2.1.2 Responses to Comments from State Agencies

Letter Number	Commentor
SA-01	NYS Dept. of Environmental Conservation
SA-02	New York State Department of Environmental Conservation (William Little)
SA-03	NYS Office of Parks, Recreation and Historic Preservation
SA-04	New York Department of Public Service (Saul A. Rigberg)
SA-05	New York State Office of General Services
SA-06	Connecticut Department of Environmental Protection
SA-07	Long Island Sound LNG Task Force
SA-08	Connecticut Department of Environmental Protection

200703095039 Received FERC OSEC 03/09/2007 12:11:06 PM Docket#. CP06-54-000, ET AL.

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March 9, 2007

The Honorable Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First St. NE; Room 1A
Washington, DC 200426

Re: Broadwater LNG Project - Supplemental Filing
Electronic Filing: OEP/DG2E/Gas Branch 3
FERC Docket No. CP06-54-000, CP06-55-000

Dear Secretary Salas:

My January 31, 2007 letter to the Commission provided the New York State Department of Environmental Conservation's ("Department") comments on the Draft Environmental Impact Statement ("DEIS") for the Broadwater LNG project. As promised in that letter, this correspondence is provided on behalf of Department Staff to supplement the earlier commentary.

The Department has reviewed the DEIS sections addressing potential "hazard zones", established through dispersion modeling in the event of accidental or intentional breaches which would release liquid/vapor liquified natural gas (LNG) from the FSRU or carriers. Methodologies used to determine the thermal radiation and vapor cloud zones described in Sections 3.10.3 - 3.10.5 of the DEIS, in the relevant sections of Appendix D (US Coast Guard's Waterways Suitability Report), and in the referenced December 2004 Sandia Laboratories Report and the FERC-commissioned May, 2004 ABSG Consulting Report, were reviewed to understand underlying assumptions used in the calculations.

Section 3.10 of the DEIS summarizes the projected hazard zones from the referenced studies and provides additional limited calculations for failures of FSRU equipment, and LNG releases from the FSRU and the carriers. However, there appear to be inconsistencies in the assumptions and calculations which could be of significance in assuring that worst case conditions have been addressed. We have identified assumptions related to the dispersion modeling methods which need to be addressed. We have found related considerations which also could impact the determination of the safety and security zones which are used for environmental assessments.

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The two hazard zones defined in the DEIS are for the potential thermal radiation effects that may result from a fire of spilled LNG, and for a flammable vapor cloud, defined out to a lower flammability limit (LFL). The thermal radiation zone corresponds to Zones 1 and 2 (considered distances for major damage and limited damage, respectively) from the Coast Guard assessment using the Sandia Laboratories Report. The vapor cloud distance to LFL corresponds to Zone 3 in both reports. Since a fire limits the amount and spread of the spilled LNG, the distance out to predefined heat fluxes in zones 1 and 2 are lower than for Zone 3; i.e. maxima of roughly 0.5, 1.2 and 4.5 miles, respectively, for the FSRF and the carriers. These zones are, in turn, used to define hazard areas such as the safety and security zone used by the Coast Guard and other potential environmental impact areas as depicted in Figure 1-1 of the DEIS Appendix D. The DEIS also qualifies the short term high concentrations of pollutants from the fires with health based standards, but notes that these would be transient and of shorter duration than the averaging time of the standards.

As noted above, we have identified items needing clarifications or explanation to assure that the hazard zones have been properly calculated. Presumably, the purpose of the assessments presented are to identify the potential worst case situations. The following are meant to assure that this has been accomplished.

1. The computer programs (DEGADIS and SLAB) used in the assessments are generally acceptable methods for addressing both heavier-than-air gas clouds and "neutral" density clouds after the cloud has been mixed with ambient air. However, one issue needing further consideration is the set of meteorological conditions used as inputs to the models to predict the worst case distances. For the thermal radiation calculations, FERC used a wind speed of 27 mi/hr and 14 degrees F for the equipment failure modeling, but a 17 mi/hr wind speed and 68 degree F condition for the FSRU and carrier modeling. The ABSG consultant report is referenced for these calculations, but that study used a 20 mi/hr wind speed and 80 degrees F. More importantly, the latter study clearly notes that their purpose was only to provide sample calculations and limited the calculation sensitivity to emitted heat flux values. Further evaluation is needed to explain why the high wind speeds and the average temperatures used provide worst case impacts. In addition, an analysis by DNV consultants using a "model different" than the Sandia report is referenced, but further details should be provided as to the assumed inputs in the DNV analysis.

SA1-1

On the other hand, the vapor cloud dispersion analysis has used a lower wind speed of 4.5 mi/hr and stable (F class) conditions which are likely worst case from both the expectation of cloud dispersion and the limited results in the ABSG report. The ambient temperature used in these calculations seems to represent average conditions (e.g. 51 and 68 degrees F), but ambient/water temperature has a significant effect on the vapor emission rate. Thus, it seems plausible that at a higher temperature, a larger hazard zone to LFL might result. Such temperatures are documented in Table 3.1-1 of the Coast Guard data summaries and should be addressed.

SA1-2

SA1-1 The equipment failure models reported in Section 3.10.3.1 of the EIS were models performed by Broadwater and reported and reviewed by FERC.

FERC staff performed radiant heat modeling for the FSRU and LNG carriers, as described in Section 3.10.3.2 and 3.10.4.3 of the EIS, using the methods described in the ABSG study with site-specific meteorological conditions which included an average temperature of 68°F, a wind speed of 17 mph, and 70 percent relative humidity. Higher wind speeds generally produce the largest exclusion distances for radiant heat modeling.

The analysis by DNV Consulting for Broadwater also used site-specific meteorological conditions.

SA1-2 Using the DEGADIS model, FERC staff calculated vapor dispersion distances for both LNG carriers and the FSRU using a site-specific average temperature of 68°F, a wind speed of 4.5 mph, and 50 percent relative humidity, maintaining consistency with 193.2059b(2).

As discussed in response to comments on the ABS report, *Consequence Assessment Methods for Incidents Involving Releases from Liquefied Natural Gas Carriers*, (docket AD04-6-000), although an increase in water temperature would give a higher film boiling heat flux, the higher film boiling heat flux will result in a decrease to the LFL.

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2. The DEIS and Appendix D provide a limited sensitivity of the breached hole diameter, and area and the consequent spill amounts on the hazard zone calculations, but conclude that a nominal size (5 m^2) can be considered "worst case". In some instances it is unclear if the1m^2 hole area used in the ABSG report is also used to scale for the Broadwater case. The corresponding hazard zone calculations also assume a certain amount of LNG spill based on the number of individual tanks of the FSRU and the carriers which might be breached, scaled up to the larger expected tanks volumes of the FSRU and the carriers (section 1.4 of Appendix D). However, it is assumed that for Zone 1 and 2 determinations, only one individual tank of the FSRU or the carriers would be breached, while for the Zone 3 calculations it is assumed that three tanks could be breached. A rationale should be provided to explain this difference. SA1-3

In addition, the DNV consultants used a single tank for the vapor cloud (Zone 3) calculations while FERC conducted modeling using three tanks and identified a considerably larger impact area. Since the Coast Guard has used the Zone 1 areas calculated as the security/safety zone around the FSRU of about 0.7 miles and the Carriers of about 2.5 miles, these worst case assumptions warrant further explanation. As it is, the larger Zone 2 areas calculated are apparently not being fully considered in defining the safety zones for certain risk mitigation measures. SA1-4

3. Different safety/security zones are determined by the Coast Guard for the FSRU and the carriers, as noted above, but the safety zone may not be adequately identified when the carriers are docked at the FSRU. Identification of the potentially larger hazard zones in the event of a simultaneous breach at the FSRU and the docked carriers should likewise be revisited. That is, it is not clear if Zones 1 to 3 would be considerably larger than provided in the analysis. SA1-5

4. Sections 3.10.3 and 4 use the AFSG consultant report to provide calculations to the distance of ½ of LFL for the FSRU and carriers, respectively. These distances are significantly larger than the distance to LFL and appear to be required by federal regulations at 40 CFR 193 (Subpart B), as noted in the AFSG report. These distances to ½ LFL appear not to be contained in the Coast Guard report, which documents the results of FERC modeling for the FSRU and the carriers. This warrants explanation since the Coast Guard's modeling report provides the largest distances for Zone 3 (about 4.5miles) based on just the LFL and this zone could be substantially increased (e.g. Figure 1.1 hazard zone) if ½ of the LFL is used. SA1-6

5. The ABSG consultant report also references the possible effects of rapid phase transition (RPT), or "instantaneous" transition, to gaseous cloud and provides an estimate of a dispersed cloud. However, this estimate does not appear to be based on the worst case F stability and 4.5 mi/hr simulation, and there does not appear to be a discussion of RPT effects in the DEIS. It would be appropriate to do so. SA1-7

SA1-3 In accordance with NVIC 05-05, criteria for Zone 1, Zone 2, and Zone 3 were established consistent with the Sandia Report. NVIC 05-05 states that Zone 3 is an area with the least likelihood of severe consequences in the unlikely event that 3 cargo tanks were breached and a vapor cloud disperses without an initial ignition.

SA1-4 See response to SA1-3

SA1-5 FERC and the Coast Guard believe that a scenario involving simultaneous breaches of the FSRU and LNG carrier are highly unlikely. However, if such a situation were to occur, the equivalent spill would be comparable to that of a simultaneous release of multiple tanks from the FSRU or LNG carrier. Estimates are that the equivalent radiant heat zone would not extend more than 20 to 30 percent of the current zones.

SA1-6 Given the remote location of the FSRU, stability class, and local wind speed, we believe that there would be minimal turbulent fluctuations and the LFL would represent the farthest flammable distance of the cloud.

SA1-7 Section 3.10.1 has been updated to include a discussion on RPTs.

200703095039 Received FERC OSEC 03/09/2007 12:11:06 PM Docket# CP06-54-000, ET AL.

Thank you for the opportunity to supplement the Department's January 31, 2007 comments to the DEIS.

Respectfully Submitted,

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Office of General Counsel

cc.: J. Martin, FERC
FERC Service List

20070131S033 Received FERC OSEC 01/31/2007 02:20:00 PM Docket# CP06-54-000, ET AL.

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January 31, 2007

The Honorable Magalie R. Salas
Secretary
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888 First St. NE; Room 1A
Washington, DC 200426

Re: **Electronic Filing:** OEP/DG2E/Gas Branch 3; Broadwater LNG Project;
FERC Docket No. CP06-54-000, CP06-55-000; CORRECTED FILING

Dear Secretary Salas:

The New York State Department of Environmental Conservation (NYSDEC) submitted comments on the November 2006 Draft Environmental Impact Statement (DEIS) for the referenced project on January 23, 2007. Prior to mailing that correspondence to the FERC Service List, certain revisions were made to remove ambiguities or add clarity, conform comments to DEIS page references (particularly in "Construction-Related Sediment Issues"), and correct a few typographical errors (particularly in the "Air Quality - Dispersion Analysis" section). Therefore, the following contains NYSDEC's revised comments on the DEIS, which will replace those submitted previously and constitute NYSDEC's transmittal to the FERC Service List:

Marine Resources

SA2-1 The DEIS inadequately supports its conclusion that the project will not significantly impact marine resources or public use of the Sound. The DEIS fails to provide a thorough alternatives analysis. The reports and information created by Broadwater are summarized in insufficient detail to inform the public as to the project's impacts. The major reports, models and supporting information relied on to support the DEIS's conclusions should be appended to the DEIS (accessibility on the project web site notwithstanding).

SA2-2 The Department has a number of concerns regarding the project's impacts on aquatic resources and public use of those resources. Our foremost concern relative to marine impacts is the displacement of the traditional water-dependent uses of lobstering and commercial and recreational fishing in Long Island Sound. An accurate picture of how the closure zone surrounding the facility and the moving closures around the LNG carriers will affect their

SA2-1 In general, we understand that different agencies have varying standards as to the level of detail and amount of supporting documentation to provide in an EIS. However, we believe that we have provided sufficient detail to assess the type and magnitude of potential impacts and appropriate measures to avoid and minimize potential impacts in accordance with NEPA requirements.

SA2-2 Potential impacts to recreational fishing and boating are addressed in Section 3.5.5.1 of the final EIS, and impacts to commercial fishing are addressed in Section 3.7.1.4 of the final EIS. As noted in those sections, interruptions to these activities would be minor, temporary, and localized during carrier transits for the life of the Project. The associated potential for economic impacts to commercial fishing due to the proposed fixed safety and security zone around the YMS and FSRU is addressed in Section 3.6.8.1 of the final EIS, including potential impacts to both commercial lobster fishing and commercial trawling. Potential economic impacts to recreational boating and fishing are addressed in Section 3.6.8.2 of the final EIS. In addition, Section 3.6.8.1 of the final EIS has been updated to address potential impacts to commercial lobstermen and trawlers from the proposed moving safety and security zones around LNG carriers as they enter and exit the Sound. This analysis considers the potential that other large vessels entering or exiting the Race may alter their course, taking them through areas with high lobster pot density.

activities must be provided in the DEIS. Without this information, one cannot thoroughly assess or take into consideration the concerns of user groups on Long Island's East End.

Department staff have met with East End commercial fishing and lobstering interests and believe that the DEIS minimizes the project's effects on these industries. These impacts, which should be addressed in the DEIS, are as follows:

- While some larger fishing vessels exclusively use the east-west trawling lane located to the north of the facility that will be affected by the closed safety zone, many smaller fishing boats are not restricted to this area and trawl in both north-south and east-west directions. The closed safety zone and the moving closures surrounding the LNG carriers will negatively affect these activities: trawling activity may be either forbidden (surrounding the FSRU) or cut short due to the presence of the LNG carriers.

- The movement of the LNG carriers through the Race and Long Island Sound will cause existing commercial and recreational vessels to alter their routes. This will lead to the loss of lobster and fishing gear in the altered routes. This may be especially true for commercial traffic traveling to the Conoco-Phillips terminal in Northville. Many of these vessels will take a more southerly route, directly into prime fishing grounds. Thus, a much wider area will be affected beyond the safety zone of the facility, possibly a mile or more. These potential impacts should be analyzed in the DEIS.

- A fishing vessel that uses the east-west trawling lane will be unable to use the entire west end of the lane. It could trawl only the eastern extent of the lane, since it would need to bring his nets aboard and steam around the safety zone to get to the western end. This would be necessary because deviating out of the trawling lane with a net deployed would put that vessel into conflict with set lobster gear or in Connecticut state waters, for which the vessel may not have a permit. The Department has received an anecdotal report that the western remnant of the trawling lane available outside of the safety zone is so short that the trip around the zone will be too expensive to be worthwhile. This could eliminates a vessel's access to about 70% of the lane.

- The DEIS should explain how the $400,000 value of the lobster resource over 30 years in the area of the FSRU was derived. Reliance on specific harvest or resource information should be identified and presented. The DEIS says it is based on the present value of the resource, but this does not account for any potential (and likely) increases in the lobster population.

- Because all available productive bottom is being utilized by a lobsterman or other resource user. Displaced lobstermen will be unable to shift their effort away from the affected zone and into other locations.

SA2-2 activities must be provided in the DEIS. Without this information, one cannot thoroughly assess or take into consideration the concerns of user groups on Long Island's East End.

SA2-3 As discussed in Section 3.5.5.2 of the final EIS, boat traffic unrelated to the proposed Project and approximately five commercial lobstermen with territory near the proposed location of the FSRU would be permanently restricted from the proposed fixed, 950-acre safety and security zone that would surround the FSRU. If a trawler working outside the designated east-west trawling lanes encountered an LNG carrier, a relatively low-probability event as described in Section 3.7.1.4 of the final EIS, it would need to alter its speed or course to avoid the proposed moving safety and security zone, which would entirely pass by any fixed point within about 15 minutes. The presence of an LNG carrier and its associated safety and security zone would not necessarily result in termination of trawling operations outside the designated trawling lanes.

SA2-4 As described in Section 3.7.1.4 of the final EIS, there would be minor temporary and localized impacts to commercial shipping due to the presence of the LNG carriers; the vast majority of vessels using the Sound would not be affected at all. As shown in Figures 3.7-2 and 3.7-3 in the final EIS, the current east-west routes to and from the Northville terminal are south of the proposed carrier routes, except in the vicinity of the Race. Vessels coming from or going to the platform along the north-south routes could occasionally encounter the proposed moving safety and security zone of an LNG carrier but would either slightly alter their routes or slow their speeds until the route is clear. As a result, we believe that the actual area that would be affected is accurately addressed in the final EIS.

SA2-5 Potential impacts to commercial fishing are addressed in Sections 3.5.5.2 and 3.7.1.4 of the final EIS, including the impacts to trawl fishermen using the trawl lane north of the proposed location of the FSRU. The associated potential for economic impacts to commercial fishing due to the proposed fixed safety and security zone around the YMS and FSRU is addressed in Section 3.6.8.1 of the final EIS, including potential impacts to commercial trawling.

SA2-6 Economic impacts to commercial lobstermen due to establishment of the proposed fixed safety and security zone around the YMS and FSRU were estimated by Broadwater as a function of lobster pot density, average per-pot catch rates (measured in pounds), and per-pound values. Broadwater also assessed the induced and indirect impacts (changes in operating costs associated with a reduced number of pots). The specifics of the calculations are presented in Appendix F of Broadwater's CZMA consistency submittal, which is included in the docket for the Project.

SA2-7 FERC concurs with NYSDEC that some lobstermen (as many as five, as reported in Section 3.6.8.1 of the final EIS) would need to relocate pots (effectively increasing pot density within their own informally assigned fishing area) or reduce the number of pots they fish for the life of the Project. Broadwater indicated that they would compensate the affected lobstermen sufficiently to avoid long-term financial impacts due to Project operation. In addition, Section 3.6.8.1 of the final EIS includes our recommendation that, prior to initiation of operation, Broadwater file documentation of completion of the final compensation agreements with FERC.

In addition to these impacts on lobstering and commercial and recreational fishing, NYSDEC is concerned about the affects on marine resources from construction, changes in temperature, impingement and entrainment, and chlorination.

SA2-8
- Summer temperatures in the Sound are at levels at which lobsters become stressed. Thus any rise in temperature may have an impact on lobsters and other marine species. The DEIS needs to better document and provide specific supporting information indicating there will be no change in seawater temperature from the LNG carriers and the pipeline that could affect survival or behavior in lobsters and other species, both in the water column and in the sediments.

SA2-9
- The potential impacts of temperature and chlorine residual on crustacea larvae and other sensitive resources in the Sound, particularly lobsters, should be addressed.

SA2-10
- The Draft EIS must provide supporting information that the chlorine residual from both the FSRU and the LNG carriers will not impact lobster larvae.

SA2-11
- If the pipeline is approved, the department advocates for complete burial of the pipeline to return the bottom to its pre-construction topography so that the benthic community is quickly restored and the trench does not impede the movement of lobsters and other marine organisms.

SA2-12
SA2-13
- There is concern that heat released from the pipeline may raise water temperature directly adjacent to the pipe, which may act as a thermal barrier to lobsters and other motile benthic organisms. Burying the pipe would likely mitigate the thermal impacts. Therefore, if the pipeline is approved, the Department would support the FERC recommendation to fill the trench (3-15), and would further recommend that the pipe be buried to a depth sufficient to ensure that there is no increase to ambient water and surface sediment temperature along the pipeline corridor. A pipeline heat dissipation analysis should be conducted to demonstrate that such impacts are avoided.

SA2-14
- The DEIS (3.3.1.2) states that pipeline impacts to LIS lobster population will be low since juvenile and EBP lobsters inhabit shallow sandy substrate, and adult lobsters migrate offshore during the winter. Lobsters in LIS do not display the same habitat preferences and migrations that are found in other lobster populations. Information from a NYSDEC pilot survey on juvenile lobsters collected the majority of lobsters all sizes at the deep muddy sites compared to the shallow sandy sites (McKown et al., 2006). Tagging work conducted by CTDEP did not find evidence of long distance lobster movements. Also, there is an active lobster fishery year round in LIS. Pipeline impacts should be re-estimated using information on habitat use of LIS lobsters.

SA2-15
- Should the project be approved by FERC, NYSDEC strongly endorses FERC's recommendation for the use of mid-line buoys on the anchor lines (3-13) to

SA2-8 Section 3.2.3.2 of the final EIS has been substantially expanded to more thoroughly describe the minor and highly localized impacts associated with water temperature. As discussed throughout Section 3.3 of the final EIS, thermal impacts to biological resources would be minor and extremely localized.

SA2-9 Section 3.2.3.2 of the final EIS provides an updated discussion of estimated chlorine concentration and thermal temperatures. As described in the final EIS, impacts from chlorine and increased temperatures would result in minimal, if any, impact to marine resources including lobster larvae.

SA2-10 The final EIS has been updated to include Broadwater's proposed draft Water Quality Monitoring Plan (Appendix I) that includes monitoring the operational discharges from LNG carriers and the FSRU. As explained in Section 3.2.3.2 of the final EIS, the predicted residual chlorine concentration to be discharged from the FSRU would be slightly greater than the chronic water quality criteria for chlorine, but Broadwater would need to monitor the overboard water prior to discharge into the Sound, in order to ensure compliance with the SPDES permit.

SA2-11 As described in Section 3.1.2.2 of the final EIS, we have included a recommendation that Broadwater conduct post-construction monitoring to assess whether backfilling resulted in successful burial of the pipeline.

SA2-12 In Section 3.1.2.2 of the final EIS, we have recommended that the pipeline trench be backfilled successfully according to criteria set by the appropriate regulatory agencies. Section 3.2.3.2 of the final EIS has been updated to include additional thermal modeling results based on different cover types, including an open trench, natural backfill, engineered backfill, and concrete mats. Thermal modeling of the subsea pipe covered with 3 feet of sediment indicates that sediment temperatures in the upper foot of the seafloor would not rise more than 2 °F. Ambient water temperatures would not be affected in this scenario.

SA2-13 As stated in the draft EIS and final EIS, thermal modeling indicates that the water temperature around the exposed segment of the pipeline on the riser would return to ambient temperature within 3 to 4 feet of the pipeline, regardless of season. This is the worst-case scenario because the gas temperatures in the pipeline are highest as they leave the FSRU and because the exposed segment is not insulated by sediments. Heat is dissipated all along the 21.7-mile pipeline, and the 3-foot cover of sediments would further buffer any thermal impacts to the water column.

Thermal impacts associated with the proposed pipeline were modeled by Broadwater. Water temperature at the surface of the covered pipeline would not be different from ambient water temperatures; thus posing no increased thermal exposure to lobsters migrating along the seafloor. Therefore, a pipeline heat dissipation analysis is not needed.

SA2-14 Thank you for your comment. Section 3.3.1.1 of the final EIS has been updated to reflect the results of recent studies of lobster distribution and migration in Long Island Sound.

SA2-15 As discussed in Section 5.2, the final EIS includes recommendations that Broadwater (a) deploy and properly maintain mid-line buoys on all anchor cable lines, or utilize a dynamically positioned lay barge; and (b) use third-party environmental inspectors to oversee activities during Project construction.

SA2-15 mitigate impacts from chain contact with the bottom. NYSDEC also urges the use of on-site monitors to track and ensure compliance.

SA2-16
- A mixing zone analysis must be done for the temperature rise related to the cleaning of the inert gas scrubber (3-33). The analysis must identify the volume of water and distance from the FSRU where the discharge of 52 degrees over ambient is reduced to low levels. It should also assess whether this temperature can be reduced by the use of dilution water.

SA2-17
- The DEIS (3-41) states that there are no significant hard clam or surf clam resources in the area of the FSRU, or along the cable route; a conclusion based on video surveillance. However, video surveillance may be inadequate to assess populations of organisms living below the surface of the sediment. Benthic surveying with standard sampling techniques should be required in order to fully understand impacts to important infauna.

- The FSRU and LNG carriers will withdraw an annual average of 28.2 million gallons per day of water from the Sound (3-58), effectively equal to that of a small power plant. Estimates of the number of aquatic organisms entrained and impinged in the facility's intake range from 117.3 to 275 million per year; with a "most valid estimate" of 131.5 million organisms annually (3-58) .

SA2-18 The Department considers the yearly elimination of 131.5 million organisms from the central basin of Long Island Sound to be a serious adverse impact to important aquatic resources.

SA2-19 The DEIS should completely assess all alternatives that would avoid this serious adverse impact. In addition, the assessment should consider all feasible measures that would minimize as much as possible the negative effects of the intake on aquatic organisms. Lastly, all such impacts must be fully mitigated. The DEIS mentions use of fine mesh screens (E-38 and E-49), defined as 0.2 inch (5 mm). These screens would exclude larger fish but will not reduce entrainment. Further, the screens will be in-board where chlorination will occur; as a result, those fish not entrained will likely be killed by the chlorine. The Department recommends that consideration be given to placing the screens outboard, where chlorination effects can be avoided.

SA2-20
- Should the project be approved, entrainment and impingement monitoring should be conducted during operations to evaluate the impacts on Long Island Sound resources.

SA2-21
- Should the project be approved, benthic monitoring should be conducted pre- and post-construction to evaluate and monitor project impacts on the benthic community.

Air Quality - Dispersion Analysis

SA2-16 Thermal impact would be limited to a 1- to 2-day period every 5 years. The draft EIS erroneously reported a temperature difference of 52 °F. The correct anticipated increase in temperature is 20 °F. This has been corrected in the final EIS. A mixing zone, determined by NYSDEC, would be required to meet the temperature compliance criteria of no more than 4 °F above ambient. Modeling indicates that discharges associated with the inert gas scrubber would readily satisfy the State thermal criteria within the mixing zone.

SA2-17 Thank you for your comment. The EIS does not characterize the benthic community based on the video. The benthic characterization was based on site-specific sampling and existing literature. The results of the site-specific sampling are publicly available in Resource Report No. 3 – Fish, Vegetation, and Wildlife, which is in FERC's docket for the Broadwater Project (Docket No. CP06-54-000, Accession #20060130-4018).

SA2-18 As stated in Section 3.3.2.2 of the final EIS, the estimated yearly entrainment and impingement would be approximately 0.1 percent of the standing crop of the central Long Island Sound. These estimates are not expected to affect the overall finfish and lobster populations of Long Island Sound, especially with additional mitigation proposed by Broadwater to further reduce impacts of the FSRU operations (such as locating the water intakes at a water depth with relatively low densities of eggs and larvae, and limiting the water intake velocity [0.5 foot per second or less]).

SA2-19 As described above, the entrainment and impingement estimates discussed in Section 3.3.2.2 of the final EIS were conservatively estimated, assuming that there would be no further mitigation measures to reduce impacts. However, Broadwater has proposed to further reduce impacts of FSRU operations by locating the water intakes at a water depth where there are relatively low densities of eggs and larvae, and limiting the water intake velocity to 0.5 foot per second. In addition, Section 3.3.2.2 of the final EIS has been revised to include information regarding the potential use of wedgewire screens.

SA2-20 NYSDEC has indicated that their Water Quality Certificate will require Broadwater to conduct post-construction monitoring to assess entrainment and impingement impacts. The final EIS has been updated to reflect this requirement.

SA2-21 Thank you for your comment. As stated in Section 3.1.2.2 of the final EIS, we have included a recommendation that requires Broadwater to develop a plan to successfully backfill the proposed pipeline trench. Broadwater must coordinate with state and federal agencies to identify conditions under which backfilling would be required, the appropriate methods for backfilling, and the detailed post-construction monitoring criteria necessary to assess its success.

SA2-22 The Department reviewed the air quality analysis portions of Section 3.9 of the FERC DEIS and also attempted to review the underlying dispersion modeling approach for the release of liquid/vapors due to accidental and intentional breaches associated with the FSRU and the carriers, as presented in Section 3.10 of the DEIS. The Department requires additional time to review this part of the DEIS. In order to submit comments to the Commission, NYSDEC Staff expect to complete a review of the Sandia Report dispersion modeling assumptions used to calculate the consequences of these releases by February 9, 2007. NYSDEC therefore respectfully requests the opportunity to supplement this letter with the results of that review.

SA2-23 With respect to the air quality discussion section, it represents a brief summary of the applicable requirements and the modeling approach and resultant impacts. Considerable more detail was provided in a Resource Report #9, which Broadwater had previously submitted to FERC (although it is not referenced in the DEIS). This Report will need to be included in the air permit application to be submitted to the Department.

SA2-24 More importantly, however, the modeling approach underlying the results presented uses methodologies that are inconsistent with EPA and NYSDEC guidance and comments, as the Department has stated in previous reviews of the modeling protocol (most recently September 13, 2006). The DEIS recognizes this fact to some extent. A revised modeling protocol must be submitted to NYSDEC for review and approval before the resultant impacts and conclusions can be verified. In addition, it is noted that EPA must still make a formal determination of which sources need to be included in the PSD applicability determination which, in turn, will effect the consequent reviews.

Thus, at this point NYSDEC cannot verify the conclusions reached in the DEIS related to the air quality impacts. In addition to the items noted above and previously relayed to Broadwater by NYSDEC staff, some further clarifications on the discussions in the DEIS are warranted:

SA2-25
- The accidental release of stored ammonia should be modeled and discussed, regardless of whether a determination is made that a RMP need not be submitted per Section 112(R) of the Clean Air Act. A copy of the EPA 3/12/06 memorandum referenced on page 3-171 should be provided.

SA2-26
- A number of references are made to BACT requirements in non-attainment areas and should be revised to LAER requirements. More importantly, the thresholds to be used for the determination of major source applicability for NSR purposes have to rely on the values in the regulations in effect at the time of the permitting and not on anticipated SIP revision dates for the revisions to the regulations (e.g. discussions on page 3-173).

SA2-27
- The assessment of PM2.5 relative to the requirements of DEC Commissioner's Policy CP-33 is for direct emissions, not secondary emissions, as noted on page 3-178. This assessment should address both the FSRU and the carriers at berth and all associated emissions of PM2.5. It should also be noted that as of December 17, 2006 the revised 24 hour PM2.5 standard of 35 ug/m^3 is in effect. Thus, the results in Table 3.9.1-15 which show exceedence of this value should be revisited.

SA2-22 FERC has reviewed and addressed NYSDEC's comments on the Sandia Report, as provided in response to comment Letter SA1.

SA2-23 Resource Report No. 9 of the Broadwater application is publicly available in FERC's docket for the Broadwater Project (Docket No. CP06-54-000, Accession #20060130-4024).

SA2-24 A revised modeling protocol was submitted to NYSDEC for review and approval on March 13, 2007. In a letter dated April 6, 2007, NYSDEC approved the revised modeling protocol. The FEIS contains the most recent modeling for the Project conducted in October and December 2007.

Regarding PSD applicability, in a letter dated August 9, 2007, EPA Region 2 made a formal determination to accept the methodology used by Broadwater to calculate the PTE for the Project (including those methodologies used to calculate vessel emissions during LNG unloading activities). This determination also rendered the Project not subject to PSD. However, Broadwater must still demonstrate that emissions do not exceed PSD applicability thresholds and would submit a plan to monitor and demonstrate compliance with its annual PSD limit as part of its Title V Operating Permit application.

SA2-25 Section 3.10.2.4 of the final EIS has been updated to describe modeling results related to the potential consequences of an accidental release of ammonia stored on the FSRU.

SA2-26 Sections 3.9.1.1 and 3.9.1.2 of the final EIS have been updated to incorporate LAER requirements rather than BACT where appropriate. The text has been updated to reflect NSR applicability based on current attainment status and regulations, and not on future SIP revisions.

SA2-27 Please see our response to comment FA2-4 regarding the revised $PM_{2.5}$ standard. Additionally, the discussion of the NYSDEC Commissioner's Policy CP-33 has been updated in Section 3.9.1.2 of the final EIS to reflect that the secondary assessment required would include emissions from the FSRU and the carriers at berth, as well as all other $PM_{2.5}$ sources.

200701315033 Received FERC OSEC 01/31/2007 02:20:00 PM Docket# CP06-54-000, ET AL.

Air Quality - General Conformity

- As noted on Page 3-171, more information is required before FERC can make the federally-mandated General Conformity determination. While the DEIS clearly indicates that project level NOx emissions resulting from the construction activities for the project exceed the General Conformity applicability thresholds for both the 1-hour and 8-hour ozone standard, the Department will defer all General Conformity comments and approvals until it has had an opportunity to review the detailed air quality analysis requested by FERC.

SA2-28

- Page 3-176 notes that estimated NOx emissions exceed the General Conformity applicability threshold of 100 tons per year (assuming applicability of the 8-hour moderate ozone non-attainment threshold). The recent court decision, *South Coast Air Quality Management District v. Environmental Protection Agency*, December 22, 2006, requires conformity with the areas 1-hour ozone non-attainment classification and the corresponding General Conformity threshold of 25 tons per year for NOx and VOC.

SA2-29

- Page 3-176 of the DEIS states that "Because the Project region is considered non-attainment for the ozone standard ....." It should be noted that the Project region is non-attainment for both the ozone and fine particulate matter ($PM_{2.5}$) standards. Therefore, both ozone and $PM_{2.5}$ precursor emissions should be evaluated against the General Conformity applicability thresholds for this project.

Construction-Related Sediment and Habitat Issues

- Should the project be approved, FERC recommends (p.3-13) that either midline buoy's or a dynamically positioned lay barge be used during pipeline installation. NYSDEC has previously specified midline buoys for this project and concurs with the recommendation to use an alternate anchoring system (midline buoy system or dynamic positioning) to reduce impacts from anchor cable sweep. For the dynamic positioning alternative, the DEIS should identify the extent of resuspension of sediment based on use of the thrusters.

SA2-30

- FERC recommended that, should the project be approved, the trench should be mechanically backfilled as opposed to Broadwater's proposed natural backfilling. The Department concurs with that recommendation.

- Although the Mike3 model has been accepted for use on this project, if the project is approved, water column monitoring for actual TSS/turbidity during the installation of the pipeline will be required.

SA2-31

- For turbidity monitoring during pipeline placement, "the exact locations, frequency, and potential turbidity concentrations of concern would be determined

SA2-32

-6-

SA2-28 The New Jersey-New York-Connecticut Intrastate AQCR is no longer subject to the 1-hour ozone standard, according to the EPA Greenbook. As described in Section 3.9.1.1 of the final EIS, however, on April 15, 2004, EPA designated as "nonattainment" areas throughout the country that exceeded the health-based standards for 8-hour ozone. On June 15, 2004, EPA issued the Final Rule to implement the 8-hour national ambient air quality ozone standard – Phase I. The Phase I Final Rule sets forth the classification scheme for nonattainment areas and requires states' continued obligations with respect to existing 1-hour ozone requirements. Additionally, the recent South Coast Air Quality Management District decision reinstated New York's SIP for the 1-hour ozone standard. The General Conformity analysis reflects that the 1-hour ozone standard and the CAA requirements for nonattainment SIPs under this standard remain in effect. Because NOx is a precursor to ozone, the estimated NOx emissions from the proposed FSRU are subject to requirements for permitting under the CAA and are excluded from General Conformity pursuant to 40 CFR 93.153(d)(1). Section 3.9.1.1 of the final EIS has been updated accordingly.

SA2-29 Section 3.9.1.2 of the final EIS has been updated to reflect that the Project region is considered nonattainment for both ozone and $PM_{2.5}$, and that both of those pollutants, along with their precursors, are evaluated against General Conformity applicability thresholds.

SA2-30 As described in Section 3.1.2.2 of the final EIS, FERC had a third-party review conducted on the technical feasibility of using a dynamically positioned lay barge for pipeline installation. The review concluded that a dynamically positioned lay barge was feasible, and that there would be minimal disturbance associated with vessel thrusters at the minimum water depth along the proposed 21.7-mile pipeline.

SA2-31 Thank you for this information. We concur that a monitoring requirement would be appropriate as part of water quality permitting.

SA2-32

in coordination with NYSDEC" as part of the certification process under 401 Water Quality Certification and not the "SPDES permitting process" as listed on pages ES-8, 3-45, 3-56 and possibly page 3-247.

Thank you for this opportunity to present NYSDEC's revised comments on the DEIS. As noted above, we have respectfully requested the opportunity to file supplemental comments, if appropriate, in an expeditious manner.

Respectfully Submitted

S/ *William G. Little*
William G. Little
Associate Attorney
Office of General Counsel

cc.: FERC Service List
DM# 252840

SA2-32 The final EIS has been updated accordingly in order to clarify the appropriate permitting process to regulate turbidity monitoring during construction.

200701235093 Received FERC OSEC 01/23/2007 05:25:00 PM Docket# CP06-54-000, ET AL.

January 23, 2007

Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
Room 1IG-1
888 First Street, N.E.
Washington, DC 20426

Re: *Broadwater LNG Project*
FERC Docket No's. PF05-4, CP06-54-000, CP06-55-000
Long Island Sound, NY
O5PR00342

Dear Ms. Salas:

The New York State Office of Office of Parks, Recreation and Historic Preservation is the steward for 177 State Parks, 37 Historic Sites and over 300,000 acres throughout New York State. The more than 65 million annual visitors enjoy the vast array of the natural, cultural and recreational resources within the park system. Each park and historic historic site is unique. The natural and open space qualities that exist in the Long Island Sound are critical to the significance of these parks.

On Long Island Sound in Suffolk are located Caumsett State Park (Town of Huntington), Alfred E. Smith Sunken Meadow State Park (Town of Smithtown), and Wildwood State Park (Town of Riverhead). Also potentially impacted by the Broadwater LNG Project, due to LNG carrier traffic in Block Island Sound, are Orient Beach State Park (Town of Southold) and a number of parks on the South Fork of Long Island (Town of East Hampton).

The guiding principle for OPRHP is to operate and maintain the State's park, recreation and historic site system so as to conserve, protect and enhance the natural, ecological, historic, cultural and recreational resources in the system. While required to provide for public enjoyment and access to the resources, the Agency must do so in a manner that will protect them for future generations. In addition to significant resources within our parks, we also have an interest in protection of the visual resources within and from our parks.

This agency is also responsible for review of state or federal undertakings including permitting activities, that may affect any properties included in or eligible for the State and National Registers of Historic Places, as well as for State Navigation law issues relating to activities within the waters of New York State. Both our Historic Preservation Field Services Bureau, as

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the State Historic Preservation Office (SHPO), and our Marine and Recreational Vehicles Bureau have been cooperating in review of the Broadwater LNG proposal.

SA3-1 Within this context, State Parks is cooperating with other State involved agencies, through the Office of General Services as lead State Agency, and will provide any detailed comments on the Broadwater LNG Project not already covered through the SHPO review, through the State agency review process.

If you have any questions please feel free to contact me at (518) 473-7944.

Sincerely,

Daniel S. Kane
Director, Resource Management

SA3-1 Thank you for your comments and your involvement in reviewing the potential environmental impacts of the Project.

ORIGINAL

STATE OF NEW YORK DEPARTMENT OF PUBLIC SERVICE

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PUBLIC SERVICE COMMISSION

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Secretary

January 22, 2007

Honorable Magalie R. Salas, Secretary
Federal Energy Regulatory Commission
888 First Street, N.E.
Room 1-A209
Washington, D.C. 20426

Re: Docket No. CP06-54-000 - Broadwater Energy LLC
Docket No. CP06-55-000 - Broadwater Pipeline LLC

Dear Secretary Salas:

Pursuant to a notice issued November 17, 2006, please find comments of the New York State Department of Public Service on the draft Environmental Impact Statement in the above-entitled proceedings. We appreciate the opportunity to provide the Commission with these comments and look forward to working with local, State and Federal officials to ensure that the concerns addressed herein and in the future are appropriately considered.

Should you have any questions, please feel free to contact me at (518) 486-2652.

Very truly yours,

Saul A. Rigberg

Saul A. Rigberg
Assistant Counsel

Attachment

UNITED STATES OF AMERICA
BEFORE THE
FEDERAL ENERGY REGULATORY COMMISSION

Broadwater Energy LLC	)	Docket No. CP06-54-000
	)	
Broadwater Pipeline LLC	)	Docket No. CP06-55-000
	)	

COMMENTS OF THE NEW YORK STATE DEPARTMENT OF PUBLIC SERVICE ON THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

INTRODUCTION

On January 30, 2006, Broadwater Energy LLC (Broadwater) filed an application with the Federal Energy Regulatory Commission (FERC or Commission) for authority to site, construct and operate a liquefied natural gas (LNG) floating storage and re-gasification unit (FSRU) import terminal. The LNG terminal and associated facilities are proposed to be located in Long Island Sound, approximately nine miles from the shore of Long Island, in New York State (NYS) waters. Also on January 30, 2006, Broadwater Pipeline LLC filed an application for authorization to construct, own, operate, and maintain a single-use pipeline to transport natural gas approximately 22 miles from the terminal to a sub-sea interconnection with an existing pipeline. These comments address a very limited set of issues that should be included in the final Environmental Impact Statement (FEIS).

On February 28, 2006, the New York State Department of Public Service (NYSDPS) submitted its Safety Advisory Report[1] on state and local safety considerations relative to Broadwater's application pursuant the Natural Gas Act (NGA) (15 US.C. §717b-1). The Staff of the Federal Energy Regulatory Commission (FERC or Commission) released a draft Environmental Impact Statement (DEIS) on November 17, 2006. Table A-1 of Appendix A to the DEIS identified all of the safety considerations discussed in the Safety Advisory Report and provided citations to sections in the DEIS where the consideration is discussed. In several instances, however, the DEIS failed to address the referenced issue or a clarification is necessary. Finally, NYSDPS comments on a possible error in the DEIS and on an environmental matter.

Copies of all correspondence regarding matters raised in these Comments should be addressed to:

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[1] The Advisory Report incorporated comments from the NYS Department of State (DOS), the NYS Emergency Management Office (SEMO), the NYS Department of Transportation (DOT), the NYS Office of Homeland Security (OHS), the NYSDPS, as well as several local governmental entities, including the County of Suffolk and Town of Huntington.

BACKGROUND

Pursuant to the NGA, as amended by the Energy Policy Act of 2005, the Commission is required to consult with the state in which an LNG terminal is proposed to be located regarding state and local safety matters.[2] In a December 29, 2005 letter from Governor Pataki to Chairman Kelliher, the NYSDPS was designated as the appropriate State agency for purposes of consulting with FERC on all siting and safety matters regarding Broadwater's applications.

The NGA provides that the NYSDPS, as the designated state agency, may furnish FERC with an advisory report on State and local safety considerations, and that before the Commission may issue an order authorizing Broadwater to site, construct, expand or operate the proposed LNG terminal, it is required to "review and respond specifically" to the safety matters raised by the designated state agency.[3]

I. SAFETY ADVISORY REPORT ISSUES NOT ADEQUATELY ADDRESSED IN THE DRAFT ENVIRONMENTAL IMPACT STATEMENT

Issue:[4] *"Ensuring that the employees, including any contractors, involved in operations and maintenance activities for the FSRU, tug boats, and the pipeline are qualified and periodically retested to ensure*

[2] 15 U.S. C. §717b-1.

[3] Id.

[4] Quoted material is from the NYSDPS Safety Advisory Report.

proper knowledge and the ability to perform critical operations; and identify the safety-related standards which are applicable to the project."

Cite: DEIS Section 3.10.6; also the Waterway Suitability Report (WSR)

SA4-1

Comment: Neither the referenced section nor the WSR addresses this issue; however, the issue is addressed in Section 2.4.1. The reference should be corrected in the FEIS. Also, please note that 49 CFR Part 192 Subpart N prescribes the minimum requirements for operator qualification of individuals performing covered tasks on pipeline facilities. This should be addressed in the FEIS.

Issue: *"Developing a plan to address the event of a gas odorant spill."*

Cite: DEIS Section 3.10.3.1

SA4-2

Comment: The referenced section does not address this issue. Section 3.10.2.4 states that, regarding odorants, Broadwater should provide a plan addressing the applicability of any federal or state regulations regarding storage, transfer procedures, or spill response for these substances. Gas odorant is a flammable material that must be addressed in the FEIS. In addition, an odorant spill would likely result in odor migrating to land areas, which would prompt

- 4 -

SA4-1 Section 2.4.1 of the final EIS and Appendix I of the WSR (Appendix C of the final EIS) address training requirements for operators of the FSRU including the following statement regarding minimum requirements for operator qualifications for pipeline facilities: "The pipeline facilities would be operated and maintained in accordance with 49 CFR 192." In addition, Section 3.10.9.1 of the final EIS states that "the pipeline and associated aboveground facilities, such as the pipeline riser on the mooring tower and the gas jumper lines connected to the FSRU proposed for the Broadwater Project must be designed, constructed, operated, and maintained in accordance with the DOT Minimum Federal Safety Standards in 49 CFR Part 192."

SA4-2 Broadwater would be required to coordinate with federal, state, and local agencies to develop an Emergency Response Plan (as described in Section 3.10.6 of the final EIS), and an SPCC plan (as described in Section 3.2.2.1 of the final EIS). These plans would address the use and potential for release of hazardous materials, including odorants, and the emergency response procedures that would be followed if an incident were to occur during construction or operation of the Project. If the plans are not sufficient or if either FERC or the Coast Guard has additional concerns regarding safety, security, or environmental impacts associated with implementation of the plans, Broadwater would not be authorized to initiate construction. The final EIS has been revised to provide accurate cross references regarding these issues.

public concern that a gas leak had occurred. Accordingly, Broadwater must be required to have a specific plan to address the occurrence of such a spill.

SA4-2

Issue: *"Specification of minimum fracture toughness in the design of the pipeline. Proper clearance and construction methods must be addressed where the pipeline will cross any and all cables and other facilities."*

Cite: DEIS Section 3.10.9

Comment: The referenced section does not address this issue. While federal safety standards do not specifically address minimum fracture toughness in the design of the pipeline, it is common practice and good sense to do. NYSDPS believes that it should be a requirement in the FEIS for Broadwater to address minimum fracture toughness in the design of the pipeline.

SA4-3

Issue: *"Evaluation of the design feasibility of either moving the FSRU out of Long Island Sound or to a safer location in preparation of severe weather events. Specific design considerations, as well as the reduction of the stored volume of LNG, should be addressed."*

Cite: DEIS Section 3.10.2

Comment: The referenced section does not address this issue. However, in the Emergency Response Plan discussion under Section 3.10.6, Part i. recommends that Broadwater

SA4-4

SA4-3 As stated in Section 3.10.9 of the final EIS, in supplemental comments to the draft EIS filed on February 26, 2007, Broadwater committed to undertake a fracture control analysis that would take into consideration pipeline operating conditions in order to specify pipe fracture toughness requirements and ensure that the pipeline would have adequate resistance to fractures.

SA4-4 Broadwater would be required to prepare an Emergency Response Plan as described in Section 3.10.6 of the final EIS. The plan would address a wide variety of emergencies and associated response procedures, including what, if any, conditions might warrant disconnecting the FSRU from the YMS; where it could be safely relocated; and, if relocation is the appropriate procedure, what precautions would be necessary. The plan also would address emergency responses that would be implemented if the FSRU breaks away from the YMS. FERC would review the plan and would not authorize initiation of construction until the plan was approved. As a result, prior to construction, relevant aspects of the emergency response needs for the Project, including consideration of the concerns raised by the commentor, would be addressed by FERC and the Coast Guard.

develop "procedures for pumping down the LNG on board the FSRU in preparation for severe weather events such as a hurricane." Part h of Section 3.10.6 states that Broadwater should develop "procedures for off-loading LNG from the FSRU to the LNG carrier in the event that the FSRU must be removed from the mooring." However, the DEIS does not further require Broadwater to evaluate or develop procedures as to what it should do once the FSRU is disconnected from the Yoke Mooring System (YMS). The Emergency Response Plan should discuss the circumstances that would require the FSRU to be removed from the YMS and the process to move it to a safe haven.

SA4-4

Issue: *"Analyzing how the Commission will accommodate state safety inspections, as provided for under the NGA, to ensure continued safe operation and maintenance."*

Cite: DEIS 3.10.7.1

Comment: The referenced section does not address this issue. Section 3.10.9.1 does explain USDOT jurisdiction over the pipeline facility, but there is no mention of how the Commission would accommodate state safety inspections of the FSRU. However, the issue is broadly addressed in Section 2.4.1; the reference should be corrected in the FEIS. Also, to ensure proper coordination of inspections, the specific

SA4-5

SA4-5 As noted by the commentor, information on FSRU inspections after operation has commenced were described in Section 2.4.1 of the EIS. That section also stated that the EPAct of 2005 authorizes the state commission to conduct safety inspections and provide notice of any violations for appropriate action by FERC. We have revised the final EIS to accurately cross reference the sections addressing these issues. The mechanics of coordination between FERC and the State would be worked out closer to the date of construction. We would envision that state safety inspections would be performed concurrent with FERC inspections. Other approaches, should they provide more convenience, would be considered.

SA4-5

process by which the Commission will accommodate state safety inspections should be addressed in the FEIS.

Issue: *"Ensuring that employees' backgrounds are screened prior to being hired, and security clearances are required as necessary."*

Cite: DEIS Section 3.7.1.4; also the WSR

SA4-6

Comment: Neither the referenced section nor the WSR specifically addresses this issue. The issue is, however, indirectly addressed in Section 3.7.1 by reference to the Marine Transportation Security Act and 33 CFR Part 105. The FEIS should specifically address the procedures in which the Coast Guard will verify the identity, background, and acceptability of maritime workers.

Issue: *"Evacuation, isolation, and rescue procedures shall be assessed"*

Cite: DEIS Section 3.10.6

SA4-7

Comment: This issue is indirectly addressed in Section 3.10.4.2 by reference to the International Convention for the Safety of Life at Sea (SOLAS) standards. The FEIS should clarify that the Emergency Response Plan will include procedures for the evacuation and rescue of persons on board the FSRU and LNG carriers.

SA4-6 The Coast Guard would be responsible for enforcing the requirements of the Marine Transportation Security Act and the requirements of 33 CFR 105. Many of the details of enforcement, including the concern noted in the comment, are considered Sensitive Security Information and cannot be included in the final EIS.

SA4-7 As indicated by the commentor, evacuation planning would be included in development of the Emergency Response Plan, which is subject to approval by FERC. The recommendation for preparation and submittal of an Emergency Response Plan in Section 3.10.6 of the final EIS has been revised to include evacuation and rescue of personnel.

Issue: *"NYSDOS via the Office of Fire Prevention and Control believes it should have a role in the development of an Emergency Response Plan."*

Cite: DEIS Section 3.10.6

SA4-8 **Comment:** The FEIS should clarify that NYSDOS, specifically, is part of the "state emergency planning group."

Issue: *"Analyzing the interchangeability of the vaporized gas leaving the FSRU, including the BTU content, the Wobbe Index range, and the concentration of inert gas to ensure the safe operation of the gas transportation and distribution systems and gas utilization equipment."*

Cite: DEIS Section 2.4.2

SA4-9 **Comment:** While the referenced section of the DEIS briefly refers to the gas quality equipment to be located on the FSRU and the Iroquois Gas Pipeline, it does not specifically address gas interchangeability. In addition to the NYSDPS, other parties to this proceeding have submitted comments and concerns in regard to gas interchangeability.[5]

[5] Docket PF05-4 (Broadwater Pre-filing proceeding), Comments of Iroquois Gas Transmission System, L.P. filed October 7, 2005, pg. 4; Docket CP06-54, KeySpan Delivery Companies Motion to Intervene, Comments and Request for Technical Conference filed March 10, 2006; Docket CP06-54, Motion for Leave to Reply and Reply Comments of Broadwater Energy LLC and Broadwater Pipeline LLC filed April 3, 2006, pgs. 34-36; Docket CP06-54, Supplemental Comments of Iroquois Gas Transmission System, L.P, filed April 11, 2006, pgs. 3-4.

SA4-8 Section 3.10.6 of the final EIS includes a recommendation that Broadwater develop an Emergency Response Plan and coordinate procedures with the Coast Guard; state, county, and local emergency planning groups; fire departments; state and local law enforcement; and appropriate federal agencies. FERC must approve the Emergency Response Plan prior to final approval to begin construction. If FERC believes that key agencies were left out of the Emergency Response Plan preparation, the plan would not be approved.

SA4-9 We have revised Section 2.4.2 of the final EIS to provide additional information on gas interchangeability issues, including information on the agreement between IGTS and Broadwater that addresses gas interchangeability issues documented in the IGTS letter of April 11, 2006, and filed in the FERC docket for the Project.

Moreover, the Commission's "Policy Statement On Provisions Governing Natural Gas Quality And Interchangeability In Interstate Natural Gas Pipeline Company Tariffs," issued June 15, 2006 in Docket No. PL04-3-000 provides as follows:

> E. New Companies Authorized under Section 3 of the Natural Gas Act
>
> 46. The Commission intends to apply this policy in its review of proposals to construct and operate new facilities for the importation of natural gas. Applicants should include information in their application which demonstrates the compatibility of their imports with the gas quality and interchangeability requirements of all interconnecting pipelines….

SA4-10 Consistent with that policy, FERC should fully address the gas interchangeability issue in the FEIS and/or its Order granting authority under Section 3 of the Natural Gas Act and Issuing Certificate in this proceeding.

II. THE COMMISSION SHOULD CONSIDER THAT THE BROADWATER PROJECT IS CONSIDERED A HIGH CONSEQUENCE AREA (HCA)

The DEIS under Section 3.10.9.1 *Pipeline High Consequence Areas*, states: Due to the offshore location, there are no HCAs in the vicinity of the pipeline proposed for the

SA4-10 Please see our response to comment SA4-9.

Broadwater Project. This portion of the pipeline should be considered to be in an HCA for the following two reasons:

First, the Pipeline and Hazardous Materials Safety Administration (PHMSA) has clarified that company facilities and off-shore platforms are considered HCAs under 49 CFR Part 192 Subpart O *Pipeline Integrity Management*. In the section on Frequently Asked Questions, the following appears:

> FAQ-151: Off-shore Platforms as High Consequence Areas Question: Must off-shore platforms be treated as high consequence areas?
>
> Answer: When associated with a transmission line, an offshore platform must be considered as a possible "identified site." The platform may become an HCA if it is occupied by enough people (including employees of the operator) on a sufficient number of days each year to meet the criteria in the rule.

Moreover, an "identified site" is defined in 49 CFR Part 192.903 as "[a] facility occupied by persons who are confined, are of impaired mobility, or would be difficult to evacuate." Accordingly, the facility is an identified site and a portion of the transmission pipeline should be considered an HCA. Therefore, Broadwater must develop a Transmission Integrity Management Plan for the HCA portion of the pipeline.

SA4-11

SA4-11 Section 3.10.9.1 of the final EIS has been revised to address the appropriate pipeline designation as it relates to integrity management requirements.

III. ENVIRONMENTAL ISSUES

DEIS Section 3.5.6.4 addresses operational effects of the project on visual resources. A FERC staff recommendation at page 3-100 includes review and approval of a lighting plan prior to placing the facility into operation. NYSDPS encourages FERC to identify in the FEIS additional stipulations on the lighting plan and visual mitigation strategies.

We recommend that the lighting plan be developed at an earlier stage in project development, so that lighting design, controls, and layout are considered at a point where changes can be accommodated as appropriate. In addition, it is important SA4-12 that operational lighting design accommodate lighting requirements for worker safety while minimizing off-site lighting effects. Accordingly, the design should include dark-skies compliant features as appropriate and FAA hazard warning lighting requirements should be identified, with consideration of least intrusive lighting schemes.

SA4-13 Finally, the developer proposed alternative facility color-schemes, but the DEIS does not indicate that the

SA4-12 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. If Broadwater receives initial authorization from the Commission to continue with Project design, there would be continuing reviews of the Project, including final design, operations manuals, and an Emergency Response Plan. If the information provided is approved by FERC and the Coast Guard, the Commission would authorize the Project to continue into the next review cycle, or perhaps approve initiation of construction. 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.

SA4-13 Our recommendation in Section 3.5.6.4 of the final EIS has been revised to require Broadwater to file the final FSRU and YMS color schemes with FERC.

SA4-13 alternatives should be filed and reviewed by FERC. Such review and approval should be required.

Respectfully submitted,

Peter M. McGowan, Acting
General Counsel
New York State Department of
Public Service

BY: Saul A. Rigberg
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(518) 473-8178

Dated: January 22, 2007
Albany, New York

200702015005 Received FERC OSEC 02/01/2007 10:26:00 AM Docket#. CP06-54-000

January 23, 2007

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

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

Dear Ms. Salas:

The New York State Office of General Services (OGS), as the State agency responsible for the superintendence and disposition of State lands including land underwater pursuant to the New York State Public Lands Law (PLL) and as an involved agency in the referenced proposal, submits the following comments on the draft Environmental Impact Statement (EIS):

SA5-1 The proposal entails a permanent removal of an area of unprecedented size from the State's navigable waters for the LNG Project. The EIS should evaluate whether the conveyance of a leasehold or easement to a private entity for the Broadwater LNG Project of substantial acreage in the middle of the Long Island Sound waterway for the floating regasification plant, security zone, connecting pipeline and restricted channel is an abdication of the State's public trust responsibilities and whether conveyance of such an interest can be done without impairment of the public interest in the lands and waters remaining. (See Illinois Central R.R. v Illinois, 146 US 387) The EIS should also include a section explicitly evaluating the impact of the proposal on New York's PLL, including the public trust factors set forth in Article 6, Section 75, sufficient to support a decision on the impacts on the State public trust and agency Findings on the issue.

SA5-2 The EIS should explicitly consider the applicable policies of the NYS Coastal Management Program, authorized pursuant to the federal coastal Zone Management Act and Article 42 of the NYS Executive Law, as embodied in the (name of LI CZ program),

SA5-1 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.

SA5-2 Broadwater submitted a coastal consistency certification to NYSDOS and to FERC that contains Broadwater's analysis of the Project's consistency with New York State coastal policies, including applicable policies of the Long Island Sound CMP and the applicable local land management plans. NYSDOS is responsible for determining whether the Project is consistent with those policies. It is our understanding that NYSDOS will file its determination with FERC after the final EIS has been issued.

SA5-3

The EIS should include discussion of the NYS Environmental Quality Review Act (Section 8 of the Environmental Conservation Law) and it's implementing regulations at 6 NYCRR 617 (together referred to as SEQR). This discussion should elaborate on those characteristics and requirements of the State review not embraced in the EIS prepared pursuant to the National Environmental Protection Act (NEPA). Please elaborate on the proposed measures of mitigation for all identified significant potential impacts including the loss of the aforementioned public trust lands. To the extent possible, mitigation should be quantified, based upon the relative costs and benefits of the proposal upon the resource being mitigated.

The impacts to natural resources and the State and regional environment should similarly be quantified utilizing consideration of costs and benefits. Pursuant to SEQR this balancing can also utilize economic, social and cultural considerations, as well as environmental ones.

The alternatives discussion should include analysis sufficient to satisfy SEQR, as well as explicit specific consideration of the State's public trust responsibilities.

The SEQR analyses are required for State agencies to issue findings, a requirement precedent to issuing any approvals or granting any interest in the lands of the State.

Prior to issuing any approvals, notification must be made pursuant to the PLL to adjacent property owners and affected government agencies. This notice invites comments from affected parties, which must be considered by OGS before taking action.

Thank you for the opportunity to participate in the proposal and provide comments. Please direct any comments or questions to me at (518) 474-4944.

Sincerely,

James Sproat
Director
Real Estate Planning & Development

SA5-3 In accordance with the requirements of the NGA and EPAct of 2005, FERC is making a federal decision on the application submitted by Broadwater. That process includes conducting an environmental review in compliance with NEPA, and the EIS for the Broadwater Project was prepared as a part of that review process. As described in Section 1.2 of the final EIS, the final EIS complies with NEPA guidelines, CEQ regulations for implementing NEPA, and FERC's regulations for implementing NEPA.

The New York State Environmental Quality Review Act (SEQR) mandates a state environmental review process as a part of the application review process for state agencies. However, because our decision on the Project will be a federal action, the EIS does not address the requirements of SEQR. Some of the assessments and other information included in our final EIS may be similar to those required for an SEQR impact analysis and may be useful to NYSOGS and other state agencies in their review of the Project.

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STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION
79 ELM STREET HARTFORD, CT 06106-5127
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Gina McCarthy
Commissioner

UNITED STATES OF AMERICA

FEDERAL ENERGY REGULATORY COMMISSION

Broadwater Energy LLC Broadwater Pipeline LLC	))	Project Nos. PF05-4 CP06-54-000 CP06-55-000

Draft Environmental Impact Statement (DEIS) – Comments

SA6-1 The Department offers comments on the subject document that was issued by the Commission on November 17, 2006. The Commission should be aware that the paper copy of the released DEIS has pages omitted from Appendix D, the U. S. Coast Guard's Waterways Suitability Report (WSR). Specifically, pages 148 through 165 are missing. These pages are included on the CD version of the DEIS. The DEIS has been reviewed by all relevant disciplines within the Department, and the following comments are a coordinated response. The comments are organized by subject/resource with specific DEIS references provided, as appropriate.

PUBLIC TRUST LAND

SA6-2 On page 1-1 of the DEIS, the location of the project is described in the following statement: "All Project facilities would be in the Suffolk County, New York water of Long Island Sound. There are other instances in the DEIS where the location of the project is inferred as being entirely within New York waters, such as on pages 3-85 & 86. This information is not accurate.

SA6-3 The 950-acre permanent security zone that is a necessary and required feature of the project will extend into waters of the State of Connecticut and will exclude the public's use and enjoyment of approximately 40 acres of our public trust land.[1] At a minimum, this fact should be recognized and considered in the ongoing analysis; far better would be an acknowledgement that the States of New York and Connecticut, as trustees for the submerged lands and waters of Long Island Sound, should have a determinative role in deciding whether or not the FSRU and its ancillary security zone may be located on public trust property

SA6-4 The presence of the proposed security zone in Connecticut waters implicates not only our public trust responsibilities, but also our coastal management responsibilities under the federal Coastal Zone Management Act (CZMA) consistency process. I have written to the Commssion on several occasions,[2] pointing out that this aspect of the Broadwater project requires submission

[1] The calculation of this acreage is based on the radius of the security zone contained in the Waterways Suitability Report and the coordinates for the YMS (Broadwater DWG No. 05032-063 SH1).
[2] Most notably, in letters dated February 28, 2006, June 30, 2006, and October 5, 2006.

SA6-1 Thank you for notifying us of the missing pages. The entire text of the WSR is included as Appendix C of the final EIS.

SA6-2 All fixed Project-related facilities under the jurisdiction of FERC would be located entirely in Suffolk County, New York; these include the FSRU, YMS, pipeline, and onshore facilities. As noted by the comment and as stated in Section 2.1 of the final EIS, a small portion of the proposed fixed safety and security zone around the YMS and FSRU would extend into Connecticut waters. As stated in Section 3.2.6.1 of the WSR (Appendix C of the final EIS), some LNG carriers and their proposed safety and security zones may pass through Connecticut waters.

SA6-3 A portion of this comment is addressed in response to comment SA6-2. In addition, we have assessed the environmental impacts of the proposed safety and security zone around the YMS and FSRU and have reported the results of those assessments throughout the final EIS. Our assessments included potential impacts to public use due to exclusion from the entire proposed safety and security zone. However, legal aspects of the Public Trust Doctrine are not part of our environmental review. Section 3.5.7.4 addresses issues related to public trust.

SA6-4

of a Connecticut consistency determination by the applicant. While section 3.5.7.1 of the DEIS does discuss the need for Broadwater to obtain a consistency concurrence from New York's federally-approved coastal management program, it asserts that the Coast Guard's Letter of Recommendation (LOR) process, from which the security zone originated, is a separate authorization process for CZMA consistency purposes and that Connecticut missed the deadline for requesting consistency review.[3] Given that the LOR is a required component of an LNG facility authorization under the Natural Gas Act and the Energy Policy Act of 2005 (EPAct), and that EPACT established a consolidated record and review process for all LNG authorizations under federal law, we do not understand how the LOR can be considered a separate authorization with a separate review framework from FERC's review of this application. Accordingly, we urge FERC to reconsider its position and to require that Broadwater obtain CZMA concurrence from Connecticut prior to final action on this application. Without the official review opportunity afforded by the CZMA consistency process, the Department's comments on the Broadwater application carry no more weight than any other public comments, so that we are forced to depend entirely on FERC's consideration of how and under what circumstances Connecticut's citizens may be excluded from forty acres of their public trust property. Under such conditions, as Governor Rell stated in her remarks delivered at the January 9, 2007 public hearing on the DEIS, "Forcing Connecticut to accept those types of security zones represents a taking of our property."

ALTERNATIVES

The DEIS's Alternatives Analysis in Section 4 is fundamentally flawed, if not disingenuous. The Broadwater project is evaluated against a wide range of individual alternatives, including renewable energy sources, different pipeline system alternatives, other proposed LNG terminals, and alternative terminal and pipeline locations. Each one of these alternatives is reviewed in isolation and rejected, either due to allegedly greater environmental impacts than Broadwater, or not providing enough additional (imported) gas supply, or both. However, at least five of the alternative pipeline and terminal projects rejected by the DEIS have already been approved by FERC, so that the environmental impacts of the alternative projects have, presumably, already been deemed acceptable. FERC should therefore assume, for purposes of the DEIS, that the impacts of Broadwater will be cumulative, not alternative, with regard to environmental impacts which are likely to be sustained anyway.

SA6-5

SA6-6

In particular, we are taken aback by the discussion of the Islander East natural gas pipeline, also located in Long Island Sound, at section 4.3.1.2. Since FERC has already approved this project, despite a Final EIS finding that the proposed route is not the least environmentally impacting, it is astounding to us that the DEIS rejects Islander East as having an unacceptable adverse impact compared to Broadwater, and also because it does not meet the region's demand for natural gas. If Broadwater is truly superior to Islander East environmentally and with regard to regional gas supplies, then what justification remains for constructing Islander East? In fact, Connecticut DEP fully endorses the DEIS analysis of Islander East, and based on the DEIS conclusion, respectfully suggests that FERC promptly revoke its approval of the

[3] The DEIS measures this deadline from an August 16, 2005 public notice. However, it was not until the release of the WSR on September 21, 2006 that the Broadwater project was confirmed as extending into Connecticut waters by virtue of the security zone. Accordingly, the Commissioner's requests to FERC for consistency review were timely.

SA6-4 FERC has no legal authority to grant Connecticut a formal role under the CZMA because the Coast Guard is responsible for ensuring compliance with the CZMA as it relates to establishment of the safety and security zones for LNG marine traffic affecting Connecticut waters. For additional discussion on this topic, please see Section 3.5.7.1 of the final EIS.

SA6-5 Section 3.11.5 of the final EIS assesses potential cumulative impacts that would be associated with recently approved pipeline and LNG projects. Sections 4.3 and 4.4 discuss some of these same projects as alternative methods for getting gas to the Connecticut, Long Island, and New York City markets.

SA6-6 In Section 4.3.1.2, the final EIS discusses the proposed Islander East pipeline as an alternative to the Broadwater Project. In that analysis, we noted that the Islander East pipeline, as currently proposed, would not be able to supply sufficient natural gas to Broadwater's target markets, particularly Long Island and New York City. To provide these extra volumes of gas, the Islander East pipeline as approved by FERC in 2004 would need to be substantially expanded and would require construction and operation of compressor stations (with associated air and noise emissions) in order to meet the stated Broadwater Project needs. Clearly, the expanded configuration of Islander East is the one that we evaluated as an alternative to Broadwater. It is the supplemental facilities needed to make Islander East comparable that render it a less attractive alternative.

SA6-6 Islander East pipeline and engage in a comprehensive evaluation of all of the alternatives for meeting the region's demand for natural gas that acknowledges cumulative environmental impacts.

SA6-7 Moreover, by evaluating alternatives individually the DEIS did not consider the potential that several pipeline and/or LNG terminal projects could combine to provide as much or more natural gas to the Connecticut/New York region as Broadwater. For instance, a combination of a revised Millennium Phase II,[4] the Leidy to Long Island project, and, for example, the Dominion Hub project, could provide an equivalent level of gas supply to the region without any impacts to Long Island Sound. If the importation of foreign LNG is a necessary goal, the gas imported through Broadwater to the region's pipeline system could be replaced by a combination of the Northeast Gateway and Neptune Terminal projects, both of which have been approved by Massachusetts Governor Romney.

SA6-8 The displacement of recreational and commercial uses of the project area is a significant impact of the project. Access to areas traditionally used by the public, as well as the quality of experience, would be diminished by the additional large-vessel traffic and associated security zone through the Race and eastern Long Island Sound. However, it is not possible to quantify such impacts at this time. Nonetheless, additional measures should be evaluated to avoid these impacts. For instance, locating the FSRU at a site outside of Long Island Sound, such as described in Alternative 4.4.2.1, would eliminate interference with these existing uses at the Race and eastern Long Island Sound and should be given greater consideration in the analysis of alternatives.

SA6-9 Finally, the DEIS in section 4.4.1.1 appears to give short shrift to the alternative of expanding the existing KeySpan or ConocoPhillips oil platforms. Of course these facilities have not been designed to accommodate LNG imports, but neither has the middle of Long Island Sound, nor has the Iroquois pipeline been designed to accommodate gas from Broadwater without significant modifications. Given the financial resources available to the applicant, and the regulatory authority enjoyed by FERC, particularly the power of eminent domain over private property, it is unwarranted for the DEIS not to conduct a complete analysis of co-locating LNG and petroleum terminals. The existing terminals offer navigational depths and tanker berthing capacity more than adequate to accommodate LNG tankers, and adding LNG offloading and storage facilities in the same location could take advantage of significant economies of scale in equipment construction, operation and maintenance, security, and tanker traffic management.

WILDLIFE - Birds, Marine Mammals and Sea Turtles

SA6-10 In our scoping comments, the Department raised the issue of the potential impact on migratory birds due to collision or strikes to the structure itself. The DEIS has addressed these concerns, albeit in a cursory and limited fashion. Although the potential impacts may be slight,

[4] Despite the DEIS's finding that it was unlikely that the Millennium pipeline would be constructed in light of NYDOS's denial of coastal consistency, both the NYDOS decision and the Secretary of Commerce's decision on Millennium's CZMA appeal highlighted potential feasible alternative routes for a natural gas pipeline crossing of the Hudson River. Thus, if the applicant were to revise its proposal in light of applicable environmental constraints, this project would constitute a viable alternative to provide natural gas to the region.

SA6-7 As discussed in Section 4.3, 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. Section 4.3 has been expanded in the final EIS to consider combinations of LNG terminals and pipelines that have been approved by FERC or the Coast Guard as potential alternatives to the Broadwater LNG Project. There is no guarantee that these pending projects will be built; thus, they may not provide any gas to their target markets much less to Broadwater's. However, none of these alternative projects have identified the same target market as Broadwater. Consequently, each would need to be expanded or modified to meet the same project objective as Broadwater.

SA6-8 As described in Sections 3.5.5.1 and 3.7.1.4 of the final EIS, the proposed fixed safety and security zone around the YMS and the FSRU, and the proposed moving safety and security zone around each carrier would result in localized impacts. Long Island Sound is almost entirely unconstricted with large areas of open water. The only area of potential constriction is the Race. Therefore, discussions on potential interference with recreational vessels should be focused on that geographic feature. In summary, an LNG carrier and its proposed moving safety and security zone would pass through the 2.3-mile length of the Race in 25 to 35 minutes, depending on the speed of the carrier; the entire safety and security zone would pass a single point within about 15 minutes. Vessels in the path of an oncoming LNG carrier and its safety and security zone would be required to temporarily move from their positions; however, some vessels could transit the Race while a carrier is present by using the area between the limits of the Race and the edge of the carrier's safety and security zone. Recreational vessels would generally be able to enter or exit eastern Long Island Sound using the Race concurrent with the movements of LNG carriers. Because LNG carriers would transit the Race no more than once a day, the potential conflict with other vessels would be only occasional. 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).

The safety and security zone of each LNG carrier would cover an area of approximately 0.2 percent of the total area of Long Island Sound, and only one carrier would be present inside the pilot stations at any one time. All other portions of the LNG carrier route would be available for use. Therefore, the displacement of recreational and commercial uses would not cause a significant impact.

SA6-8 **(Continued)**

In Section 4.0 of the final EIS, we have considered the environmental impacts of potential 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. We determined that alternatives that are outside of Long Island Sound would result in greater impacts to natural resources than those of the proposed Broadwater Project, particularly due to pipeline construction. We also determined that impacts to marine transportation from LNG carrier transits outside of Long Island Sound would be comparable to those of the proposed Project (that is, minor and temporary when they did occur, but would periodically continue throughout the life of the Project).

SA6-9 In Section 4.4.1.1, the final EIS discusses the feasibility of retrofitting either the KeySpan or ConocoPhillips platforms for use as an LNG receiving, storage, and regasification facility. First, an LNG terminal at either of these locations would be much closer to populated areas than the proposed Broadwater Project. As described in the final EIS, neither of these facilities could be utilized for the above-referenced functions without significant infrastructure improvements, including (a) expansion of the existing platform bases (which are 50 to 100 feet long) to accommodate LNG carriers that may be 1,000 feet long or longer; and (b) provision of space, either onshore or offshore, for LNG storage and regasification functions.

SA6-10 As discussed in responses to comments FA1-2 and FA1-6, Section 3.3.5 of the final EIS has been expanded to more fully discuss potential impacts of lighting and strike hazards to avian species.

SA6-10 no attention was given to literature on this issue and the overall section pertaining to effects on avian species is weak. The discussion of impacts is limited to pelagic species and diving ducks. The Department has documented numerous passerine species "dropping-in" on offshore islands during migration and has many anecdotal observations of passerines being observed from vessels in Long Island Sound (LIS) as they cross the Sound during spring and fall migrations. The assessment of lighting and related strike hazards does not include a discussion of strike hazards posed by aviation hazard warning lights. The color, wattage, and height of this type of lighting can greatly impact migrating species, especially during periods when visibility is poor.

SA6-11 Migrating bats are also likely to cross LIS and may be at risk for strike mortality. Even though their migration patterns are not well documented, the potential impact on bats deserves some attention in the DEIS. The species of bats that would most likely to be impacted are red, hoary, and silver-haired.

SA6-12 Some of the questions that we raised in our scoping comments regarding marine mammals have been addressed in the document. LNG vessels transiting Block Island and Rhode Island Sounds may adversely impact migrating North Atlantic Right Whales; therefore, it is important that Federal rules intended to reduce mortality due to ship strikes be strictly followed in non-exempt areas. Although discussed in an ancillary fashion within the fisheries sections of the DEIS, no direct discussion of the potential impacts to prey or food items for marine mammals resulting from project construction or operation is included. The availability of food has a direct impact on marine mammal and sea turtle use of the project area. Disturbances (e.g., pile driving) from construction should be minimized from November through May when seals are in the area and during summer when sea turtles may be present. Forming work groups to address whale and marine mammal mitigation was mentioned. Participation should include appropriate staff from Mystic Aquarium as they are Connecticut's designee for stranding and injured marine mammals and have Sound-wide experience.

STATE OF CONNECTICUT ENDANGERED SPECIES ACT (CT ESA)

In 1984, the Department's Marine Fisheries Division (MFD) began a long-term survey called the Long Island Sound Trawl Survey, hereafter referred to as the Survey, to monitor the abundance and distribution of finfish and crustaceans in Long Island Sound. During certain months, sites are selected at random from throughout the Sound for sampling.[5] The Survey database was queried to determine if species listed under the CT ESA have been observed in sites encompassing the proposed FSRU and pipeline route.

The State of Connecticut, as well as the federal government, lists shortnose sturgeon (*Acipenser brevirostrum*) as Endangered. No shortnose sturgeon have been captured in the vicinity of the proposed FSRU or pipeline corridor.

The Atlantic sturgeon (*Acipenser oxyrinchus)* is listed by the State of Connecticut as Threatened. NOAA Fisheries considers Atlantic sturgeon to be a "species of concern" and the

[5] A description of the Survey was provided to FERC staff during preparation of the DEIS. Additional detail is available from the Marine Fisheries Division, or the most current annual report at: http://www.dep.state.ct.us/burnatr/fishing/marineinfo/marineinfo2.htm.

SA6-11 Section 3.3.5 of the final EIS has been expanded to more fully discuss potential impacts of strike hazards to bats.

SA6-12 Thank you for your comment. The final EIS has been modified to include a discussion on potential impacts to prey or food items of marine mammals. At the request of NMFS, we have included a recommendation in Section 3.4.1.2 of the final EIS for Broadwater to conduct pile-driving operations within the December through March period to avoid impacts to sea turtles

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species is also a candidate for listing under the federal Endangered Species Act. According to the DEIS, the State of New York categorizes Atlantic sturgeon as "protected."

On page 3-78, the DEIS states: "Although these species [i.e. Atlantic sturgeon and shortnose sturgeon] are rarely found in Long Island Sound, they could theoretically be present as transients in the proposed Project area."

SA6-13 The Survey has observed Atlantic sturgeon in the proposed FSRU location and pipeline corridor. Survey catches of Atlantic sturgeon in any given year are typically low, but when the time series is aggregated and examined spatially it is evident that sturgeon occur regularly in certain portions of the Sound. Even a low number of individuals observed at certain locations over a period of time can be suggestive of deliberate use of the area for purposes other than directed migration. Of the Survey sites that encompass the proposed FSRU and pipeline, only seven Atlantic sturgeon were captured along the entire pipeline route over the time series, but six of these individuals were in the vicinity of the FSRU. This area is at the southwest corner of a broader area used by sturgeon that extends northeast toward the Connecticut coastline, with the largest numbers regularly occurring near Faulkner Island. The Survey data indicates the southwest corner of this area could be avoided entirely if the FSRU location were moved a short distance to the south and west, perhaps on the order of 0.5 to 1.5 nautical miles (nm). It is recommended the DEIS consider this information in the assessment.

The rainbow smelt (*Osmerus mordax*) is listed by the State of Connecticut as Threatened (only anadromous populations). The Survey has only observed three rainbow smelt in the proposed pipeline corridor. All three were observed in 1993 in a site that encompasses a western section of the corridor (two were taken in the Survey, which uses a 51 mm codend, and another was observed in a study conducted during the summer months from 1991 to 1993 using a trawl net equipped with a 6.4 mm codend liner).

SA6-14 An analysis of potential impacts to roseate terns (*Sterna dougallii*), a federally and state endangered species, is noticeably missing from the DEIS even though the importance of this species was highlighted in our scoping comments. Major nesting colonies occur within LIS and adult birds travel through the Sound to forage. It is not uncommon for birds nesting in Connecticut waters to travel across the sound to forage around shoals closer to Long Island. At a minimum, a discussion of impacts to this species in terms of strike hazards, increased travel time on feeding flights due to flight path obstructions and potential alterations or changes to foraging areas should be included in the DEIS. If it takes adults longer to travel from Connecticut to Long Island to obtain food and then return with that food for their young, there could be a resulting drop in survival and fledging rates.

SA6-15 It remains uncertain as to the potential impacts a rupture in the pipeline, an LNG spill or leak during transfer operations or a similar type accident would pose to the wildlife and fisheries resources. The DEIS mentions the potential impacts of a carrier transport accident whereby thermal impacts could negatively affect portions of the Connecticut's coast. Goshen Point is included within this potential impact area and is a nesting location for piping plovers (*Charadrius melodus*), which is a designated Federal and State threatened species. The DEIS

SA6-13 Section 3.4.1.3 of the final EIS has been modified to incorporate the occurrence of Atlantic sturgeon in the general Project area.

SA6-14 As stated in Section 3.4 of the final EIS, FWS is responsible for protection of federally listed avian species, including roseate terns. In a June 7, 2007 letter, FWS concurred with FERC's determination that the proposed offshore barge facility would not be likely to adversely affect federally listed species.

SA6-15 In a June 7, 2007 letter FWS concurred with FERC's determination that the proposed offshore barge facility would not be likely to adversely affect federally listed species.

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SA6-15 does not mention or discuss any possible preventative or mitigation measures, such as re-routing of LNG carriers, to avoid adversely impacting this species should a catastrophic event occur.

LONG ISLAND SOUND TRAWL SURVEY – Impacts

On page 3-94, the DEIS states: "The Coast Guard has stated that it *likely* [emphasis added] would allow the agency [i.e. CT DEP] to conduct sampling within the safety and security zone, assuming that proper procedures are followed to receive approval and that conditions related to safety and security zone at the time sampling is planned are acceptable." The DEIS further states that "If sampling is not permitted in the safety and security zone, a small number of potential transect locations would be eliminated from the pool of potential transect sites. Under these circumstances, the agency would need to make minor statistical adjustments in its analysis before interpreting the longitudinal data set. This would result in a minor, long-term impact on the State of Connecticut's survey program."

SA6-16 The sites referred to in the DEIS are particularly important to the Survey. The foundation of the Survey is the stratified-random design, whereby sites are chosen at random from a list of sites assigned a stratum designated by depth interval and bottom type. The sites in the location of the FSRU and trawl zone[6] are in the "deep mud" stratum (i.e. in depths greater than 90 ft with mud bottom, designated M4). Because the trawl zone is free of lobster pots, these sites are often used as substitutes when M4 sites in other locations can not be sampled because of a high density of lobster pots. As undesirable as it may be from a statistical/survey design perspective to relocate survey tows to the trawl zone, it has been a necessity for most of the time series and is far preferable to losing M4 samples altogether, which may happen if the FSRU is located at its proposed location. Ultimately, removal of these sites from the M4 stratum list could jeopardize the Department's ability to adequately sample the M4 stratum.

Even if access is granted to sample in the security zone, it is unclear if the Survey could adequately sample the affected M4 sites. Based on the proposed FSRU coordinates and our experience using the trawl zone, the current location of the FSRU is directly in the trawl zone (43970 line LORAN C 9960-Y), and the trawl zone is currently only about 0.2 nautical mile wide (between 43970-Y to 43972-Y LORAN C, or two microseconds) rather than the 0.5 nautical mile width described in the DEIS.[7] Plotting the positions of previous Survey tows shows that most of the tows conducted in the trawl zone go right through the proposed FSRU location. This means that to complete a Survey tow – which is approximately 1.7 nautical miles long – within the M4 sites, the Survey vessel would either have to tow the net directly toward the FSRU and be able to navigate close to and around it, or start setting the net very close to the FSRU and tow away from it (setting close to the FSRU would be necessary in order to be sure there was enough room to complete a tow before encountering lobster pot gear). Neither situation is practical in terms of implementing the Survey or for navigation safety reasons.

[6] As discussed in the DEIS, the trawl zone is an area where lobster pot fishermen have agreed not to set lobster pots so that trawl fishermen can tow their nets.

[7] The reduction in width is due to the decline of commercial trawling activity and subsequent encroachment by lobster pot fishermen. This is not unusual since the "trawl zone" is an informal agreement among fishermen and its location and width will vary over time.

SA6-16 Review of the CTDEP trawl sampling grid indicates that the proposed YMS would be located in the southeastern corner of one of the M4 grids (less than 0.1 mile from the corner). It is expected that CTDEP would be able to continue to sample within this grid, assuming that CTDEP satisfies the Coast Guard's safety requirements and receives permission from the Captain of the Port. It is doubtful that even removal of one of the 54 M4 grids would jeopardize CTDEP's ability to adequately sample the M4 stratum. In fact, creation of an area of open water (without lobster pots) due to the existence of the safety and security zone could improve trawling access.

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We are aware that the FSRU has been sited considering a number of factors, such as a significant amount of commercial vessel traffic transiting the Sound to the south of the proposed site. We are also aware that NYDEC may be concerned about any additional encroachment into waters fished by lobster fishermen. However, given the importance of the Survey to Connecticut's management of fisheries and fish habitat, as well as the value of the Survey to the State of New York for similar purposes, we request that if the Broadwater project is to be approved that FERC evaluate moving the location of the FSRU to better accommodate the Survey.

SA6-17

If the FSRU were located as little as 0.3 nm further south and access to the safety and security zone were provided, the Survey could continue to relocate samples to the trawl zone as needed and tow directly north of the FSRU. The closest point of approach (CPA) would then be at least 0.2 nm even if the FSRU were swinging to the north on a changing tide, and the CPA would be 0.3 nm in a normal running (east-west) tide. Moving the FSRU to the west-southwest may avoid most of the commercial traffic and may help address the trawl survey issue. Also, this would avoid the area where Atlantic sturgeon have been observed, as described above.

SA6-18

The proposed pipeline, if improperly backfilled, may also interfere with the Survey.[8] Plans call for backfilling the initial two miles of the pipeline with stone and leaving the mounded sediment in place. It is not clear in the DEIS why backfilling this length of pipeline with stone is necessary. It will be difficult, if not impossible, to tow a bottom trawl over these mounds of sediment, and the stone, if large enough in size, may also interfere with the net if it forms piles or is scattered on the seabed. This problem may be alleviated if the FSRU is moved as suggested above, but if it is not moved then the Department requests that FERC evaluate this issue and ensure that the pipeline corridor does not become an impediment to trawling.

SA6-19

A portion of the pipeline near the connection with the Iroquois pipeline, between approximately 73° 7' 28" and 73° 13' 29", is within sites that have been accessible to the Survey in most years. Sampling with the trawl is confined to particular locations within these sites, and the coordinates of Survey tows conducted in previous years overlaid on the pipeline route show the route runs parallel to and perhaps overlaps many of the tow paths. Given the uncertainty expressed in the DEIS about the ability of Broadwater to backfill the trench and the likelihood of sediment mounds remaining on either side of the trench, the Survey may not be able to sample these sites.

This concern is also relevant to the mid-section of the pipeline. Historically, there have been fewer tows made over this section of the proposed pipeline corridor due to either hard bottom (Stratford Shoal area) or a high density of lobster pots, but some of this area could become accessible some time in the future, and so it is important that the trench be backfilled properly and mounds or blocks of sediment do not remain on the seafloor.

SA6-20

These concerns are also relevant to commercial trawl and lobster pot fishing. FERC should evaluate this issue and ensure that the pipeline corridor not become an impediment to the Survey, as well as commercial trawling and lobster pot fishing.

[8] The exact coordinates of the pipeline and Iroquois tie-in were not provided in the DEIS, thus our evaluation is based on our estimates of the location using the information available.

SA6-17 Thank you for your comment. As discussed in response to comment SA6-16, based on the trawl grid and sampling maps provided by CTDEP, there would be minimum impact to the ability to conduct trawl surveys in the safety and security zone, assuming that CTDEP satisfied the Coast Guard's safety requirements. Because the FSRU would be designed to weathervane around the YMS based on prevailing currents and tides, the presence of the FSRU would not remove any sampling grids from CTDEP's survey since the trawl can be conducted when the FSRU weathervanes out of a desired location. It seems incongruous to move the physical location of the proposed Project (0.3 nautical mile south as suggested) slightly closer to marine traffic routes (as depicted in Figure 3.7-2 of the final EIS), ferry routes (as depicted in Figure 3.5-2 of the final EIS), and the New York shoreline to allow CTDEP ready access to one of over 300 sampling grids. Section 3.4.1 has been revised to include information regarding the presence of Atlantic sturgeon as compiled in CTDEP's trawl survey.

SA6-18 As described in Section 3.1.2.2 of the final EIS, we have included a recommendation that requires Broadwater to devise a plan to successfully backfill the 2 miles of the pipeline trench closest to the YMS (MP 0.0 to 2.0) including the use of native backfill on the surface. Thus, it is not expected that backfilling would create an impediment to trawling.

SA6-19 Section 3.1.2.2 of the final EIS has been expanded to more fully describe backfilling success for previous linear projects in Long Island Sound. The results of this review indicate that natural and mechanical backfilling have been largely successful in some areas of Long Island Sound (Cross Sound Cable, the offshore portion of IGTS pipeline) and not in others (portions of the Eastchester pipeline and the nearshore portion of the IGTS pipeline). The areas least likely to be successfully backfilled are areas of hardbottom. The proposed pipeline would traverse predominantly softbottom. The final EIS includes a recommendation that would require backfilling of the trench and monitoring its success. Thus, it is unlikely that minor topographical remnants of the spoil piles would hinder trawling.

SA6-20 As noted in responses to comments SA6-18 and SA6-19, installation of the pipeline as described in the final EIS would not create an impediment to trawling or lobstering.

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PIPELINE - Effects on habitat

The DEIS states that a subsea plow is the preferred machine for excavating the pipeline trench in order to minimize environmental impacts. Broadwater proposed leaving the trench open to backfill naturally, but the DEIS concludes: "active and successful restoration of the seafloor grade would minimize potential impacts to the seafloor." The DEIS recommends a 20-mile section of the trench be backfilled with the excavated sediment to a minimum of three feet to meet "federal pipeline integrity protection requirements."

SA6-21 This recommendation should be required if the project ultimately goes forward. Negative, long-term habitat impacts are most likely if a 6 ft to 9 ft trench is left open, and restoring preconstruction conditions would prevent other problems, such as interference with the Survey (see above), commercial trawling or lobster pot fishing.

However, the DEIS does not present a convincing case that a subsea plow is the best machine for excavating and backfilling a trench, or that it would have less negative impact on seafloor habitat and benthic animals than other machines, such as a jetting machine. The DEIS states that a subsea plow was used to excavate the trench for the recently installed Eastchester Expansion Pipeline in the western Sound and the contractors "largely were not successful at filling the trench." In contrast, the DEIS states that contractors were able to backfill the HubLine trench in Boston Harbor, which was also excavated with a plow.

To address potential problems with backfilling, the DEIS recommends:

> Prior to construction, Broadwater file plans with the Secretary, for review and written approval by the Director of OEP, describing methods to mechanically backfill the trench with the excavated spoil material in a manner that successfully results in the excavated material being returned to the trench immediately following installation. The plan incorporate [*sic*] interagency coordination to identify the conditions under which backfilling would be required, the appropriate methods for backfilling, and detailed post-construction monitoring criteria to assess success.

SA6-22

SA6-23 This recommendation has two weaknesses. First, the recommendation does not call for remediation if the post-construction monitoring finds significant problems. Second, and perhaps more important, even if remediation is required the DEIS provides little evidence that sediments excavated with a subsea plow can be successfully backfilled into the trench and original bottom contours restored. No details were provided about the Eastchester pipeline and HubLine installations and their relevance to the current project. The DEIS does not explain how a remotely operated subsea plow in depths of 55 ft to 95 ft, with relatively poor visibility conditions in Long Island Sound, could fully cover the trench and restore original contours on both sides of the trench. The experience with the Iroquois pipeline installation in shallow waters with a clamshell dredge demonstrated how difficult it can be – if not impossible – to restore original seabed contours after sediment has been excavated.

SA6-21 It is expected that all recommendations included in the final EIS would be incorporated as requirements into any authorization by the Commission, if the proposed Project is approved.

SA6-22 This wording has been updated in the recommendation described in Section 3.1.2.2 of the final EIS.

SA6-23 As noted above, Section 3.1.2.2 of the final EIS has been expanded to more fully describe the relative success of natural and mechanical backfilling following installation of the IGTS, Eastchester, and HubLine pipelines. While this text describes the problems that have occurred, it should be noted that portions of the IGTS pipeline that were installed using a similar subsea plow have recovered, and the portions of the IGTS pipeline route that have been problematic were installed using a different method and in different habitat. Due to the wealth of knowledge and experience of the resource agencies in the Long Island Sound area on this topic, we have included a recommendation in the final EIS that Broadwater coordinate with the appropriate federal and state resource agencies to determine how best to actively backfill the trench and monitor the subsequent success.

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SA6-24 Therefore, it is recommended that past utility installations should be further evaluated to determine if a trench excavated with a subsea plow can be successfully backfilled, or whether another method of installation, such as jetting, would be more appropriate. The failures of the Eastchester project should be characterized, impacts quantified and relevance to the current project determined. Also, the HubLine installation in Boston Harbor should be examined to determine if the apparent success of that project is relevant to conditions in the Sound.

SA6-25 The details of the Iroquois pipeline installation could provide valuable lessons. Evidently, surveys of certain portions of the pipeline conducted by the National Marine Fisheries Service's Milford office in 1995 and Iroquois surveys in 1993 and 1999 found the pipeline to be adequately buried. Unfortunately, based on conversations with individuals knowledgeable about the surveys, it is unclear as to whether a jetting machine, subsea plow, or both techniques were used in offshore waters, and exactly where the techniques were employed.[9] Matching up the surveyed transects with the type of installation used would be relevant to the Broadwater project. Also, the Survey has successfully towed a trawl net across the pipeline in a number of places, with one exception in New York waters where the net was snagged and lost on what seemed to be a mound of mud that may have been created by the Iroquois installation. This suggests that the pipeline is adequately buried in most places. This information could also be used to evaluate installation methods.

SA6-26 There have been other utilities installed in the Sound that could be used to determine the most environmentally appropriate installation method. The Cross Sound Cable, AT&T telecommunications cable and MCI telecommunications cable were all installed with jetting techniques. It appears that post-installation surveys of the Cross Sound Cable demonstrated there was minimal long-term impact to the environment – minimal sediment was dispersed from the disturbed area, and the bottom habitat recovered relatively quickly.[10] There is also the Flag Atlantic telecommunications cable, but how that cable was installed and the current condition of the seabed over the cable is unknown.

SA6-27 Another area of concern is the approximately 4,000-foot section that would cross the hard bottom habitats of the Stratford Shoal area. According to the DEIS, it is unknown if the subsea plow can excavate and backfill the trench in this area. If a subsea plow is used, the same concerns described above are relevant. If an alternative method is needed, the Department supports the recommendation in the DEIS on this matter that Broadwater submit a contingency plan for review and approval. This plan would describe "mitigation measures that would be implemented to avoid and minimize potential impacts." However, this issue should be resolved before Broadwater receives any approvals for the project.

One alternative to the subsea plow in this 4,000-foot section discussed in the DEIS is excavation with a clamshell dredge and backfilling with stone brought in from off-site. The

[9] The surveys were described to Mark Johnson by Mike Ludwig, NMFS Milford (retired) and Anita Flanagan, Manager, Pubic Relations & Corporate Communications for Iroquois Pipeline Operating Company, in 2002. Accounts of the methods used to install the pipeline were not in accordance. These accounts also differed from what was reported in the June 3, 2003 report prepared by the Task Force on Long Island Sound, referred to in the DEIS as TFOLIS.

[10] Surveys were conducted by Ocean Surveys, Inc. for Cross Sound Cable Company, LLC, and final rreports were submitted to the CT DEP Office of Long Island Sound Programs in fulfillment of permit conditions.

SA6-24 The discussion in Section 3.1.2.2 of the final EIS has been updated to incorporate additional detail regarding previous projects that used similar plowing methods and the degree to which seafloor contours were restored.

SA6-25 As described in Section 3.1.2.2 of the final EIS, we understand that IGTS successfully conducted subsea plowing and jetting methods to install the pipeline in the offshore waters of Long Island Sound. Therefore, we consider plowing to be the appropriate pipeline installation method for the proposed Broadwater LNG Project and have included a recommendation that Broadwater conduct post-construction monitoring to assess backfilling success.

SA6-26 The benthic habitat recovery after installation of the Cross Sound Cable is discussed in Sections 3.3.1.2 and 3.11.2 of the final EIS.

SA6-27 We have updated the text to more completely describe the alternative methods and range of impacts and mitigation. However, determination of the appropriate crossing method for Stratford Shoal would depend on the results of the pilot test with the subsea plow that would occur between October 2008 and April 2009. Thus, the final EIS identifies the potential methods, impacts, and mitigation for each method being considered.

SA6-28 concerns expressed above about the difficulty of backfilling are relevant here. Also, if the project were approved, it would be preferable to backfill with the native material or material resembling native material. The source of the backfill material could have significant implications for the resulting benthic impacts and conversion of habitat type from one substrate to another. In addition, if the trench material is removed to a hopper barge for disposal at an approved dredge disposal area, as mention on page 3-46, this disposal activity would most likely occur at a disposal site in Connecticut waters, possibly requiring sediment testing and additional regulatory approvals.

SA6-29 Another alternative mentioned in the DEIS is to lay the pipeline on the seabed and cover it with concrete mats. The consequences for benthic habitat and potential for this structure to act as a barrier to the migration of benthic animals should be evaluated. Partial burial would ensure the pipeline does not become such a barrier; however, the pipeline should not be above grade in places where the Survey or commercial fishing such as trawling and lobster pot fishing is conducted.

SA6-30 In our scoping comments we expressed concerns about potential contaminant levels along the pipeline route and do not feel that the DEIS has adequately addressed this issue. Several studies cited in the DEIS indicate mid to high levels of mercury and lead in LIS sediments, in the vicinity of the proposed pipeline. A sampling of 28 cores from along the proposed pipeline (~1/mile) indicated below threshold contaminant levels. This sampling intensity is not sufficient to come to the conclusion that there is no threat from contaminants to aquatic resources posed by the large-scale disturbance of seafloor sediments by the project.

SA6-31 The DEIS recommends conditions requiring mid-line buoys on dredge barge anchor cables as a means of avoiding impacts from anchor cable sweep from construction and support vessels. It offers no references to studies that document that mid-line buoys can completely eliminate cable sweep impacts.

PIPELINE - Temperature increases

The DEIS states that Broadwater estimated the temperature of the gas traveling through the pipe would range from a maximum of 130° F near the YMS to a low of 50° F at the Iroquois tie-in. If the pipeline is not buried, it could increase ambient seawater near the pipeline up to 20° F. At six feet from the pipeline, the estimated increase would be 1.5° F. If the pipeline is buried, Broadwater estimates there would be a "few degree" rise in temperature in the top six inches of sediment, and negligible increase at the seabed/water interface. The DEIS concludes: "Active backfilling would eliminate any potential thermal impacts to water resources associated with an open trench and exposed pipeline."

SA6-32 As described earlier, it is uncertain that a trench excavated with a subsea plow can be adequately backfilled. In addition, if the trench was successfully backfilled, an increase of a few degrees in the top six inches of sediment could have an effect on lobsters that may burrow in the sediments. The best available information indicates that lobsters in the Sound rapidly become

SA6-28 Section 3.1.2.2 of the final EIS has been updated to identify that Broadwater is agreeable to the possibility of backfilling the initial 2 miles of the trench with stone, engineered material, native sediment, or a combination of the above, which would be determined in coordination with appropriate federal and state resource agencies. Broadwater's proposed Project does not include the removal of any dredged material to offshore disposal sites. In the event that the contingency dredging method is pursued to cross Stratford Shoal, we have included a recommendation in Section 3.1.2.3 of the final EIS that Broadwater coordinate with EPA and COE to determine a suitable dredge disposal site.

SA6-29 As discussed in Section 3.3.1 of the final EIS, Broadwater proposes to use concrete armoring only at the proposed utility crossings, tie-ins to the IGTS pipeline and the YMS riser, the physical structure of the YMS legs and associated scour protection, and potentially at Stratford Shoal (as a contingency method). All other areas would be buried via a subsea plow. Areas that could be backfilled with clean rock or covered with concrete mats would permanently convert the seafloor from softbottom to rock substrate or concrete. While the conversion to hard substrate could adversely impact some biological resources and benefit others, we have included a recommendation in Section 3.1.2.3 of the final EIS that Broadwater coordinate with the appropriate federal and state resource agencies to backfill this portion of the trench, which may include covering the trench surface with native sediment. It is expected that the hard substrate provided by the concrete armoring would provide additional habitat for species such as oysters, barnacles, and mussels. In addition, the concrete armoring could provide cover for lobsters and species such as tautog. Concrete armoring would not be expected to be a barrier to migrations since only a small area of the total proposed pipeline length would be buried this way.

SA6-30 As discussed in Section 3.1.2.1 of the final EIS, the overview of sediment chemistry is based on both comprehensive sediment sampling throughout Long Island Sound by USGS and site-specific sampling conducted by Broadwater. Broadwater's sampling plan was developed according to NYSDEC's "Technical and Operational Guidance Series 5.1.9 for In-Water and Riparian Management of Sediment and Dredged Material" (November 2004), and was submitted to the appropriate federal and state agencies for review prior to sampling. Analytical results of sediment cores collected during Broadwater's field survey along the pipeline corridor were compared to sediment screening thresholds commonly used to assess potential harm to benthic inhabitants of marine environments. Mercury and lead either were not detected or were detected at concentrations substantially below the lowest screening threshold.

SA6-31 As described in Section 3.1.2.2 and Appendix G of the final EIS, a third-party review was conducted to assess the benefit of mid-line buoys on the pipeline lay barge based on case histories.

SA6-32 Section 3.3.1.2 of the final EIS discusses potential impacts of pipeline operations on lobsters, including the minimal extent and magnitude of adverse or beneficial impacts associated with slight changes in temperatures in the upper 6 inches of sediment. Thermal modeling conducted by Broadwater indicates that sediment temperatures overlying a covered trench would be less than 2 °F higher than ambient temperature a foot below the seafloor. Ambient water temperatures would not be affected in this scenario.

SA6-32 stressed as temperatures rise above 20.5° C.[11] Bottom temperatures in the central Sound during the warmest months are typically near this threshold. For example, from 1994 to 2006 measurements of bottom temperature during the period August through October in one location north of the FSRU in approximately 75 ft depths ranged from 18.6° to 21.9° C.[12] Therefore, even a few degrees F increase, or 1.7° C, could be stressful to lobsters. Depending upon the variability in the estimate of temperature increase, the increases could be larger. Predicted isotherms over the pipeline route and representative cross-sections compared to bottom water temperatures in the warmest months would help evaluate the scope and duration of this potential impact. It is recommended that this potential impact be further evaluated.

SA6-33 The DEIS also concludes that: "As a result of the short length of this exposed pipe and the hydrodynamics of Long Island Sound, no significant impact to ambient water temperatures in Long Island Sound is expected to be associated with this thermal exchange." It should be recognized that while it can be expected that the pipeline would not increase the ambient temperature of the Sound as a whole, there would be localized increases in temperature at locations where the pipeline is exposed at the YMS, the two utility crossings and at the 4,000 ft long section at Stratford Shoals if the pipeline is placed on the seabed (assuming that alternative is selected), which would change the benthic and fouling communities at these locations in ways that are not evaluated in the DEIS. This deficiency should be addressed.

SA6-34 On page 3-35, the DEIS states "At higher gas flows, the temperature of the natural gas would be approximately 100° F through the riser." This is lower than the expected temperature at lower gas flows, which is expected to be from 120° F to 130° F. Does the temperature, in fact, increase at higher gas flows? If so, what would be the expected maximum temperature? How does this affect the thermal modeling?

LOBSTER ECOLOGY AND HABITAT

SA6-35 On page 3-41 of the DEIS, the following statement is made: "Juvenile lobsters in this shelter-restricted stage remain in their shelters 100 percent of the time, feeding on plankton and other benthic organisms found in or at the mouth of their shelters." The Department's reading of the literature and understanding of lobster ecology and behavior is that juvenile lobsters in this shelter-restricted stage remain *near* their shelters *most* of the time.

The following statements appear in the DEIS on page 3-41 and page 3-45, respectively. "The large majority of EBP lobsters are located in burrows of inshore waters less than about 33 feet (10 meters) deep, although some could be located at the greater depths found within the Project area (Lawton and Lavalli 1995, Palma et al. 1998)." "Juvenile or EBP lobsters primarily are located in shallow waters less than about 30 feet deep."

SA6-36 As applied to the Sound, there is no information to substantiate these statements. Lawton and Lavalli (1995) appear to draw mostly on information from areas outside of the Sound, and

[11] The effects of temperature are summarized by Pearce and Balcom in the 2005 issue of the Journal of Shellfish Research, Vol. 24, No. 3. They cite several references, but see Powers et al. 2004 as the primary source for the 20.5 deg threshold.
[12] Source: CT DEP Ambient Water Quality Monitoring Program, Station H4.

SA6-33 Section 3.2.3.2 of the final EIS has been expanded to more thoroughly describe potential thermal impacts associated with the riser and the use of concrete mats, such as at utility crossings. As described in the EIS, the water warmed by thermal radiance from the pipeline riser would return to the ambient temperature of the surrounding water within 4 feet of the riser. The water adjacent to the top of the concrete mats would at most be about 1 °F above ambient temperatures. Therefore, any impact of temperature to the biological communities in the vicinity of the pipeline would be negligible or nonexistent

SA6-34 The EIS correctly reports that the gas temperature would be higher at lower flow rates and that the maximum temperature of the natural gas entering the subsea connecting pipeline would be 120 °F.

SA6-35 Section 3.3.1.1 of the final EIS has been modified as recommended.

SA6-36 Thank you for your comment. Section 3.3.1.1 of the final EIS has been revised.

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SA6-36 lobster use of the Sound is different in many respects compared to other places referenced in the documents.[13] Data collected by the Survey indicates that EBP lobsters are abundant in deeper habitats (see discussion below for the western end of the pipeline route), but data is lacking for nearshore habitats and so the relative value of habitats cannot be determined. In addition, Lawton and Lavalli 1995 does not define what constitutes "inshore."

The following statements appear on page 3-45 of the DEIS: "Installing the pipeline during winter would avoid impacts to a portion of the adult lobster population because they would have migrated offshore." "It is unlikely that a significant number of lobsters would occupy the spoil mounds in this short time frame, especially because construction would occur during winter when many lobsters have left Long Island Sound, and the lobsters that remain would tend to be inactive."

SA6-37 The majority of lobsters remain in the Sound during winter, with a small portion of lobsters moving offshore. The MFD recently conducted a tagging study, and lobster movements were typically limited to areas within the Sound. Only some lobsters tagged east of the FSRU were recaptured outside of the Sound. Tagging studies conducted by the Millstone Environmental Laboratory in the vicinity of Millstone Power Station in the eastern Sound also demonstrated that the majority of eastern lobsters remain in the Sound, with some movement offshore. A somewhat more accurate statement is made on page 3-41: "Adult lobsters are found in the deeper waters of Long Island Sound throughout the year, although some may migrate to offshore waters in winter." However, in the location of the FSRU and pipeline, it is likely that very few lobsters living in this area migrate offshore.

SA6-38 It is also debatable as to how inactive lobsters are in the winter. Lobsters are taken in commercial traps in the winter months, and winter bottom temperatures are similar to spring temperatures in the Gulf of Maine when lobsters are active there.

Page 3-65 states: "In general, impacts to lobsters primarily would occur only during active construction, although a negligible short-term impact to prey availability could occur along the pipeline corridor (which constitutes less than 0.1 percent of the available lobster habitat in Long Island Sound)."

SA6-39 How was it determined that the pipeline corridor is "less than 0.1 percent of the available lobster habitat in LIS?" There is very little quantitative data on how much habitat is used by lobsters. Also, the extent to which lobsters use each habitat type is important, and even for a given habitat type lobsters may use the habitat to a greater extent in one location compared to another. Sufficient quantitative data to calculate the amount of habitat used by lobsters and relative contributions to population size is lacking.

SA6-40 The MFD has been working with Professor Roman Zajac of the University of New Haven to use the Survey data to identify habitat associations for select species. Analysis conducted to date of lobsters ranging from 8 mm to 50 mm caught in the Survey reveal certain areas where this size class is abundant, and in some cases they appear to be associated with transitions between sediment types. One such area is along the proposed pipeline route between

[13] This applies principally to Lawton and Lavalli as we did not have a copy of Palma et al. 1998.

SA6-37 Thank you for your comment. Section 3.3.1.1 of the final EIS has been revised.

SA6-38 Thank you for your comment. Section 3.3.1.1 of the final EIS has been revised.

SA6-39 Trenching would directly affect substantially less than 0.1 percent of the seafloor of Long Island Sound. While lobsters could potentially use the entire seafloor of Long Island Sound, we know of no specific quantification of the acreage of lobster habitat in the Sound.

SA6-40 Section 3.3.1.1 of the final EIS has been updated to more completely describe the distribution of juvenile lobsters based on recent survey results.

SA6-40 approximately 73° 7" 28" and 73° 13' 29". It is recommended that the Commission evaluate altering the route in this section.

ICHTHYOPLANKTON

On page ES-10, the DEIS states "To reduce this potential impact, Broadwater has proposed to locate intake structures at mid-depth (about 40 feet below the surface, where the concentration of ichthyoplankton is expected to be relatively low), limit intake flow velocities to 0.5 feet per second to allow the more mobile larvae to avoid the intake flows, and use small-mesh screen (0.2-inch mesh) on the intakes to prevent many eggs and larvae from being taken in with the water. As a result, there would be a negligible long-term impact on ichthyoplankton and, therefore, on the general fisheries resources of the Sound."

SA6-41 The proposed intake screen may not reduce entrainment as much as anticipated. It is much different than a fine-mesh wedgewire screen that is considered best technology available to reduce power plant entrainment in the Clean Water Act 316(b) rule. A diagram showing the intake was not provided, but based on the text the screen will be recessed some distance within the intake pipe, and so ichthyoplankton cannot be swept away by currents, as is the case with modern power plant intakes. There is no mention of how the screen will be cleaned, which also is employed at power plants to disperse organisms and materials from the screen, and if the screen is not cleaned regularly then through-screen intake velocities will increase. The proposed 0.2 in. mesh equals 5.1 mm; fine mesh screens designed to exclude most eggs and larvae are typically less than 3 mm, and in the 316(b) Rule EPA developed anticipated costs of using fine-mesh screens based on a 1.75 mm screen. Broadwater should evaluate the exclusion efficiencies of various mesh sizes relative to the sizes of ichythyoplankton in the area and design the intake to minimize entrainment using the best technology available.

ANTIFOULING PAINT

SA6-42 According to the DEIS, the FSRU and YMS will be treated with copper-based antifouling paint, which will leach 27.8 pounds per day of toxic copper into the waters of Long Island Sound. While the DEIS states that this amount of copper loading from antifouling paint is expected to meet EPA ambient water quality criteria for acute and chronic exposures, it appears that much of this impact can be avoided altogether. As explained in Section 2.4.1, the FSRU and the YMS will not be recoated with antifouling paint once installed and will be periodically cleaned by divers who will remove accumulations of "slime and weeds" (fouling organisms?) up to once per year. Since Broadwater intends to undertake a regular cleaning program, it is unclear what operational benefit the initial painting of the underwater structures would provide. Accordingly, we suggest that the facility dispense with any antifouling paint and thereby obviate any potential for environmental effects of copper. In the alternative, the use of an alternative antifouling material that would not leach toxic materials should be evaluated. Since the security zone around the facility will create a de facto marine protected area--or at least a no-fishing zone for finfish and lobsters--Broadwater should be required to undertake this and other habitat enhancements as partial mitigation for its occupation of New York's and Connecticut's public trust submerged lands and waters.

SA6-41 Section 3.3.2.2 of the final EIS has been updated to discuss the potential use of wedgewire screens.

SA6-42 Rather than use of anti-fouling paint that contains copper, Section 3.2.3.1 of the final EIS includes a recommendation that Broadwater use silicon paint for the hull of the FSRU.

SA6-43 The maintenance of the hull should be timed such that the removal of the fouling community coincides with natural die-off of such organisms, i.e., in the fall and winter, so as to maintain the more natural cycling of nutrients and minimize the potential for oxygen depletion due to decomposition of the fouling organisms discharged into the water column.

AIR QUALITY

The modeling results contained in the DEIS should be considered preliminary in nature and will likely change in future modeling of the proposed facility. Broadwater is required to receive a New York State facility permit and, if applicable, a State Title V permit from the New York Department of Environmental Conservation (NYSDEC) and a federal Prevention of Significant Deterioration (PSD) air permit from the U. S. Environmental Protection Agency (EPA). Broadwater and NYSDEC are currently finalizing a modeling protocol for the proposed project. Once a modeling protocol is finalized a permit application will be submitted to New York and modeling will commence. The Department will monitor this permit process and evaluate the modeling results when they are available.

It is our understanding that Broadwater has taken the position that LNG carrier emissions are not under their control and, therefore, should not be considered project emissions. This claim allows Broadwater to exclude a significant source of emissions from total project emissions. This has implications in Title V and PSD applicability determinations as well as New Source Review (NSR) Best Available Control Technology determinations and NSR dispersion modeling analyses. Broadwater claims it has no control over how foreign vessels are operated yet presents no argument as to why it cannot enter contracts only with vessels that are operated in a manner consistent with the requirements of the above-sited air permitting programs. It is up to the permitting authorities (NYSDEC and EPA Region II) to insist that vessels, while docked at the FSRU, be treated as part of the FSRU for NSR, PSD and Title V purposes, and held accountable to the requirements of those programs.

The DEIS acknowledges that certain emissions associated with the facility may need to be addressed under the General Conformity rule. The DEIS also acknowledges that the information necessary to make a Conformity determination does not currently exist. No data are presented in the DEIS except a recommendation that Broadwater supply the information necessary for FERC, EPA and NYSDEC to make a Conformity determination. Broadwater will be required to assess emissions during construction of the project and for continuing project-wide emissions of pollutants for which the project areas are designated as nonattainment (i.e. ozone precursors NOx and VOC; and PM2.5) and are not otherwise governed by stationary source NSR, PSD or Title V permits. That is, Broadwater must evaluate project related emissions of NOx, VOC, and PM2.5 from all vessels, motor vehicles, and construction equipment not permitted, and propose how these emissions, if above applicability thresholds, will be offset or otherwise accounted for in state attainment demonstrations.

An analysis of an accidental or intentional LNG spill associated with the FSRU or carrier vessels was addressed in the DEIS and in the Coast Guard's WSR. The Coast Guard report attempts to define three hazard zones associated with the FSRU and the LNG tanker travel routes. The three hazard zones modeled for the Broadwater facility and its associated tanker

SA6-43 Maintenance of the proposed FSRU hull would require light brushing to remove slime and weeds no more than once a year. Due to the infrequency of this cleaning, any impacts to Long Island Sound would be negligible, regardless of when the maintenance is performed.

traffic are defined in the Table 1-2 below. Zones 1 and 2 are heat exposure limits from a potential natural gas fire and Zone 3 is identified as the outer limit where LNG vapors can ignite. Table 1-3, also taken from the WSR, summarizes the results of the Coast Guard's analysis.

Table 1-2: Definition of Hazard Zone Boundaries

Zone	Criteria (10 minute exposure time)	Basis
Zone 1	37.5 kW/m^2	High potential for major injuries or significant damage to structures
Zone 2	5 kW/m^2	Potential for injuries and some property damage
Zone 3	Lower flammability limit (5%)	Outer limit where LNG vapor can be ignited

Source: Sandia Report, p. 38
Note: *Kilowatts per square meter

Table 1-3: Hazard Zones Broadwater Energy Project

	Zone 1 (37.5 kW/m^2)		Zone 2 (5 kW/m^2)		Zone 3 (Lower Flammability Limit)	
Sandia	500 m	546 yds	1600 m	1750 yds	3500 m	2.2 miles
Broadwater FSRU		750 yds		2100 yds		4.7 miles
250,000 m^3 LNG Carrier		750 yds		2050 yds		4.3 miles

These results are based on modeling performed by Sandia National Laboratories. This work is documented in a report entitled "Guidance of Risk Analysis and Safety Implications of a Large Liquefied Natural Gas (LNG) Spill over Water" and dated December 2004. Table 1-3 is summarized in graphical form in Figure 1-1 of the WSR. The outer blue line in this figure represents the predicted extent of an ignitable LNG vapor plume. The flammable vapor dispersion modeling was based on conservative atmospheric conditions (low wind speed and a stable boundary layer). Spill conditions used represent a 5m^2 breach with three tanks breached at once. This is assumed as a worst-case un-ignited spill. There seems to be no way of knowing for certain if a 5m^2 breach is worst–case. The Scandia report considered larger breaches, up to 25m^2, however it was assumed that breaches greater than 5 m^2 would be caused by such a force, likely intentional, that a source of ignition would be present and vapor dispersion would be limited. These conservative assumptions seem reasonable.

SA6-44

LNG is comprised mainly of methane with small amounts of propane and ethane. Typical LNG composition is 90% methane, 7% propane and 3% ethane. These gases have low toxicity to humans and can be considered simple asphyxiants. Very little is said about the potential for a LNG vapor plume from the FSRU or an LNG tanker to inflict physiological effects on the public. For instance, no calculations have been made that predict percent oxygen levels at varying distances downwind from a LNG spill. The American National Standards Institute (ANSI) provides data relating to response of humans exposed to air deficient in oxygen. ANSI has determined that impaired thinking and attention, and reduced coordination are evident in humans at sea level oxygen levels of 16% (normal = 20.9%). It is obvious that a 16% oxygen

SA6-44 Section 3.10 of the final EIS has been revised to include information regarding potential impacts to the public from an LNG vapor plume. FERC's review indicated that the radius of concern for public safety due to low oxygen levels would not extend beyond the zones for thermal hazards from fire and hazards from an ignitable gas cloud.

SA6-44 level would not be achieved at LNG vapor concentrations below the Lower Flammability Limit. However, it is not clear what concentration of LNG vapor would be required to reach a 16% oxygen level and at what distance from the source this may occur. It is assumed that this distance would be within Zone 3 (Table 1-3) 4.7 – 4.3 miles from an FSRU or LNG carrier spill or. The DEIS should further evaluate this public health risk.

BOATING / NAVIGATION

SA6-45 The DEIS states that Project-related tugs would escort each LNG carrier and that USCG vessels would also provide escorts, but it is not clear how recreational boaters would be notified of a LNG carrier transit. Also, if tugboats are used as the escort vessels and since they typically cannot attain speeds of 12 – 15 knots, it appears likely that the transit through the Race would take longer than the estimated 15 minutes, thereby increasing the delay to boaters. This issue should be further evaluated and we concur with the USCG recommendation in Section 6.3.1 of the WSR that Broadwater Energy conduct model testing to establish the performance standards for escort tugboats. Since these results might significantly change key assumptions in the WSR, this modeling should be performed at this time and as part of the DEIS.

SA6-46 The Department is concerned that the proposed placement and spacing of buoys to mark the safety/security zone for the FSRU will be insufficient to make it clear to boaters that there is a no entry zone around the facility. The anticipated success and basis of the proposed security zone marking should be further explained in the DEIS. It would be helpful to provide examples of how other similar fixed security zones have been marked.

SA6-47 The Department concurs with the USCG's recommendation that, should the project be approved, the Commission's authorization for the project require that Broadwater provide documentation to FERC and the USCG that the required number of assist tugs for the FSRU will be available at all times while it is in operation as well as the tugs necessary to escort LNG carriers through the Race and eastern Block Island Sound. Also, it is critical to have an Emergency Response Plan developed in consultation with the USCG and state and local agencies and approved by FERC, before construction is allowed to begin, as discussed by the WSR, Section 6.2. The expected 'use of force' procedures for each law enforcement entity that would respond to a security breach will be an important element of this Plan. The DEIS should conceptually address this security response issue, which the Department raised in our scoping comments.

IMPAIRMENTS TO FISHERIES USES

SA6-48 After analyzing the Project's potential impacts to recreational fishing in the Race and eastern Long Island Sound, the DEIS states on page 3-93: "As a result, the impact of LNG carriers on recreational boating and fishing is considered minor and temporary." The DEIS does not appear to address impacts to commercial lobster fishing in these areas. The potential impact on this activity should be evaluated.

If the project is approved for the Sound, additional measures should be evaluated to minimize impacts to fishing activities. For example, transits of LNG carriers should be

SA6-45 As prescribed in Section 4.6.31.4 of the WSR (Appendix C of the final EIS), as part of the moving safety and security zone the Coast Guard would conduct routine Broadcast Notice to Mariners, notifying the public of implementation of the moving safety and security zone. Escort tugs and any Coast Guard escort vessels would serve as an additional layer of on-scene notification with the LNG carrier. As presented in Section 4.6.1.2 of the WSR, the impact to recreational boating would be mitigated by requiring Broadwater to schedule LNG carrier transits of the Race to avoid periods of heaviest recreational use and periods of use by regattas.

Project-related tugs that could travel at 12 to 15 knots would be built specifically for this Project. In the WSR, the Coast Guard assessed the proposed tug support and recommended that FERC require model testing to determine numbers and capabilities of tugs. The Coast Guard also acknowledged that the Emergency Response Plan preparation process may result in additional requirements for escort tugs. If the Project is authorized by FERC, the Coast Guard's recommended requirement for modeling is expected to be included as a condition of the authorization (see Section 3.7.1.4 of the final EIS).

SA6-46 In addition to installing buoys to identify the limits of the safety and security zone around the FSRU, the safety and security zone area would be designated on navigation charts, and the FSRU would be equipped with navigation and communications equipment to notify vessels in the area of the presence of the safety and security zone (described in Appendix I of the WSR [Appendix C of the final EIS] and referred to in the EIS). The only similar structure is the Louisiana Offshore Oil Platform (LOOP), which is not marked by buoys but does appear on the navigational charts. As indicated in the WSR, most recreational boating occurs within about 3.5 miles of the shoreline. Because there is little recreational vessel traffic in the vicinity of the proposed location of the FSRU and its safety and security zone, a significant impact on boaters would not be expected, as addressed in Section 3.7 of the final EIS and in the WSR. Although several other safety and security zones enforced by the Coast Guard in Long Island Sound, those safety and security zones are not identical to the safety zone around the FSRU. All safety and security zones established within the Sound include navigational aids required by the Coast Guard and enforcement of the zones is the responsibility of the Coast Guard.

SA6-47 As stated in Section 5.2.2.2 of the WSR (Appendix C of the final EIS), "46 U.S.C. § 70119 provides for state and local law enforcement agencies to enforce safety and security zones established by the Coast Guard." The Coast Guard is currently working with the states of New York and Connecticut to establish Memoranda of Agreement for this purpose.

The Coast Guard is responsible for accomplishing the tasks that, by law, only the Coast Guard, is authorized to conduct but may share other law enforcement responsibilities with state or local law enforcement agencies. Enforcement of the safety and security zones is a law enforcement function that cannot be delegated to private security forces. Private security forces could provide notification to vessels approaching the safety and security zone around the FSRU and could provide on-board security for the FSRU, but private security forces cannot act as law enforcement representatives. Broadwater would provide funding for involvement of state or local law enforcement in the Emergency Response Plan, including enforcing the safety and security zone, as described in Section 6.2.3.2 of the WSR and in our recommendation in Section 3.10.6 of the final EIS. The specifics related to the "use of force" by law enforcement entities would be addressed in separate Memoranda of Understanding or a Memoranda of Agreement between the Coast Guard and the states of Connecticut and New York.

SA6-48 As discussed in Section 3.5.2.2 of the final EIS, boat traffic unrelated to the Project would be permanently restricted from the 950-acre safety and security zone that would surround the FSRU, which represents approximately 0.1 percent of Long Island Sound. Site-specific surveys suggest that aside from commercial lobster fishing, little commercial or recreational boating typically occurs at this offshore location. Potential impacts of the moving safety and security zone, particularly as it moves through the Race, are discussed in Section 3.5.5.1 of the final EIS. The Coast Guard has indicated that consideration of recreational activity would be a component of LNG carrier transit scheduling. In addition, LNG carriers and their moving safety and security zone would be present in the Race less than 1 percent of the year (approximately 60 hours per year). Further, there would be sufficient room for commercial and recreational vessels to avoid the safety and security zone around the LNG carriers with only minor route modifications or temporary relocations.

Section 3.6.8.1 of the final EIS has been updated to address impacts to commercial lobstermen from the proposed moving safety and security zones around LNG carriers as they enter and exit the Sound. This analysis considers the potential that other large vessels entering or exiting the Race may alter course and transit through areas with high lobster pot density.

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scheduled during periods of lower fishing activity. This recommendation was made by the Harbor Safety Working Group (formed by the USCG Captain of the Port Long Island Sound). The consensus of the Harbor Safety Working Group was that "LNG carrier arrivals and departures should be scheduled to minimize conflicts with other waterway users, with particular emphasis on avoiding transiting the Race during times when use by commercial and recreation fishermen is highest and avoiding interfering with regattas." The USCG evaluated this recommendation in its safety assessment (WSR, Section 4, Safety Assessment), and determined that if the recommendation was implemented it would result in a "moderate reduction in risk." However, it appears that neither the Coast Guard nor the DEIS evaluated this measure specifically for the purpose of reducing impacts to commercial and recreational fishing. It is recommended that this matter be evaluated as a mitigation measure to reduce fishing and other use conflicts.

SA6-49

The exclusion of commercial fishing in both the FSRU security zone and commercial trawl zone has not been fully evaluated. Broadwater proposes to financially compensate the affected fishermen, and FERC has recommends that the compensation agreements be filed with the Commission before the project is initiated. However, the exclusion of commercial fishing from these waters will prohibit other fishermen who might want to fish these areas in the future. This poses significant "public trust" concerns regarding the use of the affected waters by current and future citizens of the region and should be considered in the evaluation of this impact.

SA6-50

The concerns expressed in the preceding section regarding potential interference with the Survey as a result of alternations and modifications of the seafloor are also relevant to commercial trawling and lobster pot fishing. FERC should evaluate this potential impact of the pipeline on these existing uses and ensure that it does not become an impediment to these activities.

SA6-51

VISUAL IMPACT ANALYSIS

The DEIS discussion of Broadwater's visual impact in section 3.5.6 overlooks important components of the facility's impact on the scenic resources of Long Island Sound and the sense of place that the Sound embodies. As a result, the DEIS significantly understates a major factor underlying the widespread and often vociferous public opposition to this project. By virtue of its size, mass, scale, lighting, and location, the Broadwater facility will constitute a permanent, unique and unprecedented visual intrusion which will serve as a constant reminder that 950 acres of formerly open public waters and submerged lands have been occupied for a private industrial use. Quite literally, nothing like Broadwater has ever been seen before.

In Sections 3.5.6.3 and 3.5.6.4, the DEIS attempts to minimize the visual profile of the Broadwater facility by comparing it to existing shorefront development in Long Island, and to existing vessel traffic, respectively. With regard to existing development, the DEIS characterizes the view of Long Island Sound as a "mixture of industrialized areas and ports, city skylines, residential areas, and undeveloped open space" and containing "recreational and commercial marine traffic; open water; and commercial/industrial structures, including two offshore petroleum transfer platforms." While Broadwater would not be the first energy or industrial facility on the Sound, it would be located completely outside the context of other shoreline

SA6-49 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).

SA6-50 Potential impacts to commercial and recreational fishermen are discussed in Sections 3.5.5.1, 3.5.5.2, 3.6.8.1, and 3.6.8.2 of the final EIS. Because commercial lobstermen and trawlers have, by informal arrangement, designated territories in Long Island Sound, we anticipate that the compensation package Broadwater offers Long Island Sound fishermen would address the current commercial user of the area and any individual to whom that territory may be transferred in the future.

As noted above, we addressed potential economic impacts to commercial fishermen in the final EIS. We did not address the issue of public trust land because that legal issue is not a component of our environmental review. It may be assumed that when a project results in public benefit with minimal impact on commercial and recreational use of coastal waters, public lands, and public resources, the project is consistent with the objectives of the Public Trust Doctrine. However, such a determination is subject to interpretation. It is our understanding that the Public Trust Doctrine is a component of the CZMA review by NYSDOS.

SA6-51 Please see our responses to comments SA6-18 and SA6-19.

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development and thus would present an entirely different visual profile from its mid-Sound location. Especially for viewers on boats, but also for viewers on land, this unexpected visual intrusion could prove disturbing and disorienting, yet mid-distance views at the 0.6875 mile security perimeter were not considered in the DEIS.

SA6-52

In its discussion of the visual impacts of Broadwater operations in 3.5.6.4, the DEIS suggests that the FSRU will look just like any other large commercial vessel transiting the Sound, except that for its "lack of substantial movement." But as a semi-fixed structure in the middle of Long Island Sound, Broadwater will permanently alter the mid-Sound viewshed, particularly when illuminated at night. It is important to note that the visual impact of the facility extends beyond the FSRU/YMS itself. The FSRU will be more than just a paper clip-sized smudge on the horizon, but the center of a hub of activity including large LNG tankers coming and going approximately every other day, support and patrol vessels operating within and around the security zone, and occasional helicopter traffic. In addition, there may be some unspecified buoys or markers delineating the security zone.

The assemblage of Broadwater activity will be particularly prominent at night, where the DEIS estimates that nighttime aid to navigation lights, aviation obstruction lights, and operational lights would be visible approximately 292 nights of the year, or 80% of the time, in addition to the lights on LNG carriers at berth or transiting the Sound and on support/security vessels, and potentially lighted buoys around the security zone. Unlike onshore buildings or moving ship traffic, the nighttime view of Broadwater will appear to be an oscillating constellation of lights orbiting around the FSRU and mooring tower, not associated with or resembling any other visual objects in the middle of Long Island Sound and over nine miles away from any built-up area on shore.

SA6-53

The DEIS seems to recognize that the night view of Broadwater may well present the strongest negative visual impact, but it only recommends that Broadwater file a final lighting plan after the project is approved but before placing the FSRU in operation. We believe it is highly irresponsible of FERC to approve the project first and review the lighting plan later, without subjecting the plan to a complete visual impact analysis, including public notice and comment. Indeed, without knowing what Broadwater will look like at night, the DEIS's determination of the project's visual impact as "moderate" is merely speculative. At this point, FERC should suspend review of the project pending submission of a thorough, complete visual simulation of the proposed lighting plan, considering views from several vantage points, both elevated and at sea level, on both shores and from the water.

The DEIS neglects to consider much of the information submitted in *Broadwater Resource Report No. 8: Land Use, Recreation, and Aesthetics: Appendix* D, including the extensive list of public access sites in New York and Connecticut visually impacted by the FSRU. Instead, the DEIS does make some attempts to evaluate the adverse visual effects of Broadwater, first by referring to Broadwater's visual resources assessment prepared according to the NYSDEC Program Policy entitled *Assessment and Mitigating Visual Impacts.* This document notes in §IV that "in the review of an application for a permit, staff must evaluate the potential for adverse aesthetic impacts to…sensitive places of statewide concern." These "sensitive places" as listed in §V.A include state parks, urban cultural parks, and rivers designated as national or state wild,

SA6-52 Section 3.5.6 of the final EIS has been updated to address potential impacts of the proposed Project on the visual resources of boaters.

SA6-53 Sections 3.5.6 and 3.3.5 of the final EIS have been updated with additional information on the Visual Resources Assessment (VRA) and the proposed lighting plan for the Broadwater Project. The VRA was conducted in compliance with the requirements of NYSDEC for such studies. The VRA and the draft lighting plan both provide simulated night views of the FSRU and are available on the FERC docket for the Project.

The draft lighting plan identifies the approximate size, number, color, type, and wattage of lights that would be used on the FSRU; and the plan is intended to minimize lighting while providing a safe working environment in accordance with navigation and aviation requirements. Section 3.3.5.2 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.

SA6-54

scenic, or recreational. The NYSDEC Policy continues in §V.C that "[s]ignificant aesthetic impacts are those that may cause a diminishment of the public enjoyment and appreciation of an inventoried resource, or one that impairs the character or quality of such a place." The DEIS fails to adequately address the significance of impacts to views from the entire spectrum of public access points, state parks, or other views of statewide concern in both New York and Connecticut, since its sole mention of a place of statewide concern is Wildwood State Park in Long Island. However, given the status of Long Island Sound as an estuary of national significance, and the prevalence of recreational use in and around the Sound, virtually all of the Sound should be considered a "sensitive place of statewide concern," a scenic resource and a potential public access viewpoint. Moreover, as discussed above and below, Broadwater will fundamentally alter the visual character and quality of the mid-Sound viewshed by introducing a unique, significant and incongruous element. Accordingly, the project appears to be inconsistent with the NYSDEC visual impact policy.

SA6-55

In addition, while the DEIS acknowledges that the Broadwater facility will be visible from many points in Connecticut, it does not evaluate or even mention compliance with Connecticut's visual impact policies. Connecticut's Coastal Management Act defines "degrading visual quality through significant alterations of the natural features of vistas and view points"[14] as an adverse impact on coastal resources, and mandates that such adverse impacts be avoided, minimized or mitigated to acceptable levels. From Connecticut's perspective, Broadwater certainly appears to create an adverse impact to coastal resources, since it significantly alters the natural features of the mid-Sound vista by introducing a sizable industrial facility. FERC should therefore revise the DEIS to include a complete discussion of impacts to visual quality, specifically in Connecticut.

SA6-56

Visual impacts have more far-reaching consequences in Connecticut than in New York, as evidenced by viewshed maps in *Broadwater Energy LLC's CD #3 Containing its RR-8 and Appendix A - Oversized Figures Small. Broadwater Resource Report No. 8: Land Use, Recreation, and Aesthetics: Appendix D* notes in § 2.3 that Connecticut's coastal "topography typically ranges from 30 to 150 feet above sea level in a series of shallow hills and valleys" making it "markedly different from the wider and more expansive panoramic views typical of the Long Island shore." Such elevated views, e.g. Sleeping Giant and West Rock Ridge State Parks and New Haven's municipal East Rock Park, and those on points, e.g. Parker Memorial Park near Branford Point, will experience unacceptable co-domination of the open waterscape. The above referenced photo simulations demonstrate the severity of these visual impacts where the structure and mass of the FSRU significantly disrupt planar forms of the Sound and sky. The FSRU breaks the line of the horizon by introducing an incompatible silhouette as a visual focal point. Though contrast diminishes with distance, from these public access points of state and municipal significance the contrast remains severe.

SA6-57

The DEIS also fails to consider historic policy guidance on the visual impacts of siting large industrial facilities in Long Island Sound. In 1971, the New England River Basins Commission's *Long Island Sound Study Shoreline Appearance and Design: A Planning Handbook* established *Guidelines for Large-Scale Facilities*, stating (at p. 109) that "facility development should never be placed within, and ideally should be placed in locations as remote

[14] CGS §22a-93(15)(F)

SA6-54 We have responded to much of this comment in response to comment SA6-53. NYSDEC is the agency that would determine whether or not the Project is consistent with its visual impact policy. The VRA was conducted in accordance with NYSDEC's requirements. As described in Section 3.5.6 of the final EIS, the FSRU cannot be seen beyond a distance of about 20 miles at sea level and beyond about 25 miles at an elevation of 40 feet; even at those distances, the FSRU is barely discernible. This fact, combined with NEPA environmental review requirements, determined the boundaries of our visual assessment.

SA6-55 The VRA demonstrates the visual impacts from a wide variety of vantage points around Long Island Sound. These impacts were considered in our review of visual impacts. We believe that the visual impact assessment presented in Section 3.5.6 of the final EIS meets the requirements of NEPA and does not require revision.

SA6-56 The VRA includes views of the FSRU from several elevated locations, including West Rock Ridge State Park, a Connecticut vantage point that is approximately 410 feet above sea level. The potential impacts to visual resources described in Section 3.5.6.1 of the final EIS were based on information from the VRA and observations made by FERC staff during inspections of selected viewpoints in both Connecticut and New York. Some viewers may be concerned about the presence of an additional object in the viewshed (including the FSRU and LNG carriers, which would appear relatively small to viewers). However, the contrast between existing visual conditions and those with operation of the Project is expected to be moderate, based on the distance from the Connecticut shoreline (at least 11 miles) and the silhouette of the FSRU, which is comparable to commercial vessels that routinely break the planar forms of the Sound and sky.

SA6-57 The New England River Basins Commission alluded to by the commentor was established in 1967 to encourage the coordinated use of water resources by federal, state, and local entities. The commission was dissolved by executive order in 1981. The recommendations included in the 1971 planning handbook were designed to partially fulfill the mission of the now disbanded commission. Therefore the assessment of visual resources presented in Section 3.5.6 of the final EIS was prepared to meet the environmental review requirements of NEPA, as described in that section. The VRA produced by Broadwater in compliance with the requirements of NYSDEC, was used as a part of that assessment.

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as possible from... areas of particular scenic, recreational or other social importance."[15] Since Long Island Sound is entirely an area of particular scenic, recreational, and social importance, the 1971 guidance brings into question whether a plant should be sited in Long Island Sound at all. Moreover, while the DEIS suggests measures to mitigate visual impact such as reducing color contrast and confining construction activities to the winter months, given the mid-Sound location of Broadwater, outside the visual context of other development, and the likely prominence of lighting on and around the FSRU, it is doubtful whether mitigation measures such as camouflage painting would have much effect.

SA6-58 In summary, as it revises the DEIS discussion of visual impact we would urge FERC to appreciate that there is more going on here than mere NIMBYism. It is probably true that the public has reacted more strongly to Broadwater because Broadwater can be seen, in isolation and from all sides, in contrast to oil terminals, underwater cables and pipelines and other existing energy infrastructure. However, the visual impact of Broadwater goes beyond a personal annoyance for those who happen to see it—the facility would constitute an inescapable reminder of the partial privatization of a pre-eminent public resource. Degrading the visual quality of Long Island Sound undermines an essential part of the identity and sense of place now enjoyed by millions of citizens of two states. If Broadwater is built, part of our heritage will be irretrievably lost.

ADDITIONAL QUESTIONS AND INFORMATION REQUESTS

SA6-59
- The pipeline and Iroquois tie-in coordinates should be provided.

SA6-60
- The coordinates of the 4,000 ft section of the pipeline corridor in the vicinity of Stratford Shoal, where an alternative installation method may be needed, should be provided.

SA6-61
- Will the pipeline, with associated concrete mats, be above the seabed at the utility line crossings? What length of pipeline will be exposed?

[15] This document, in specifically discussing offshore nuclear power plants--the closest approximation at the time to an offshore LNG terminal--recommends the following guidelines:

1. Site offshore power plants in waters which are not within view of major viewing points or opposite scenic, recreational or residential use areas.
2. Minimize the vertical dimensions as much as possible to reduce visual impact. Add architectural baffles.
3. Select and/or treat the exterior material of the buildings to promote a blend between the water, the sky, and the power plant.
4. Design the plant as compactly as possible and strive for smooth silhouettes to reduce prominence.
5. Construct the breakwater with materials which are congruous with the natural rocks of the area in order to give the illusion of a natural shoal.
6. Setback inland facilities at terminus of underwater lines to minimize impact on shoreline.
7. Screen the onshore parking and office facilities with plantings; employ architectural styles which are congruous with the existing coastal architecture of the area.
8. Provide harbor of refuge, if needed in area.

SA6-58 The visual assessment reported in Section 3.5.6 of the final EIS meets the environmental review requirements of NEPA. As noted in that section, we do not believe that the proposed Project would result in a significant degradation of the visual quality of Long Island Sound. Further, a NEPA assessment of potential impacts to visual resources does not include an analysis of the highly variable personal concerns mentioned by the commentor. However, as described in Sections 3.5.6.5 and 3.6.5 of the final EIS, the available economic data do not suggest that construction and operation of the proposed Project would significantly alter the public values associated with the Long Island Sound viewshed.

SA6-59 A location map (Figure 2.1.1) with latitude and longitude axes and Project features has been provided in Section 2.1 of the final EIS.

SA6-60 As noted above, a location map (Figure 2.1.1) with latitude and longitude axes and Project features has been provided in Section 2.1 of the final EIS.

SA6-61 As stated in Section 2.3.2.2 of the final EIS, the existing utilities are expected to be a minimum of 6 feet deep, and federal regulations require a 12-inch separation between the utility cable and the proposed pipeline. Therefore, it is expected the top of the proposed 30-inch-diameter pipeline would be positioned approximately 2 feet below the seabed. Along the portion less than 3 feet below the seabed, 9-inch-thick concrete mats would be positioned parallel to the pipeline within the trench to further protect the pipeline. While the specific details of each utility crossing will be formalized with the utility owner prior to installation of each proposed crossing, there would be no exposed pipe and it is unlikely that the concrete mats would be positioned above the seabed, posing an impediment.

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SA6-62 • Will the tap at the Iroquois pipeline be buried?

SA6-63 • Will the post-construction 30 ft pipeline ROW described on Page 2-22 exclude all users of the area?

SA6-64 • If a subsea plow is used, how many passes along the length of the corridor will be required to complete the entire project (excavating, laying pipe and backfilling)? What is the anticipated time needed to complete the pipeline installation? This information should be used to characterize when and for how long fishing operations would be disrupted in the construction corridor.

SA6-65 • The residual chlorine from FSRU discharges is "not expected to affect water quality." Additional detail as to why this is the case should be provided.

CONCLUSION

Although the DEIS concludes that "approval of the proposed Project with appropriate mitigating measures as recommended, would have limited adverse environmental impacts," this conclusion is premature given the number and significance of the issues raised in our comments. The Department is available to discuss and clarify these comments and if this would be helpful, please contact Brian J. Emerick of my staff at 860.424.4109. Thank you.

Yours truly,

Date: 1/23/07

Gina McCarthy
Commissioner

cc: James Martin, FERC
DEP Dist.

SA6-62 Section 2.3.2.2 of the final EIS specifies that the interconnect would be covered with concrete bags or mats.

SA6-63 As discussed in Section 3.5.2.2 of the EIS, no restrictions would be associated with the permanent pipeline ROW that is outside the permanent safety and security zone for the FSRU, with the exception of anchoring.

SA6-64 Section 2.3.2 of the final EIS indicates that two passes would be required to lay the pipeline on the seafloor and achieve adequate trench depth. Section 2.5 of the final EIS indicates that pipeline installation, lowering, and backfill would take approximately 7 months to complete. Under Broadwater's currently proposed schedule, pipeline installation would begin in October 2009 and be completed in April 2010. However, Section 5.0 of the final EIS includes a recommendation that Broadwater file a mechanical backfilling plan for FERC review and approval prior to commencement of pipeline construction in coordination with appropriate federal and state resource agencies. Thus, the ultimate schedule and number of passes would be partially based on the results of interagency coordination.

SA6-65 As discussed in response to comment FA1-5, and in Section 3.2.3.2 of the final EIS, the residual chlorine concentration in the ballast water discharge from the proposed FSRU would range between 0.01 and 0.05 ppm (10 and 50 parts per billion), as discussed in Section 3.2.3.2 of the final EIS. The EPA chronic benchmark for chlorine discharges is 7.5 parts per billion (EPA 2006b). Broadwater would monitor sodium hypochlorite concentrations through a colorimetric assay. Depending on the results, Broadwater would adjust the production and injection rates of sodium hypochlorite so as to comply with SPDES permit requirements. Therefore, residual chlorine concentrations in the proposed water discharges would not be expected to affect water quality within Long Island Sound because chlorine concentrations would approximate ambient conditions within a typical regulatory mixing zone.