**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY**
**REGION 1**

June 28, 2005

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

Re: Weaver's Cove LNG Project Final Environmental Impact Statement, Doc Nos. CP04-36-000 and CP04-41-000, Corps of Engineers File Number 2004-2355, CEQ # 04037

Dear Secretary Salas:

In accordance with our responsibilities under the National Environmental Policy Act (NEPA) and Section 309 of the Clean Air Act, we have reviewed the Final Environmental Impact Statement (FEIS) for Weaver's Cove Energy's proposed Liquified Natural Gas (LNG) project in Fall River, Massachusetts.

The Weaver's Cove Energy project described in the FEIS is consistent with the project detailed in the August 2004 DEIS. Specifically, the project includes the construction and operation of an LNG terminal including a ship unloading facility, LNG storage tank, vaporization equipment, LNG truck loading stations and ancillary facilities, two new 24-inch diameter natural gas pipelines totaling 6.1 miles in length, and two meter and regulation stations. The proposal includes dredging of 3 million cubic yards of material from the federal navigation channel (and an expanded vessel turning basin) in the Taunton River and Mount Hope Bay with disposal of the material on land at the LNG terminal site.

As we stated in our September 2004 comments on the DEIS, EPA recognizes the need for new natural gas infrastructure in New England and supports environmentally responsible development and siting of these new facilities. EPA's September 2004 comments disagreed with conclusions presented in the DEIS that the Weaver's Cove project in combination with FERC's recommended mitigation measures would have limited adverse environmental impact. Specifically, we noted an inadequate analysis of offshore LNG alternatives to the Weaver's Cove project and insufficient consideration of project modifications including time of year restrictions on dredging and offshore dredged material disposal options that would significantly reduce the severity of construction and operation impacts on organisms and habitat in the Taunton River and Mount Hope Bay ecosystem. We rated the DEIS as "Environmentally Unsatisfactory-Inadequate Information" (EU-3) in accordance with EPA's national rating system. Our comments offered that additional information and analysis concerning project alternatives, impacts to Mount Hope Bay and the Taunton River (from project construction (dredging) and operation), water quality

standards, the Corps of Engineers' Permit process and environmental justice should be presented in a Supplemental EIS (SEIS). A FEIS containing new information and analysis was subsequently prepared by FERC instead.

We appreciate FERC's efforts to respond to comments on the DEIS. We remain concerned about the nature and extent of potential project impacts and believe that measures beyond those recommended in the FEIS will be necessary to adequately protect the environment. In the FEIS FERC appears to anticipate this outcome in recognizing the Corps of Engineers as the lead regulatory agency for permit approval of the dredging and disposal project and indicating that the Corps may choose to require additional measures to protect the environment over and above those recommended in the FEIS. We intend to continue to fully participate in the ongoing Corps of Engineers regulatory process and are hopeful that appropriate mitigation measures can be developed.

The attachment to this letter provides our response to supplemental information and analysis provided in the FEIS in response to EPA's comments on the DEIS. We look forward to continuing to work with the applicant and other agencies to understand and minimize the environmental impacts of the Weaver's Cove project. Thank you for considering our input on the FEIS. Please contact Timothy Timmermann of EPA's Office of Environmental Review at 617-918-1025 with any comments or questions.

Sincerely,

/S/

Robert W. Varney
Regional Administrator

Enclosure

cc:

Christine Godfrey, Chief, Regulatory Unit, US Army Corps of Engineers
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# ADDITIONAL DETAILED COMMENTS

## Supplemental EIS

EPA's comments on the DEIS called for a SEIS to address unsatisfactory project impacts and deficiencies of the DEIS. Our comments were offered to help FERC proceed through the NEPA process and to evaluate a more complete range of potential project alternatives. While the FEIS is responsive on certain issues, the FEIS does not provide all of the information we believe is important for the EIS to include, as discussed elsewhere in this letter. Instead, it provides new information and analysis and also acknowledges that additional analysis will likely be required in support of subsequent reviews conducted by agencies with regulatory responsibilities (such as the Army Corps of Engineers) over the project. While we fully intend to remain actively involved in the upcoming permit process, it remains unclear whether or not FERC intends to address comments on the FEIS prior to the close of its NEPA review.

## Alternatives

Offshore LNG

Our comments on the DEIS noted that offshore LNG facility development was inappropriately eliminated as a reasonable alternative and that Weaver's Cove's potential for significant and avoidable direct and cumulative marine impacts to the Taunton River ecosystem underscores the need to include an evaluation of an offshore alternative to bring a new natural gas supply to the New England market. The DEIS concluded that environmental, economic and technical factors made the offshore LNG options impractical. We disagreed with those conclusions and note that the FEIS now includes a partial analysis of offshore LNG technology including the projects proposed by Neptune LNG and Excelerate Energy, L.L.C. in Massachusetts Bay.

The FEIS highlights FERC concerns about the reliability of the LNG supply from deepwater port projects, such as those proposed by Neptune and Excelerate. It concludes that neither project could provide an additional source of LNG to meet the needs of existing peak shaving facilities. We continue to believe there is sufficient information based on actual experience with the buoy system technology to understand how well the buoy system can be expected to perform in unfavorable weather/rough seas and what types of "severe weather" would cause the facility to go "offline". We accept that the offshore LNG facilities would by design not be able to satisfy the peak shaving market but continue to view offshore LNG as a potentially significant means to bring LNG to the New England market–albeit with a different set of environmental impacts that must be evaluated.

**Dredging Issues**

Our comments on the DEIS noted several significant shortcomings with respect to the dredging analysis that we recommended be addressed in a SEIS including:

- a response to questions and objections about assumptions in the sediment deposition model
- evaluation of a dredging proposal with time of year restrictions to protect habitat and organisms in the Taunton River and Mount Hope Bay
- exploration of dredging measures to avoid significant impacts to marine habitats/organisms
- a comprehensive analysis of offshore dredged material disposal alternatives

Our comments relative to the new dredging information presented in the FEIS are provided below.

(1) Sediment Deposition Modeling

EPA's comments on the DEIS raised questions and objections about assumptions in the sediment deposition model including release rates of sediment from dredges, the range of acceptable water depth for winter flounder spawning and the effect of burial depths on winter flounder egg survival. While we are concerned about the applicant's modeling endpoints, FERC's willingness to adopt/endorse the dredge window for winter flounder spawning activities makes further discussion of these points unnecessary. We support the adoption of the January 15 to May 31 dredge restriction window to protect winter flounder spawning as a subset of a more comprehensive time of year restriction package we believe is necessary to fully protect the resources of the Taunton River and Mount Hope Bay. Our recommendations are described more fully below.

(2) Time of Year Restrictions (Dredge Windows)

EPA believes that environmental windows to protect the resources present in Mount Hope Bay and the lower Taunton River should include not only the January 15 to May 31 dredge restriction window identified in the FEIS for winter flounder spawning but additional restriction windows to protect fish during their upstream and downstream migration as discussed below. The collapse of finfish populations in Mount Hope Bay has been documented by the monitoring for Brayton Point Station. Winter flounder has been of particular interest in this system, as it was historically the numerically dominant species and commercially important. Adult winter flounder abundance declined by nearly 90% from the early 1980s to today (US EPA. 2002. Clean Water Act NPDES Permitting Determinations for Thermal Discharge and Cooling Water Intake from Brayton Point

Station in Somerset, MA. NPDES Permit No. 0003654. EPA-New England. MA0003654 Determinations Document. July 22, 2002.) (Mike Scherer, Marine Research Inc., personal communication, 6/15/2005).

Numerous efforts have been implemented in an attempt to restore winter flounder abundance in Mount Hope Bay. Both Rhode Island and Massachusetts have adopted commercial and recreational fishing restrictions for winter flounder in Mount Hope Bay and the Taunton River. The restrictions, in place for over 10 years, have effectively eliminated commercial and recreational fishing for winter flounder in Mount Hope Bay and the Taunton River. Brayton Point Station for the past 5 years has implemented a flow reduction strategy during winter flounder spawning season (January to May), in an attempt to reduce entrainment losses and increase winter flounder larval survival. These combined efforts have not been sufficient to initiate a recovery of fish populations, winter flounder in particular, in Mount Hope Bay. As a result, EPA has issued a final Clean Water Act NPDES permit that calls for significant reductions in cooling water flow and thermal discharge at Brayton Point Station.

Anadromous fish abundance throughout the northeast United States has shown declines in abundance through time. Populations in the Taunton River have declined less rapidly than many other areas in Massachusetts and as a result Massachusetts Division of Marine Fisheries have used fish from this system to stock other rivers. It is one of the few systems where runs were vital enough to support the exportation of individuals for stocking and hopefully restoration of runs in other rivers. The most recent data from the spring of 2005 shows that anadromous fish abundance continues to decline and these declines were especially acute in the southeastern part of the state (including the Taunton River) (Phil Brady, Massachusetts Division of Marine Fisheries, personal communication, 6/14/2005).

FERC has suggested that dredging in the Taunton River, from July to October, proceed in a north to south fashion, in the hopes that this may facilitate fish passage (downstream juvenile anadromous fish migration). EPA believes that dredging in a north to south fashion does not assure fish passage as juvenile anadromous fish tend to be discouraged by turbidity plumes, noise and light. North-south dredging may slightly influence the turbidity plume, but noise and light issues remain. It is our understanding that the dredges will be operating 24 hours a day, and the lights mounted on the barges for safety could serve as a deterrent to downstream migration.

The importance of the aquatic resources spawning in Mount Hope Bay and the Taunton River extends well beyond the boundaries of these waters. Many of the commercial species that spawn in Mount Hope Bay are caught by fishermen in offshore waters and as discussed above, the anadromous fish from the Taunton River play a unique role in aiding in the restoration of anadromous runs elsewhere in the state. Commensurate with the regional value of these resources, significant efforts have been made to protect and restore these resources. As a result, EPA believes that significant conditions are warranted for any new project in this system. Dredge windows are the most certain method to avoid impact to these critical aquatic resources from suspended or deposited sediments, and we strongly recommend full adoption of dredge

restriction windows that will protect the following critical time periods: spawning (i.e., January 15 through May 31), upstream fish migration (i.e., March 1 through July 31) and downstream fish migration (i.e., June 15 through October 31). However, we are willing to participate in continued discussions with the Corps and other agencies to determine the exact dates of these dredge restriction windows.

(3) Environmental Buckets/Dredge Sequencing/Scow/Barge Overflow

EPA continues to endorse the use of environmental buckets and the elimination of barge overflow to reduce potential water quality impacts. Dredge sequencing could allow for some work in Mount Hope Bay proper during the fall outward anadromous fish migration. The FEIS describes dredging in the Taunton River in a north to south direction as opposed to east to west–the hope being that turbidity plumes would be restricted to only one side of the river and thus potentially allow some fish passage. It is difficult to predict if the north to south dredging represents an improvement over dredging from east to west. The use of a river by juvenile anadromous fish varies by species and the specific river system (Phil Brady, Massachusetts Division of Marine Fisheries, personal communication, 6/14/2005). Thus, some species may follow shallow water and travel close to the riverbank, while others may use the navigation channel. Juvenile anadromous fish tend to avoid noise, turbid water and are negatively phototactic (i.e., they move away from light). Sound travels through water quite well, so avoidance of an operating dredge could be in response to noise, a turbidity plume, or both influences. In addition, lights aboard the dredged or supporting vessels could be a local obstacle as well, especially at night. The only sure way to avoid an impact to inward and outward fish migration is to expand the FERC recommended January 15 through May 31 dredge restriction window to protect winter flounder spawning through adoption of a dredge restriction window from July to October for project related construction and dredging operations in the Taunton River. When considering protection of all of these resources this allows dredging from November through January 15.

(4) Disposal Alternatives/Options

The FEIS presents upland disposal of the dredged material on the project site as the preferred disposal alternative and also evaluates ocean disposal as a disposal alternative.

EPA and the Army Corps are continuing to evaluate the suitability for the dredged material to be disposed of at Rhode Island Sound Disposal Site and/or Massachusetts Bay Disposal Site (testing was completed for disposal at both sites).

We note with interest the information presented in the FEIS concerning the earthen berm proposed at the site that "Although the landform may provide some visual screening of the facilities at the LNG terminal from the east and northeast, the FERC would not necessarily require that this landform be a component of the project. As such, an alternative site layout would not need to include this landform (see section 3.4)."

**Entrainment/Impingement**

EPA appreciates efforts in the FEIS to quantify impingement and entrainment losses and FERC's recognition that fish populations in Mount Hope Bay are in serious jeopardy. However, FERC's analysis ultimately dismisses any losses associated with the project as minor in comparison to other sources (Brayton Point Power Station in particular). It has recently come to EPA's attention, after much work on the offshore LNG facilities, that water usage, and the potential for correspondingly greater impacts, by the LNG vessels is much more significant than those assigned to address entrainment losses for the withdrawal of ballast water. The FEIS water usage estimate does not include cooling water used for the ship boilers that power the vessel and its propulsion system. Thus, while the vessels are transiting Narragansett Bay, Mount Hope Bay and the Taunton River, they will represent a source of entrainment for aquatic resources.

The projected level of entrainment may well be small in comparison to current levels at Brayton Point Station, but unlike Brayton Point, this represents a new source of entrainment that adds to the cumulative burden on the ecosystem. In addition, Brayton Point Station has offered to reduce their water usage by 33% and EPA is attempting to reduce their water usage by substantially more. Thus, the relative importance of this new source would only increase with substantial reductions of water usage at Brayton Point Station. Given the numerous substantial efforts in place to improve the condition of the Mount Hope Bay ecosystem, EPA is concerned about any activity in the Taunton River and Mount Hope Bay that has the potential to offset gains from the reduction of impacts attributable to other sources or to make conditions worse.

**Invasive Species**

The FEIS response to EPA's comments on invasive species includes a summary of national legislation and other efforts by the United States Coast Guard to reduce the introduction of invasive species. The FEIS also concludes that because Fall River is not a new port, risk associated with invasive species from additional ships is reduced.

EPA's comments on the DEIS pointed out that Mount Hope Bay and the Taunton River may be particularly vulnerable to invasion due to the stressed nature of both ecosystems and the low numbers of many of the resident species. In response to the assertion that the risk of invasive species introduction is reduced because Fall River is not a new port we offer the following observations. First, one of the ports with a large number of introduced species arriving per day is the port of San Francisco. What determines invasion risk seems to be the number of possible invasion vectors. Consequently, adding ships from new ports of origin increases the risk. Second, it also remains unclear whether Fall River currently receives vessels from the same points of origin as the LNG tankers.

**Mitigation**

The FEIS does not adequately address compensatory mitigation efforts. It discusses some limited salt marsh restoration work and makes reference to shellfish mitigation efforts. The salt marsh effort does not replace the resources that would be lost and few details are provided on the shellfish mitigation effort. The level of mitigation required to offset anticipated adverse environmental impacts should be consistent with the nature and extent of aquatic resources to be impacted.

**Water Quality Exceedances**

EPA's comments on the DEIS noted that Mount Hope Bay and the Taunton River do not meet state water quality standards and are on the Commonwealth of Massachusetts' Clean Water Act § 303(d) list (a list of water bodies not meeting state water quality standards) due to a number of specific causes including pathogens, nutrients, thermal modification, unknown toxicity and organic enrichment/low dissolved oxygen. Our comments also described our expectation that dredging and the discharge of liquid from dewatered dredged material will exacerbate existing water quality problems; that Clean Water Act Section 401 certifications would be necessary from Massachusetts and Rhode Island to demonstrate that the dredging is protective of state water quality standards; and that the project will need a Clean Water Act Section 402 NPDES permit for discharges of stormwater from the construction site and for discharge of the liquid waste from the dewatering activity. EPA is concerned that the discharges are not likely to meet state water quality standards in Mount Hope Bay and the Taunton River since those water bodies are currently impaired.

The FEIS indicates that copper concentrations in the Taunton River exceed EPA water quality criteria by a factor of 12 (chronic) and 7 (acute). The FEIS argues that water quality modeling shows that inputs of copper from the dredging will result in a relatively small area with levels elevated over these background concentrations. Additionally, the analysis claims that the elevated copper concentrations in the river represent the "natural" condition of the river and that organisms have adapted to these conditions.

We do not agree that elevated copper concentrations in the Taunton River are "natural"; elevated levels are the result of anthropogenic influences. Furthermore, we question the validity and basis (scientific evidence or rationale) for the unsupported assertion that organisms adapt to this degraded environment. Currently, ambient copper concentrations are well above the applicable copper criteria that have been established to protect aquatic organisms against acute and chronic toxicity. Therefore, sensitive marine organisms are already at risk of lethal and sublethal effects. Even a small addition of copper to this system would likely increase this risk. If the slope of the dose-response curve for copper is steep, small incremental changes in copper concentrations can produce substantial differences in toxicity.

The Massachusetts DEP has indicated that in order for a § 401 water quality certification to be issued for the dredging, it is likely that site-specific criteria for copper and zinc will need to be developed (Yvonne Unger, Massachusetts Department of Environmental Protection, personal communication, 6/13/2005). While we would support exploration of site-specific criteria, it is premature to say whether such criteria would result in the current ambient levels being in attainment. It is also important to note that the adoption of site specific criteria would be a water quality standards change that would be subject to public notice and comment and could not take effect for federal law purposes (e.g., § 401 certifications, § 404 and § 10 permits issued by the Corps, and NPDES permits issued by EPA) until after EPA review and approval. Dredging in the Rhode Island portion of Mount Hope Bay would have to be done consistent with the state's water quality standards.

The instream exceedances of copper criteria will also have implications for the NPDES permit for dewatering discharges from onsite processing of any dredged material to be disposed on the site. Pursuant to 40 C.F.R. §§ 122.4(d) and (i), an NPDES permit may be issued for a discharge into impaired waters where it can be demonstrated that the discharge will not cause or contribute to a violation of water quality standards. EPA has identified three situations in which EPA believes permits for discharges into impaired waters may be issued consistent with current federal regulations (in the absence of a TMDL having been developed): first, where the discharge does not contain the pollutant for which the water is impaired; second, in circumstances involving non-bioaccumulative and non-persistent pollutants, where the permit contains effluent limits that are at or below either the numeric criteria or a quantification of a narrative water quality criterion such that the effluent will not increase the pollutant concentration in the waterway; and third, where the increased load is offset by load reductions from other sources discharging to the impaired segment. Thus, it is likely that any NPDES permit for the dewatering discharges would need to contain limits at least as stringent as criteria at the end-of-pipe (i.e., with no dilution) or possibly zero net increase in copper.

**Cumulative Impacts**

We agree with comments in the FEIS that cumulative impacts of losses, for example the loss of eggs and larvae through ship ballasting (page 4-304), "could further stress the fish populations in Mount Hope Bay and Narragansett Bay." We do not believe that there is enough information to support the conclusion that "aquatic resources would not be adversely affected by project activities."

**Air Quality**

Comment on General Conformity Discussion

EPA's DEIS comments identified FERC's option to utilize general conformity thresholds associated with the 8-hour moderate ozone nonattainment designation of eastern Massachusetts. Since a general conformity determination will be made after June 15, 2005, FERC has chosen this option to utilize the general conformity thresholds of 100 tons per year of NOx and 50 tons per year of VOCs emissions. The maximum estimated emissions of NOx and VOCs from the

Weaver's Cove LNG Facility are estimated to be 78.0 and 14.2 tons per year, respectively, which fall below the thresholds for general conformity. General conformity is satisfied by yearly emissions below the applicability threshold for the life of the proposed Weaver's Cove LNG Facility.

Comments on Mitigation Measures

EPA recommended mitigating air emissions from the tankers, tugs, and land based equipment. In response, the FEIS recommends that Weaver's Cove use low sulfur diesel fuel on construction equipment, impose idling limits on the vehicles, and evaluate the feasibility of putting catalysts and diesel filters on construction equipment. We support these recommendations. The FEIS at page 4-218 explains that the tugs that will serve the proposed facility will comply with existing regulations, and therefore wouldn't need any retrofits. We continue to urge FERC and Weaver's Cove Energy to encourage and implement additional control measures on marine vessels such as retrofitting and early engine re-manufacturing.

Nonattainment New Source Review

EPA's comments on the DEIS noted that the project may be subject to the Massachusetts Department of Environmental Protection's (DEP) State Implementation Plan (SIP) approved nonattainment New Source Review (NNSR) rules at 310 CMR 7.00 Appendix A. The potential to emit (PTE) estimates provided in Table 4.11.1-4 of the final EIA show that the project's PTE for NOx is 47 tons per year (TPY) which is below the NNSR rule's threshold level of 50 TPY. This emission estimate assumes 60 LNG deliveries per year. If the applicant used the maximum number of LNG deliveries (i.e., 70 deliveries) as required by the NNSR rule's definition for PTE, the project's NOx PTE is 49.3 TPY, a fraction of a ton below the 50 TPY threshold level. The lack of a compliance cushion between the project's PTE estimates and the DEP's NNSR threshold level leads to concerns that the applicant must accurately estimate and enforce its emission limits so that the project does not become subject to NNSR at a later date. EPA understands that the Massachusetts DEP has similar concerns with the applicant's air permit application currently under review with the DEP. It is important for the applicant to continue to work closely with the DEP to ensure the emission estimates are accurate and practically enforceable.

**Environmental Justice**

We are concerned that conclusions in the FEIS regarding disproportionate impacts are not sufficiently supported by the analysis. We believe it is important to assess the potential for impacts to low income or minority communities with the recognition that these communities may be more vulnerable to certain environmental impacts than are other neighboring communities. In this case, we are particularly concerned over the potential adverse impacts to air quality during construction. As suggested in CEQ's December 1997 "Environmental Justice Guidance Under the National Environmental Policy Act," we recommend that FERC consider:

- public health and industry data concerning the potential for multiple or cumulative exposure to health or environmental hazards in the affected population;
- historical patterns of exposure to environmental hazards, and;
- interrelated cultural, social, occupational, historical or economic factors that may amplify natural and physical environmental effects (such factors should include the physical sensitivity of the community to particular impacts, the effect of any disruption on community structure, and the nature and degree of the impact on the physical and social structure of the community).

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