon. Is an attack on the terminal likely – NO; but could it happen – YES. No one could have imagined the seizing of commercial airlines on 9/11 for use as weapons with the attack on the World Trade Center and the loss of life. The collapse of these structures gave architects and structural engineers a new data point which hopefully has been addressed in the design of the new structure. Do we want to risk experiencing another unlikely (but possible) event to provide scientists and fluid dynamicists their data point? I don't think so. The environmental sensitivity of the beautiful Long Island Sound estuary is not the place for such an unplanned experiment. We can not risk these analyses being wrong.

When making your decision, please consider carefully all the arguments presented against the project. Long Island is facing energy shortages, but the Broadwater project is not a means to solve them.

Sincerely,



Kevin Ward
40 Soundview Drive
Shoreham, NY 11786

IN56-1

The modeling approach used by FERC, the Coast Guard, and Det Norske Veritas reflects the best available methods, uses conservative assumptions that would err on the side of public safety, and uses the most protective results. This modeling approach has been accepted on many other proposed LNG projects, including offshore projects with the potential for spills on water. A report by the Government Accountability Office (GAO 2007) provides additional substantiation for the validity of the approach taken in the risk analyses for the Project. The GAO Report (GAO 2007) presented a survey of experts who work in areas related to LNG risk, hazards, and consequence modeling. The report determined that the primary hazard to the public would be heat from a fire. A total of 11 of 15 experts were of the opinion that current methods for estimating LNG fire heat hazard distances are “about right” or too conservative.

IN57 – Marge Acosta

4 Harbor Park Court, Centerport, NY 11721 January 10, 2007
Statement before the Federal Energy Regulatory Commission, the Army Corps of Engineers, the
US Coast Guard, and the New York State Department of State
In Opposition to the Broadwater Proposal

Good evening. My name is Marge Acosta. I have a Masters degree in Environmental Science and have taught Environmental Science on the high school and/or college level for over 15 years.

I've had my classes perform quality assessment tests on various marine ecosystems throughout Long Island, including Caumsett State Park, where, using nets, water testing kits and field guides, students were delighted to find indicators showing the Sound, there, to be in a wonderfully healthy condition.

Since I live only a mile from Centerport Beach and less from Northport Harbor, I've done some of the same types of activities with my daughter, nephews, grandson, and their friends, most times with similar results. I appreciate very much the blessing of having such a treasure at our disposal for learning, recreation and for the pure enjoyment of scenic beauty.

I know how tenuous this ecosystem is. During first-hand studies elsewhere, I've seen the devastating effects of dredging on a marine ecosystem and how long it takes to restore. I've also had the unpleasant experience of sailing into waters near a power plant on the Hackensack River and being blasted with hot humid air caused by the plant's emission of river water used to cool down its machinery. Broadwater has said it will use some water from the Sound and discharge it at only a slightly higher temperature, but Jersey residents were told their power plant wouldn't raise the river temperature by more than 5° F. Needless to say, the flora & fauna by the industrial plant was totally changed because of this thermal discharge.

The causes of the above pollutants were known and nearby, but often the source can be miles away. Anyone who knows ecology, knows that changing even one factor or one species can destroy an ecosystem.

There are several REAL questions that the Draft Environmental Impact Statement has glossed over and which need further evaluation:

IN57-1 [Can you assure us that dredging for 25 miles of pipeline and thousands of square feet for footing and anchorage of the facility will not significantly injure the fragile balance of the Sound?

IN57-2 [How can you be sure that the constant intake of water from the Sound and discharge into foreign waters will not result in some residual water from each area being mixed, bringing foreign species into the Sound? Logic alone tells us this is the most likely consequence of such procedures.

Besides sailing in the Sound myself on many occasions, I have had the wonderful opportunity of taking classes on the ferry to Block Island. Do you really think I would expose children to the danger and trauma of passing an LNG tanker with its armed escort?

Are you willing to destroy the wonderful beauty, enjoyment and livelihood the Sound affords us and our children so that two oil companies can add to their already incredible profits? Even Synapse Energy Economics states Broadwater's massive proposed facility unnecessary for Long Island's needs; we have other, safer alternatives at hand, and anyone who thinks two foreign oil companies and a foreign LNG shipping company will bring lower gas prices to Long Island (or NYC) is not based in reality!

IN57-1 As stated in Section 3.3.1.2 of the final EIS, the proposed pipeline would be installed through use of a subsea plow, and we have included a recommendation to actively backfill the trench. This technology is recommended by NOAA for reducing damage to the seafloor and greatly reducing recovery time (NOAA 2005a). Backfilling and post-construction monitoring methods would be developed in coordination with federal and state resource agencies.

IN57-2 As discussed in our response to comment LA15-6, LNG carriers are not expected to discharge ballast water into Long Island Sound since they would arrive in Long Island Sound laden with cargo (see Section 3.2.3.2 of the final EIS). In the unlikely event that they did discharge ballast water, it would be conducted in accordance with federal and international regulations-including EPA's pending ballast water measures for foreign vessels, to be enacted in 2008, intended to minimize potential impacts of invasive species.

IN57 – Marge Acosta

Alabama Gov. Bob Riley and residents of Harpswell, Maine saved their communities from the terrible threat of similar LNG facilities simply by refusing to sell or lease the required land. We are asking New York to care as much for its residents and do the same.

I am also submitting a letter I sent previously to the Federal Energy Regulatory Commission.

Thank you for the opportunity to speak before you.

Marge Acosta

4 Harbor Park Court, Centerport, NY 11721 January 11, 2007
Statement before the Federal Energy Regulatory Commission, the Army Corps of Engineers, the
US Coast Guard, and the New York State Department of State
In Opposition to the Broadwater Proposal

As an environmentalist, I'm only too aware of the unpredictability of nature & how controlled laboratory experiments & extrapolations often fall far short of actual real-life events. FERC's assurances about the safety of Broadwater are reminiscent of government assertions during early nuclear testing in New Mexico & Nevada: the radioactive fallout will disperse quickly and will be harmless upon reaching ground level. It couldn't get into our food chain. But in real atmospheric conditions, the fallout fell quickly over a relatively small area & wound up as radioactive strontium 90 in our milk supply.

As an American, I'm ashamed that our government's callous refusal to prepare for a worse case scenario in New Orleans and its incompetent rescue oversight is what caused most of the loss of life, not Katrina.

And, as a New Yorker, I'm stunned by our government's suppression of warnings and inaction on news of 9/11. I have relatives, friends and fellow activists, who believing the too early assurances that the air at Ground Zero was safe, worked there in rescue and recovery and are still suffering the consequences, some life threatening.

Forgive me if I'm skeptical and untrusting of the safety assurances, and selective data in your DEIS, such as:

"There is no evidence, however, suggesting that LNG is explosive in unconfined open areas. Experiments conducted to date ...have all been negative."

IN58-1

The LNG facility at Skikda, Algeria, totally renovated by Halliburton as a state-of-the-art facility and demolished by an explosion 5 years later, in 2004, is in direct contradiction with this data. While the DOE, FERC and ExxonMobil rushed to blame the explosion on a malfunctioning boiler, a thorough investigation by the plant owner, Sonatrach, indicates, instead, "that a large amount of liquid gas escaped from a pipe and formed a cloud of highly flammable and explosive vapour that **hovered over the facility**". In other words, the \$800 million explosion that killed 27 workers and injured scores more was caused by an unconfined vapor cloud.

This explosion also brought to light data, previously reported by the US Coast Guard in 1980, that imported LNG contains about 14% flammable hydrocarbons mainly propane and so is highly explosive.

IN58-2

Moreover "FERC regulations require safety zones around LNG facilities. Setback distances must be great enough so that flammable vapors will not reach the facilities' property lines and heat radiation from a potential fire will not impact those beyond the facilities' property line." (Center for LNG) However, James Fay, the MIT LNG expert has said that a conservative estimate of the distance vapor clouds can travel is about 4.5 miles. This is clearly beyond Broadwater's perimeter even including the 1.5-mile exclusionary zone. This figure (DEIS Map and circular overlay) clearly demonstrates this.

IN58-3

In your DEIS, it states, "Broadwater has not selected a specific design for the storage tanks" and it doesn't state what double hull systems are mandated for LNG carriers.

IN58-1

As stated in Section 3.10.1 of the final EIS, LNG is not explosive. Natural gas from LNG, if confined, can explode. The Skikda incident was investigated by a team that included FERC staff. The initial explosion has been attributed to natural gas vapors being drawn into a fired boiler, where they ignited within a confined space. A subsequent, larger explosion was attributed to a secondary gas accumulation within an outdoor area that was at least partially confined by surrounding process units and buildings. This is consistent with the characteristics of LNG and natural gas described in Section 3.10.1 of the final EIS.

IN58-2

The comment regarding FERC's requirements for setbacks and safety zones (NFPA 59A) is applicable to land-based facilities and references "property lines that can be built upon"; it is not applicable to the FSRU. Section 3.10.3 describes the methods used to determine the extent of the hazard zones of the proposed Project, including the potential extent of a vapor dispersion cloud.

IN58-3

Section 3.10.4.2 of the final EIS describes the IMO conventions and design standards for LNG carriers.

IN58 – Marge Acosta

I have written to the Center on LNG to ascertain the basic construction on most LNG tankers in use today, since their website simply indicates double steel hulls with primary and secondary insulation. An excerpt from Lockheed Martin's Risk Assessment report on LNG (July 1998) shows how important this is:

"If air or LNG leaks into the vacuum space between the two walls, a heat transfer path will be provided to the inner tank. Without mitigative action, eventually the LNG in the tank will boil and vent. (This problem is well recognized; tanks must typically be refurbished in 5 to 7 years.) Furthermore, the outer vessel walls are generally constructed of carbon steel to reduce the cost of the tank, and so are susceptible to brittle fracture if cooled to LNG temperatures. Thus, a failure of the inner vessel will lead to a release of LNG into the vacuum space, which, in turn, can lead to failure of the outer vessel. The double wall does not mean double containment in the case of cryogenics."

IN58-4 Section 3.10.4.2 of the final EIS describes the IMO conventions and design standards for LNG carriers.

IN58-4 [In this case, the failure of one storage container can lead to the failure of all five. Additionally, if insulation is used between double walls or in the storage tank construction, is it flammable? As incredible as that may seem, it has been the case with past insulation used in LNG storage tank construction.

IN58-5 [These are only a few questions I have relating to your DEIS. My letter will address others. However, even a cursory study of LNG hazards, as well as recent events like 9/11 and Katrina, demand that, instead of the minimal effects of Broadwater on the Sound and its surroundings, you look at worst-case scenario possibilities, and whether there is anyway you can protect Long Island and NYC from another major disaster that this facility poses. Since I don't think you have the resources to protect us, if they even exist please reject this disastrous proposal.

IN58-5 The risk assessments described in Section 1.4.3 of the WSR (Appendix C of the final EIS) and Section 3.10.3 of the final EIS address what the Coast Guard and FERC consider worst-case incidents. As presented in Section 8.4 of the WSR, the Coast Guard made the preliminary determination that the risks associated with the FSRU and LNG carriers could be managed with implementation of its recommended mitigation measures.

Thank you for the opportunity to speak before you.

Marge Acosta

Alexanders Gas and Oil Connections

Volume 9, Issue #9 - Thursday, May 06, 2004

sponsored by



Report sheds new light on LNG blast in Algeria

14-04-04 A newly released document provides important insights into the chain of events that led to the January explosion of a LNG facility in the African nation of Algeria. Several scientists who specialize in LNG research said the document indicates that a similar accident could occur at LNG plants like those proposed for Mobile Bay and elsewhere in the United States. Initial reports blamed a faulty steam boiler for the massive explosion and fire at the government-owned Skikda, Algeria, plant. Those reports were incorrect, according to the new document presented by Sonatrach, owner of the destroyed LNG plant. A display titled "The Incident at the Skikda Plant: Description and Preliminary Conclusions" indicates, instead, that a large amount of liquid gas escaped from a pipe and formed a cloud of highly flammable and explosive vapour that hovered over the facility. The cloud exploded after coming into contact with a flame source.

The exact nature of the cloud is likely to be sharply debated as industry advocates and even a number of independent scientists have argued that an LNG vapour cloud, if it were to form, would be relatively small and would not explode. Most of the 27 people who died were killed by the force of the blast, according to the report. The report lists a "few casualties by fire," though the fire burned for eight hours.

The Sonatrach report was presented at an international LNG conference held in the Middle Eastern nation of Qatar in late March. Officials with the US Department of Energy (DOE), the Federal Energy Regulatory Commission (FERC) and ExxonMobil declined to discuss the document with the Mobile Register.

In the days after the accident, officials with the DOE, FERC and ExxonMobil, as well as Alabama Port Authority director Jimmy Lyons, stressed that the explosion seemed to be entirely related to a malfunctioning boiler. LNG plants in the United States, they argued, would not have boilers like the ones used at the plant in Algeria, so a similar accident could not occur at an LNG facility in America.

But several scientists who examined the new report told the Mobile Register that the type of accident described in it could occur at an LNG facility in this country, regardless of the type or number of boilers present. Almost any source of ignition, from a cigarette lighter to a pilot light, could have ignited a vapour cloud.

ExxonMobil and Cheniere Energy have both proposed building LNG facilities on the shores of Mobile Bay, close to residential neighbourhoods. Both companies said their facilities would not impact nearby residents, even in the event of a catastrophic accident. ExxonMobil would place its plant on land owned by the Port Authority at the former Navy home port; Cheniere would build on Pinto Island.

"I think this tells us that dealing with LNG is a tricky and dangerous business," said James Fay, professor emeritus at the Massachusetts Institute of Technology and one of the nation's leading LNG scientists. "It was apparently a very large gas leak that went on for a while before the explosion. That certainly doesn't give you a lot of faith in their gas detection equipment, with all this gas leaking out. I guess this means sometimes that equipment doesn't work."

Fay said the failure may have important implications for the siting criteria used by FERC when granting permits for new onshore LNG facilities. In particular, Fay said, FERC requires only that companies prove they can contain a vapour cloud and fire resulting from a 10-minute leak of LNG at the plant.

"The fire burned for eight hours, and that fact does seem unusual. I would have thought it would have burned up more quickly," Fay said. "Maybe there wasn't anyone to shut the equipment down. Maybe all of the workers perished in the blast, and the equipment just kept running, spewing LNG out so it just kept burning and burning.... FERC's rules just say a company would have a 10-minute leak. That's it. But clearly this one kept leaking for a much longer time period."

Fay and others said the report is missing a critical piece of information: Whether the fuel that leaked from the pipe at the plant was LNG or a LPG, such as propane, or some combination of both. LNG and LPG were present in some quantities at the Skikda plant, the report said, though the damage to the facility was so extensive, it may be impossible to know exactly what kind of gas formed the vapour cloud.

Few would be surprised if LPG proved to be the culprit — the vapours are known to be highly volatile, and prone to explode when exposed to flame. Pure LNG — which is almost 100% methane — usually is thought to explode only in confined spaces, such as a building or the hull of a ship, according to scientists.

In presentations made in Mobile by the DOE, FERC and ExxonMobil, officials stressed that "LNG does not explode." They also said that if an LNG vapour cloud formed and was somehow ignited, the flame would move through the cloud so slowly that a person simply could walk ahead of it and stay out of danger. While some scientists agree that may be true of "pure" LNG, which would be entirely methane, the scientific literature suggests that much of the LNG shipped to facilities around the country typically is contaminated with some quantity of more explosive "LPG" gases, such as propane.

A 1980 Coast Guard study titled "LNG Research at China Lake," states that LNG imported into this country is often far from pure, and it reveals that vapour clouds made from "impure" LNG actually explode as readily as the highly volatile LPG. When natural gas is super-cooled and turned into a liquid, as much as 14 % of the total cargo shipped as LNG may actually be LPG or other hydrocarbon fuels, according to the Coast Guard report. Natural gas contains these other fuels when it is pumped from the ground.

LNG containing these so-called "higher hydrocarbons" is known as "hot gas" and has a higher energy content than pure methane. The Coast Guard report reveals that vapour clouds of LNG containing at least 13.6 % of these other fuels can detonate just like pure propane gas. The agency concluded in its report that this deserves "special consideration, as the commercial LNG being imported into the US East Coast has about 14 % higher hydrocarbons."

Several scientists said they were unaware of the Coast Guard's report. They also were unaware that LNG arriving in the United States sometimes contained significant quantities of other gases, such as propane, butane and ethane. They agreed that in light of the Skikda incident, statements made by the LNG industry and federal officials regarding the explosive potential of LNG vapour clouds may need to be re-examined.

"It's pretty clear that this was not sabotage," Fay said, discounting rumours that terrorists may have tried to damage the facility. "I think there is a strong suspicion that the explosion which occurred could have been an LPG explosion or an LNG explosion. If it were LNG, this would be the first major LNG explosion that occurred anywhere." It is also one of the largest vapour cloud explosions on record, according to scientists.

"The fact that there was a vapour cloud is huge," said Bill Powers, an engineer based in California who has studied LNG terminals, citing issues for both onshore and offshore proposals. "We don't know if it was an LNG vapour cloud or an LPG cloud or a mix of both, but, either way, it means it is the kind of accident that could happen here."

Powers pointed out that several terminals proposed for the United States would deal with both LPG and LNG. At the terminal proposed for Long Beach, California, for instance, Powers said the LPG tanks would be right next to the LNG facility. Powers also felt it was noteworthy that Halliburton had conducted a major renovation of the Skikda plant in 1999, updating all of the key safety equipment and computer systems.

A Halliburton website touts the revamped LNG terminal as a model of modern American workmanship.

"Halliburton is pleased to announce that its recently completed LNG Revamp Project at Skikda, Algeria, has passed all its performance tests," reads the company news release announcing the project's completion. "KBR's work included extensive revamp of the three LNG trains and associated utilities and auxiliaries and a complete revamp of the complex's electrical power and control systems. ... Over 9,000,000 construction man-hours were expended." The three separate LNG regasification plants or "trains" that were revamped by Halliburton were destroyed in the explosion.

Powers said Halliburton's engineers had missed a weak link in their safety planning for the facility.

"That highlights the importance of putting these facilities in places where, no matter what, people will not be at risk. If a company like Halliburton missed a scenario that could cause this, that tells us that we cannot account for all possible accident scenarios at LNG facilities," Powers said.

"Halliburton would have exhaustively checked out every possible accident chain of events and accounted for it, countered it," he said. "They would do that before they give it a clean bill of health. That's how they operate. They must have simply missed this accident possibility."

Source: Washington Times