RESPONSE TO COMMENTS

REGARDING THE REISSUANCE OF THE FOLLOWING NPDES PERMIT

NORTHEAST GATEWAY LIQUEFIED NATURAL GAS (LNG) DEEPWATER PORT MA0040266

INTRODUCTION

On August 24, 2007, the New England office of the U.S. Environmental Protection Agency (EPA) submitted for public notice a draft National Pollution Discharge Elimination System (NPDES) permit (Draft Permit) to Northeast Gateway Energy Bridge, LLC (NEG). EPA solicited public comments on the Draft Permit from August 24, 2007 through September 25, 2007. In addition, EPA heard comments on the permit at a public hearing held on September 24, 2007, at the Beverly Public Library, 32 Essex Street, Beverly, Massachusetts.

The Draft NPDES Permit would authorize and set limits for the discharge of non-contact cooling water and seawater from the NEG liquefied natural gas (LNG) deepwater port. The facility proposes to discharge to the Massachusetts Bay.

During the public-notice (comment) period EPA received comments from the following individuals on behalf of various organizations or themselves. All comments were submitted in writing unless otherwise noted in the responses below.

Hope Benne

Polly Bradley, Nahant Safer Waters in Massachusetts, Inc. (SWIM)

Priscilla M. Brooks, Ph.D., Director, Ocean Conservation Program, Conservation Law Foundation

Rob Bryngelson, Executive Vice President and Chief Operating Officer, NEG

John D. Crawford, Ph.D., Senior Scientist, Conservation Law Foundation

Jay Havighurst

Rosemary A. Maglio, SWIM

Renee M. Mary

Joanne McBrien, Supervisor, Reliability and Strategic Planning, Massachusetts Division of Energy Resources

Heidi Roberts, Sierra Club

Mary Rodrick, SWIM

Mike Trammel, Director – Environmental, Excelerate Energy, LLC

Mason Weinrich, Executive Director and Chief Scientist, Whale Center of New England.

In accordance with the provisions of 40 C.F.R. § 124.17, this document presents EPA's responses to comments, including all significant comments, received on the draft permit and details any changes made to the draft permit as a result of the comments.

EPA received several comments regarding proposed LNG deepwater ports that were not specifically related to the NPDES permit in question. EPA has responded to those comments to the extent they relate to other EPA functions. However, EPA does not represent any other

federal, state or local agency in responding to these comments and does not provide responses to comments concerning the responsibilities of such other agencies.

EPA's decision-making for this permit has benefited from the comments submitted. The information and arguments submitted in the comments resulted in a number of improvements to the permit. In addition, EPA noted some errors in the permit which were corrected. Changes from the Draft Permit, summarized below, are reflected in the Final Permit. These changes do not represent significant changes from the Draft Permit.

Changes Made in the Final Permit

1. References to the Massachusetts Clean Water Act and requirements to submit reports to the state were removed from the permit.
2. The discharge time sample type was changed to "estimate" for all outfalls and a defining footnote was added to the tables in parts I.A.2, I.A.3 and I.A.4.
3. Minor edits were made to the permit to be consistent with the language and formats used in 40 C.F.R. Part 122.
4. Section I.A.12 was added to comply with 40 CFR 122.44(p) and CWA 402(g). This condition requires that discharge comply with any applicable Coast Guard regulations.
5. Section I.B.2 has been revised for clarity.
6. Section I.B.3 has been revised to include a requirement to report annually certain information pertaining to Port operations over the preceding calendar year.
7. Section I.B.3 has been revised to expand the scope of the thermal monitoring, if the sampling at the nearfield station detects temperatures that are greater than ambient.
8. Sections I.B.3 and I.C.1 have been revised to clarify that EPA may designate other individuals besides those named therein to receive the communications described.

RESPONSE TO COMMENTS

Comments 1 through 3 from Mike Trammel, Director-Environmental, Excelerate Energy, L.L.C.:

COMMENT 1

Northeast Gateway Energy Bridge, L.L.C. (Northeast Gateway) appreciates this opportunity to comment on the Environmental Protection Agency's (EPA) August 24, 2007, draft National Pollutant Discharge Elimination System (NPDES) permit (Draft Permit) and accompanying Fact Sheet for the operation of Northeast Gateway's LNG Deepwater Port (the Port).

Northeast Gateway, as detailed in the Final Environmental Impact Statement, has made significant design changes to substantially reduce water discharges from the Port. Because the Draft Permit reflects a workable approach to the Port's remaining discharges, our comments are limited to a few requests for minor clarifications and edits.

The Draft Permit contains references to compliance with the Massachusetts Clean Water Act. Given that the Port is located only in federal waters, the Massachusetts Clean Water Act does not apply to the NPDES permit for Port operation. Thus, both the reference to the

Massachusetts Clean Water Act on Page 1 and the requirement to submit reports to the State (Part I.C.) should be removed.

RESPONSE 1

EPA agrees with the comment. References to the Massachusetts Clean Water Act and requirements to submit reports to the state have been removed from the permit.

COMMENT 2

As written, each outfall contains a discharge limitation on "Total Discharge Time." The sample type is listed as "Meter." Northeast Gateway requests clarification that there is no physical "meter" associated with each individual outfall. Rather, Northeast Gateway will keep a log of (1) when the regasification process begins and ends and (2) when the use of the Heat Recovery System (HRS), which is utilized for the closed-loop process, begins and ends. Towards that end, we suggest the following footnotes to clarify the term "Meter":

(a) Footnotes to "Meter" in the last column of the tables in Parts I.A.2 and I.A.3: "For each delivery, Northeast Gateway will log the time of the following events: (a) the beginning of the regasification process; (b) the beginning of HRS operation; (c) the end of HRS operation; and (d) the end of the regasification process and cessation of commercial delivery of natural gas. For each delivery, Discharge Time for Outfalls 01A, 01B, 02A and 02B will be calculated by adding the following two intervals: (1) the time between (a) and (b); and (2) the time between (c) and (d).

(b) Footnote to "Meter" in the last column of the table in Part I.A.4: "For each delivery, Northeast Gateway will log the time of the following events: (a) the beginning of the regasification process; (b) the beginning of HRS operation; (c) the end of HRS operation; and (d) the end of the regasification process cessation of commercial delivery of natural gas. For each delivery, Discharge Time for Outfalls 03A and 03B will be based on the time between events (a) and (d).

RESPONSE 2

EPA agrees with this comment. The requested footnotes have been incorporated into the final permit (with a clarifying definition of HRS). EPA has also changed the term "meter" to "estimate" to better describe the discharge time sample type for all the permitted outfalls.

COMMENT 3

Northeast Gateway also suggests the following minor edits:

- **Pg. 1: The heading should read "Authorization to Discharge Under the National Pollutant Discharge Elimination System";**
- **Part I.A.5: "director" should be "Director."**
- **Part I.A.8: Redraft to read: "The discharge shall not contain materials in concentrations or combinations which are hazardous or toxic to human health or the aquatic life of the receiving waters."**
- **Part I.B.1.b should begin with "CWISs" instead of "cooling water intake systems."**
- **Part I.B.3: "Permitee" in various places should be "permittee."**

- **Fact Sheet, pg. 17: the reference to "open loop STV technology" should be changed to "closed loop STV technology."**

RESPONSE 3

EPA agrees with the minor edits and has incorporated them into the final permit.

Finally, although the fact sheet will not be reissued (this response to comments explains any changes to the draft permit and serves as an addendum to the fact sheet), EPA acknowledges the error in the second full paragraph on page 17 of the fact sheet. The fourth sentence should read: "Although seawater intake will be necessary to provide cooling water for the engines powering the regasification process, NEG has minimized its cooling water withdrawals needs by selecting closed loop STV technology that minimizes the need for seawater withdrawal." This clarification does not warrant any changes in the final permit.

Comment 4 from Paul Doremus, Acting Assistant Administrator for Program Planning and Integration, U.S. Department of Commerce National Oceanic and Atmospheric Administration (NOAA)

COMMENT 4

Thank you for the opportunity to comment on the U.S. Environmental Protection Agency's (EPA's) National Pollution Discharge Elimination System (NPDES) permit (MA0040266) for discharges associated with the operation of the Northeast Gateway Liquefied Natural Gas Deepwater Port (NEG Port). The following are the National Oceanic and Atmospheric Administration's (NOAA's) comments on the draft NPDES permit, including comments relevant to NOAA's jurisdiction under the Endangered Species Act (ESA), Marine Mammal Protection Act, the Magnuson Stevens Fishery Conservation and Management Act and the National Marine Sanctuaries Act.

NOAA's National Marine Fisheries Service (NOAA's Fisheries Service) previously evaluated the effects of discharges associated with the NEG Port on listed species in a February 5, 2007 Biological Opinion issued to the Maritime Administration (MARAD) for the construction and operation of the NEG Port. Consequently, no further consultation pursuant to Section 7 of the ESA is required. Reinitiation of consultation under the ESA would be required, however, where discretionary federal agency involvement or control over the action has been retained (or is authorized by law) and if: (1) the amount of extent of incidental take is exceeded; (2) a new species is listed or critical habitat designated that may be affected by the action; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not previously considered; or (4) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered.

In addition, NOAA Fisheries Service, in a letter dated July 3, 2006, provided Magnuson-Steven Fisheries Conservation and Management Act Essential Fish Habitat (EFH) conservation recommendations to the U.S. Coast Guard (USCG) and Army Corps of Engineers. EPA incorporated NOAA Fisheries Service's conservation recommendations into the draft NPDES permit relative to water usage and therefore, EFH consultation is concluded.

Finally, water discharge as allowed by the EPA NPDES permit for operation of the NEG Port is likely to affect resources of the Stellwagen Bank National Marine Sanctuary. These effects were considered during consultations between the NOAA National Marine

Sanctuary Program (NMSP) and the USCG and MARAD (on behalf of EPA) pursuant to section 304 of the National Marine Sanctuaries Act. Recommendations made by NMSP to date (submitted July3, 2006 and further clarified in a letter from the NMSP to the USCG/MARAD on October 13, 2006) as a result of those consultations are based upon the water rates and/or levels as described in the project's Final Environmental Impact Statement (FEIS). Further consultation under the NMSA relative to water usage may be required if rates and /or levels associated with the NEG Port were to exceed those considered in the FEIS.

RESPONSE 4

EPA acknowledges NOAA comments and clarifications regarding ESA, EFH and NMSA consultation and agrees that consultations for all three are complete.

Comment 5 from Joanne McBrien, Supervisor, Reliability and Strategic Planning, Massachusetts Division of Energy Resources:

COMMENT 5

The Massachusetts Division of Energy Resources (DOER) appreciates this opportunity for the public to provide comments on the draft National Pollution Discharge Elimination System (NPDES) permit for the Northeast Gateway LNG project. While DOER is not making specific recommendations concerning this draft permit, DOER wishes to express its continued support for the Northeast Gateway LNG project.

DOER is the state agency responsible for implementing and advocating for energy policies that ensure an adequate supply of reliable, affordable and clean energy for the businesses and residents of Massachusetts. We see the Northeast Gateway project as a new and important supply of natural gas for the citizens of the Commonwealth. In fact, the ability of Northeast Gateway to be in-service by year-end 2007 was a critical consideration in the Commonwealth's approval of this project in December 2006 pursuant to the Governor's responsibilities under the federal Deepwater Port Act.

DOER recognizes the importance of and growing demand for natural gas to meet New England's energy needs, especially to fuel space heating and electric generation in peak winter months. Gas use in the electric power sector has risen sharply due to the influx of gas-fired power plants in New England over the past decade. Almost every power plant built in the past 10 years has been gas-fired. Gas currently fuels about 40% of the region's electricity supply. The region's electric grid operator, ISO-New England, has called for aggressive energy efficiency and demand-reduction actions, but recognizes that New England will continue to depend on natural gas-fired generation for a large percentage of its electricity. In addition to increasing electricity demand for gas, traditional gas use in homes and businesses continues to rise.

Multiple independent reports verify that both Massachusetts and New England need additional supplies of natural gas as early as winter 2007/08. Northeast Gateway is the only proposed energy project that is able to provide a new supply of energy as early as this year. Therefore, in order to achieve a prompt in-service date of December, 2007, the Commonwealth made best efforts to expedite decision-making on all state permits, licenses and authorizations require for the project, consistent with state agencies' legal authorities.

DOER appreciates EPA's efforts to carefully review the record for this NPDES permit. Our hope is that any issues that might arise concerning the permit can be resolved expeditiously to allow this project to be built and operational by December 2007.

RESPONSE 5

EPA appreciates DOER's concern that the NPDES permit be issued in a timely fashion and shares the goal of issuing the final permit to be effective as soon as possible.

Comments 6 through 13 from Mason Weinrich, Executive Director and Chief Scientist, The Whale Center of New England:

COMMENT 6

We are writing to comment on the Draft Authorization To Discharge Under The National Pollution Discharge Elimination System, for Algonquin Gas Transmission, LLC, and Northeast Gateway Energy Bridge, LLC, for the ongoing discharge of warmed seawater into the Massachusetts Bay ecosystem. We thank you for the opportunity to provide comments on the proposal.

The Whale Center of New England has been following and commenting on this project throughout the application process. We have been conducting research on marine mammals in and around the project area since 1979. Our studies of endangered right, humpback, fin and other whales in the area have resulted in over 40 peer-reviewed publications. Our sightings data have been extensively used by the Stellwagen Bank National Marine Sanctuary (SBNMS), the National Marine Fisheries Service (NMFS), the Environmental Protection Agency (EPA), and others to make informed management decisions about marine mammal use of the area. Our staff currently serves on nearly every regional team dealing with large whale conservation and management, including the Northeast Large Whale Recovery Plan Implementation Team (Steering Committee members), the Atlantic Large Whale Take Reduction Team, the Stellwagen Bank National Marine Sanctuary Advisory Council, and the scientific committee of the International Whaling Commission, among others. Further, we were contracted by the project proponents to provide information on whale use of the project area for their initial Environmental Report and subsequent Environmental Impact Statements. Hence, we can speak to the concerns about potential impacts of the project on whales and their environment with expertise and authority.

First, we would like to emphasize the importance of this review process for the proposed discharge as undertaken by the EPA. As you may know, the review process for the FEIS of this project was rushed to say the least. The review and comment period was limited to 30 days, which is hardly sufficient time for such a complex document with so many issues and components. If that were not enough, the review was essentially simultaneous with that of the nearby Neptune LNG project, who had an equally complex project and accompanying FEIS. The EPA review of this discharge request should therefore proceed in a cautious and critical manner.

RESPONSE 6

The Deepwater Port Act directs relevant federal agencies to act on an expedited schedule for certain aspects of the licensing process. See 29 U.S.C. § 1504. With respect to this NPDES permit, EPA has proceeded appropriately.

EPA received the NPDES permit application in December of 2005 and began actively working on preparation of the draft permit in late 2006 after the issuance of the FEIS by the U.S. Coast Guard. During the preparation of the draft permit, EPA requested additional information from NEG to ensure that the permit was based on a comprehensive understanding of the regasification discharges. EPA relied heavily on the in depth considerations developed in the Biological Opinion issued by NOAA in drafting permit requirements for biological monitoring.

With respect to the public comment periods, EPA notes that the relevant federal agencies provided separate comment periods on the EIS and then on the NPDES permit. The public comment period on the EIS closed well over a year ago. With respect to the public comment process for this NPDES permit, EPA has provided the 30-day comment period required by 40 CFR § 124.10(b). Although the scheduling of a public hearing is at the discretion of the EPA Regional Administrator, see 40 CFR § 124.12, EPA anticipated continued interest in the project and permit and held a public informational meeting and hearing on September 24, 2007 and accepted substantial written and oral comments. These comments have been carefully considered, as documented in this Response to Comments.

COMMENT 7

As we repeatedly commented during the EIS process, the proponents have chosen one of the most important marine environments in which to locate their deep water port. The location is designated Essential Fish Habitat, is immediately adjacent to the Stellwagen Bank National Marine Sanctuary, and our own sighting data shows that it is an important marine mammal feeding habitat, especially for humpback and fin whales in September and October (Weinrich and Sardi 2005; Dickey et al. 2006; Weinrich et al. 2006), and for North Atlantic right whales in the winter and early spring (Weinrich and Sardi 2005; Weinrich et al. 2006). To substantiate this, we have attached several maps of whale distribution around the site, and several photos obtained in the past few weeks of whales in close proximity to the project's construction equipment. Hence, we urge the EPA to proceed with extreme caution in allowing discharges with largely unknown consequences, simply because unforeseen circumstances or unexpected outcomes could disrupt this vital ecosystem.

RESPONSE 7

EPA agrees that the NEG deepwater LNG port is located in a biologically important resource area. As a result, during the EIS process, EPA strongly urged the applicant to dramatically reduce its water usage, discharge of heated cooling water, and air emissions. In part to respond to EPA and others, and after consideration of other factors, the applicant did choose to modify its initial proposal to address these and other concerns. The NEG deepwater port license requires an extensive monitoring program, including a multimillion dollar acoustic buoy array to monitor whale vocalizations. In this discharge permit, EPA has developed effluent limitations, structural requirements for cooling water intake structures, and monitoring requirements that reflect these shared concerns for the aquatic environment. We believe the combination of technological changes to the vessels, stringent discharge limits and continued monitoring is a prudent and protective permitting approach.

COMMENT 8

The Whale Center of New England is ultimately opposed to the issuance of this discharge permit, as being far too risky in a fragile and important marine location. If, however, the EPA chooses to issue the permit, we would like to see a number of modifications made to the draft permit in order to insure that unforeseen and drastic consequences result from the discharge. Everyone involved in the review of this project knows that it has the potential to be an environmental disaster, and that despite that risk it is being undertaken to provide the region with energy and to generate a profit for private corporations. We think it is a terrible tragedy to risk such an important part of the ocean for energy which could be obtained in many other ways. There are risks to the environment from many components of the project, including increased traffic of massive ships and production of significant man-made noise.

The proposed discharge of warmed water is one of the risks of primary concern. Already, changes in the distribution of several fin-fish species in response to small amounts of warming has been documented on a regional scale. The key issue with this discharge is its potential to affect plankton abundance and distribution in both the near and far fields from the project. Many species of plankton are highly temperature dependent, and even minor changes to their habitats can result in shifts of abundance and distribution between species. Since each plankton species plays a different role in the ecosystem, such changes can have cascading and unforeseen effects. Warmed waters have also been tied to increased presence of harmful algal blooms, with disastrous consequences for marine life.

Based on the above, we would ideally urge the EPA to decline the permit. However, we are also realists. We see the construction being undertaken at the site on a daily basis, and realize the pressure the EPA faces to approve this permit. Given that, we would suggest several important modifications to the draft permit and its accompanying monitoring plan that we would see incorporated if the permit were to be approved.

The draft permit states, as one of its conditions, "this permit shall be modified or revoked at any time if, on the basis of any new data, the director determines that continued discharges may cause unreasonable degradation of the marine environment." The associated fact sheet further states "These guidelines define "unreasonable degradation of the marine environment" to mean:

- **Significant adverse changes in ecosystem diversity, productivity, and stability of the biological community within the area of discharge and surrounding biological communities;**
- **Threat to human health through direct exposure to pollutants or through consumption of exposed aquatic organisms; or**
- **Loss of aesthetic, recreational, scientific or economic values which is unreasonable in relation to the benefit derived from the discharge."**

These are all very vague terms, which would be very hard to apply in any realistic sense. We would like to see pre-defined specific, quantitative levels at which appropriate actions would be taken. Ideally, these would exist in the form of a document legally attached to the permit which could be modified and overseen by a working group of project personnel, EPA staff, independent scientists, and area environmentalists. We would envision this process and document to be similar to the Massachusetts Water Resources Authority's contingency plan for its 10-mile long outfall pipe, which was first used in the early part of

this decade. That plan has specific levels at which caution and warning actions are triggered, with those actions clearly stated. The Whale Center of New England would commit to be glad to participate in both development of such a plan, and on-going review of the results which indicate whether or not such effects are being seen.

RESPONSE 8

1. EPA notes the commenter's opposition to issuance of this NPDES permit, although EPA notes that some of the concerns alluded to within the comment are outside the scope of matters that EPA can address through the NPDES permitting process.

2. With respect to the proposed thermal discharge, it is not appropriate to compare the warming that the commenter mentions to the potential impact of this relatively small thermal discharge. The discharge at issue here represents several orders of magnitude less heat than the regional-scale warming the comment discusses. Regional finfish distribution will not be affected by the intermittent, relatively small thermal discharge from these vessels. The impact of thermal discharge was examined within the context of the EIS process and EPA is satisfied with that analysis. The proposed thermal discharge, with a relatively small delta T and short duration, is not likely to have a measurable effect on the marine environment. That being said, EPA is requiring monitoring of the thermal discharge for two reasons: (1) to confirm the findings of the thermal modeling effort, and (2) for compliance purposes.

3. The commenter questions the adequacy of the permit provision (I.A.5) that states: "In addition to any other grounds specified herein, this permit shall be modified or revoked at any time if, on the basis of any new data, the director determines that continued discharges may cause unreasonable degradation of the marine environment." This precise language is required by 40 C.F.R. § 125.123(d)(4). The definition of "unreasonable degradation of the marine environment" on page 9 of the Fact Sheet is quoted directly from 40 C.F.R. § 125.121(e).

4. The commenter proposes that EPA develop a monitoring plan similar to one that was developed for the Massachusetts Water Resources Authority (MWRA). The MWRA monitoring plan contained numerous thresholds developed *a priori* that will trigger specific action. This plan was developed by a multi-agency advisory group, which meets periodically to review the monitoring data. While such mechanisms are appropriate for certain permits, they are not required for every permit, and are not necessary here. The volume of the MWRA discharge is several orders of magnitude greater than this proposed discharge. The MWRA is a continuous discharge of municipal sewerage of over 500 MGD. This proposed permit allows for a discharge of heated seawater at a maximum flow of 7.82 MGD for a total of 520 hours over the entire year. EPA believes that the proposed monitoring program meets the requirements of 40 C.F.R. § 125.123(d)(2) and is appropriately scaled for the possible adverse environmental effects of this proposed project.

COMMENT 9

We are also concerned that the permit does not deal with the cumulative effects of the release of warmed water from four offloading stations that are in close proximity to each other. We appreciate that the EPA has set a limit on the number of hours of discharge which can take place from the project. However, we are concerned that the permit states that the "Overlap between vessels is only anticipated to occur during 10 percent of all annual operations at Port." If this were to be exceeded, (and there is no commitment that it will not), it could result in "shocks" to the system of a sudden infusion of high quantities of warmed waters. These effects could easily exceed those of a steady flow of much lower

quantities. Hence, we suggest including a limitation on the number of dual discharges as a part of the permit in addition to the proposed cap on the number of hours of discharge. Further, the permit never acknowledges the existence of the Neptune LNG project, due to begin construction nearby in the near future, which will also put the nearby ecosystem at serious risk. This cumulative impact also needs to be addressed, and should be part of the same monitoring and contingency requirements as suggested above.

RESPONSE 9

EPA agrees that the cumulative impact of multiple vessels from multiple projects is appropriate for consideration. After evaluation of those impacts, however, EPA has determined that in this case the cumulative impacts are acceptable. That said, because the evaluation of thermal impacts is based on the estimate by the permittee that use of the two buoys simultaneously will occur only 10 percent of the time, EPA has revised the permit to include a requirement to document and report the actual schedule of use and discharge at each buoy.

EPA examined the projected size of the thermal plumes from vessels from both Northeast Gateway and Neptune and determined that there would not be unacceptable cumulative impacts even if there were vessels on all four buoys. As an initial matter, the vessels from the Neptune project will have no thermal discharges as they would recycle their cooling water into ballast. Consequently, the only thermal discharges would be from the vessels at Northeast Gateway.

The buoy locations for Northeast Gateway are 1 mile apart. Thermal modeling shows that ambient temperatures are attained within 500 meters of the discharge point, so there would be little if any overlap of thermal plumes from multiple vessels. The thermal plumes emanating from the vessels are extremely small, especially when taken within the context of the open ocean area in which the buoys occur. The delta T associated with the thermal discharge and the small area associated with the measurable plumes from 1 or even 2 vessels should not result in significant thermal avoidance of this area by marine organisms. See also Response 25.

COMMENT 10

Of course, understanding the effects, or lack thereof, from the warm water discharge depends on monitoring data gathered during the project, especially in its early phases, and a realistic test against baseline data. We are concerned about whether appropriate baseline data exists for the area in most measurable biological features (see below for one area where we *do* think such data exists). Because the ocean is a highly variable environment, appropriate baseline data requires a time series of data across several years with consistent methodologies, against which environmental variability can be teased apart from project effects. The EPA should examine whether such data actually exists and, if it does not, how impacts of the warmed water could be assessed.

RESPONSE 10

Northeast Gateway has collected icthyoplankton data for the past year and a half, which EPA (and others) can use as a baseline. In addition, NOAA monitors icthyoplankton and zooplankton throughout the Gulf of Maine. Several of NOAA's sampling stations are near the project sites. NOAA's data collection has run significantly longer than the Northeast Gateway effort. The combination of these two sampling efforts should provide an amply representative baseline for icthyoplankton.

COMMENT 11

We have reviewed the monitoring plan attached to the proposal, and have also found what we feel is a significant flaw in the proposed sampling scheme. The plan proposes to sample plankton in two ways: at the 20-40 foot depth, where the warm water discharge takes place, and in a vertical average throughout the water column to within 15 feet of the bottom. However, plankton tends to aggregate at marine borders: the ocean surface, the sea floor, and thermoclines. At these edges, plankton concentrations can be spectacular. It is these concentrations on which many marine predators rely. For instance, Dr. Charles "Stormy" Mayo's work on feeding right whales in Cape Cod Bay has shown that they require plankton in concentrations of 3,750 organisms/m^3 in order to feed, and such concentrations are only found along these edges. However, by averaging plankton concentrations across the entire water column, the actual density of plankton in these aggregations is lowered several-fold. Further, the bottom layer would not even be sampled. This both makes it hard to know when such aggregations are present and, by default, makes it harder to show a statistically significant or biologically meaningful change. The monitoring program needs to find some way to determine the potential effects on plankton aggregations, which is what any marine predator looks for.

RESPONSE 11

The proposed sampling takes place in two ways, at the 20-40 foot depth and vertically averaged over the water column. The sample at the 20-40 foot depth represents the area in the water column which corresponds with the intake structure. EPA agrees with the commenter that plankton aggregations occur along edges, at the surface, near the bottom or on thermoclines. These vessels are not drawing water from near the sea floor or from the sea surface, but at least 20 feet below the surface. The most likely way for these plankton aggregations to be entrained is for them to be associated with thermoclines that may have formed between the 20-40 foot depths. Thus, the sampling scheme is designed to identify plankton aggregations at greatest risk of entrainment, if they occur within the project area.

COMMENT 12

We also question the *a priori* conclusion based on the CORMIX model that effects would be only in the immediate vicinity (within 500 m) of the ports itself. Conclusions from models can be misleading; many models fail to take into account the full complexity of a natural system, and fail to accurately predict true project effects. We suggest that monitoring occur in the far-field (to two miles from the site) as well as the near-field, at no less than five far-field stations, for at least five years. Based on those results, it may then be possible to restrict future monitoring to the near-field, but that possibility should not be assumed at this early stage of determining true environmental effects.

RESPONSE 12

CORMIX is an EPA-approved model that has been used extensively within this region. EPA has not received any evidence suggesting that the CORMIX model is inappropriate here, nor has the commenter explained why it believes the model is inappropriate here. In EPA's judgment, near-field monitoring is scientifically adequate and satisfies 40 C.F.R. § 125.123(d)(2). If a targeted near-field sampling effort shows that the thermal plume may be more extensive than the model predicts, then at that time it may be prudent to expand the geographic scope of the thermal monitoring. EPA has also revised Section I.B.3 of the permit to expand the scope of the thermal

monitoring, if the sampling at the 500 meter sampling location detects temperatures that are higher than ambient levels.

COMMENT 13

The draft permit states that "The permitee is required to monitor the potential impact of the thermal discharge and ongoing water withdrawal." Based on previous experience, we do not trust the permittee or its primary contractor, Normandeau Associates (who is identified by name on each page of their proposed monitoring plan), to fairly and honestly monitor and report on such a critical piece of potential project effects. In the early stages of this project, Normandeau Associates contracted the Whale Center of New England for a report on the whale use of the project site, for its required Environmental Report to be submitted with the original permit application for the project. We agreed, with the condition that we be allowed to review and edit any passage which used our data prior to the reports issuance. They agreed in writing. Not only did they fail to live up to their agreement, and issued the report before we had ever seen it, they repeatedly mis-used and drew inappropriate conclusions from our report. Further, many of their statements about the biology of endangered whales in the area were drawn from other inappropriate sources, and were often simply wrong. Not surprisingly, all of the problems led to a picture which made the project site seem less important to endangered whales. Our response letter upon reading the report issued by Normandeau is attached. They also did an equally poor job when they applied to National Marine Fisheries Service for their Incidental Take Permit. In that application they used an inappropriate data set to propose that humpback and fin whales did not occur in the project area[1]. They did this despite having our plots, attached to this letter, in their Impact Statements. Given this history, how can we trust the same company to reliably monitor any effects of the project?

We understand that the EPA does not have the resources to monitor the water flow, plankton concentrations, and other potential effects of the project. However, we suggest that in order to make sure that fair and accurate monitoring takes place, a working group of project personnel, EPA staff, and concerned local citizens and environmental groups together agree on an independent party to monitor the discharge, to be paid for by the project proponents. Ideally, this group would also review the monitoring results, and suggest changes to the monitoring program as required. One obvious way to do this would be to combine this group with the one suggested above for the contingency planning. The Whale Center of New England would commit to participating in this effort.

Finally, we would suggest to the EPA that there is a way to monitor whether there are effects on the ecosystem from the project: through monitoring the area for its use by large whales. In the reports we prepared for both Northeast Gateway and Neptune, we have shown how important the near- and far-field is to feeding whales (The Northeast gateway report is attached). Right whales in the area feed on calenoid copepods; humpback and fin

[1] Their application states: "However, from the most conservative estimates of both marine mammal densities in the Project area and the size of the 120-dBZOI, the calculated number of individual marine mammals for each species that could potentially be harassed is: one right whale (1.23), seven dolphins, and three seals." (p. 17 of their application).

whales in the area feed on either eupahsiids or amphipods. All of these prey species are plankton that could be affected by warm water infusion, and they are all prey to many species besides whales. However, whales have been shown to require dense concentrations of their prey to feed; they are easily detectable from the surface; and The Whale Center of New England has an on-going 27-year database of whale use of the area to act as a baseline for comparison. Monitoring of these three species, through methods consistent with those used to develop the baseline, should be a required part of the permit if approved.

We appreciate all that the project proponents have done to minimize the amount of warmed water that will be introduced into the ecosystem, and would point out that they have done so out of the legitimacy of the concerns. Along with everyone else involved in the projects, we hope that these efforts will result in no serious environmental effects. However, we also realize that there is a significant risk that this assumption may not be realized, and it is critical that we protect the marine wildlife that relies on this habitat to the best extent possible. We feel that incorporating an independently agreed upon monitoring plan, that incorporates near and far-field monitoring, better plankton assessments, and a component that includes endangered whales as representatives of the ecosystem, reporting to a fair and balanced review panel is a proper way to proceed.

RESPONSE 13

1. Third party monitoring: Adopting the change suggested by the commenter would be a notable departure from standard NPDES program practice. The program relies on information collected by the permittee as part of its permit obligations. EPA recognizes the need for establishing and following protocols for data quality assurance and quality control, and is satisfied that the monitoring plan includes appropriate QA/QC provisions. Further, there are significant penalties for falsifying information, and the permittee must certify each monthly discharge monitoring report. Permit oversight is provided by EPA with assistance as needed from resource agencies. EPA has the authority to conduct unannounced spot inspections to verify the quality and veracity of monitoring data.

2. EPA agrees that tracking whale usage of this general area is important, but does not believe that this NPDES permit (which regulates only discharges and cooling water intake) is the proper mechanism to address that concern. NOAA has determined (and EPA agrees) that the entrainment losses will have minimal impact on whale feeding activities. EPA does agree that vessel noise may affect the use of this area by whales. However, an NPDES permit is not the proper mechanism to regulate vessel noise, which EPA does not regulate under the Clean Water Act.

3. Finally, as stated in Response 8, EPA does not believe that the size of this discharge warrants convening an advisory committee or developing monitoring plans with triggers or contingency measures. Monitoring results submitted to EPA will be available to interested parties and periodic review of that data may suggest that additional monitoring is required in the future. If necessary, EPA has the authority to modify the permit's monitoring program under 40 C.F.R. § 122.62, and/or ask for additional information pursuant to Section 308 of the Clean Water Act.

Comments 14 and 15 from Polly Bradley, Secretary, Safer Waters in Massachusetts (SWIM)

COMMENT 14

Safer Waters in Massachusetts (SWIM) is a citizens' environmental group that since 1984 has worked to protect the waters of both Boston Harbor and Massachusetts Bay. SWIM is based in Nahant, where it is widely supported by the citizens of this peninsula surrounded by the ocean.

SWIM has many concerns about the offshore liquefied natural gas (LNG) terminals now under construction and proposed in Massachusetts Bay. These include the presence of toxic, chemical, hazardous and radioactive wastes in close proximity to the new LNG terminals; the effect on the fisheries; the proximity of three ocean protected areas, including Stellwagen Bank National Marine Sanctuary; safety in case of an LNG spill/explosion, a terrorist attack, or a disabled tanker drifting to shore in a major storm; and the lack of a regional energy plan that would accentuate renewable and alternative energy sources as well as conservation.

However, SWIM will focus on two issues directly raised by the Northeast Gateway Energy Bridge LLC application for a National Pollutant Discharge Elimination System (NPDES) permit: the need for a well-designed independent monitoring program and the potentially damaging effect of the discharge on the plankton, the food of the critically endangered North Atlantic Right Whale.

1. <u>Monitoring</u>. Qualified third party experts, not liquefied natural gas (LNG) corporations or governmental bodies, should be monitoring every step of the way. Improvements need to be made in monitoring the discharge of cooling water at the 4-hour start-up and shut-down periods. The Energy Bridge Regasification Vessel will require 7.82 million gallons of seawater with discharge temperatures raised by 5ºF (page 11, NPDES MA 0040266 Fact Sheet). Moreover, .99 million gallons of water will be discharged at temperatures 10ºF greater than the ambient seawater (page 14).

In the meantime, the plankton, which are extremely sensitive to temperature, are subjected to temperature increases high enough to kill them even if they escape being entrained in the seawater withdrawn or being caught up with fish and other organisms in the intake screens and racks.

According to the application, "The CORMIX model estimated that although the discharge would not meet the water quality criteria at the discharge port, the change in temperature at the water surface would meet the criteria of less than 1ºC." The application also speaks of averaging water temperatures. This method of analysis seems to be designed to intentionally avoid other sensitive areas. Although much of the plankton is at the surface, there are also large concentrations at the thermocline and near the bottom, and the plankton migrate up and down the water column under different conditions. Averaging is not the answer. This makes me think of the old story of the man with his head in the oven and his feet in the refrigerator: on the average he was just right.

A monitoring program with specific, quantitative limits designed to trigger action, including if necessary closing down the LNG terminal temporarily or permanently if limits are exceeded. A model for this is the monitoring program set up years ago by the Massachusetts Water Resources Authority (MWRA) in construction and operation of the wastewater treatment system for greater Boston. This plan set very specific limits to trigger action.

Safer Waters in Massachusetts endorses the comments by Mason Weinrich of the Whale Center of New England and urges you to follow the Whale Center's suggestions for improving monitoring.

RESPONSE 14

1. Third-party monitoring: See Response 13.1.

2. Effects of discharge: Due to the limited spatial extent of the thermal plume and limited duration of the discharge, EPA believes that the thermal discharge should have minimal impacts on plankton communities in the area of the discharge.

3. Vertical differences: The thermal plume would be a near surface or surface phenomenon because of the physics of such plumes. Warm water is less dense than cold water and the heated effluent would move vertically up the water column while losing thermal energy. The commenter incorrectly suggests that water temperatures from the CORMIX model were vertically averaged. The model represents a reasonable attempt to simulate how the thermal plume should dissipate over time and space. EPA has determined that CORMIX was the appropriate tool and it was applied in an appropriate fashion. The model predicts that the thermal plume would quickly dissipate. Furthermore, the applicant will be required to document this thermal dissipation with actual monitoring.

4. EPA believes that the proposed monitoring plan is the appropriate scale for the size of the proposed discharge. Based on available information, data and reasonable projections, a discharge of this size does not warrant a monitoring plan similar to the plan required for the MWRA. If monitoring reveals adverse impacts that are greater in magnitude than EPA has reasonably projected, the monitoring program can be expanded. See also Responses 8, 13.

COMMENT 15

2. <u>Whales</u>. Where there is plankton in Massachusetts Bay, there are baleen whales, including the critically endangered North Atlantic Right Whale. SWIM urges the EPA to consult carefully with the Commonwealth of Massachusetts in accordance with the federal-state agreement concerning protection of the North Atlantic Right Whale. SWIM is also concerned about the other endangered species that frequent Massachusetts Bay: blue whale, humpback whale, fin whale, sei whale, Kemp's ridley sea turtle, leatherback sea turtle, loggerhead sea turtle, hawksbill sea turtle and green sea turtle.

Where the plankton is destroyed, baleen whales in particular suffer. The whole ecological structure surrounding the LNG terminals can be altered in ways deleterious to the health and safety of endangered whales and sea turtles. More and more the whales are being found nearer shore from Stellwagen Bank, perhaps because of global warming. Adding a local water temperature increase to global warming will not help the whales of Stellwagen Bank and adjacent waters. For these reasons and others, SWIM opposes the issuance of this permit.

Nowhere is mention made of the Neptune LNG facility already approved nearby and the fact that all the harmful effects of the Northeast Gateway project will in essence be doubled.

For a moment, I would like you to consider what happens when a whale opens its mouth and goes after the plankton while the LNG vessels are weathervaning -- moving around their anchoring points with the currents and winds. Whales have not evolved to avoid a

moving "island" in the sea, and as the vessel moves with the wind and the whales chase the plankton, collisions are probable. Remember from high school physics:

force = mass x acceleration

The mass of an LNG tanker is still much, much greater than even the greatest Great Whale. When a whale hits a moving tanker, the result can be disastrous.

The same is true when a moving tanker hits a whale. There is no way a huge LNG tanker can stop to avoid a whale in its path. It simply takes too long to stop.

In summary, Safer Waters in Massachusetts requests that you improve the monitoring plan, incorporating the recommendations of the Whale Center of New England, studying carefully the Massachusetts Water Resources Authority monitoring model, and consulting with the Commonwealth of Massachusetts on protection of the North Atlantic Right Whale.

RESPONSE 15

The EIS assessed a wide range of possible adverse impacts to marine mammals and sea turtles. The applicant determined that the quantity of plankton lost from entrainment over the course of a year would have minimal impact on feeding whales. NOAA and EPA agree with this conclusion, and the permit provides additional protection by requiring that CWISs be located at least 23 feet below the water surface. If monitoring results in the future suggest an impact greater than anticipated, then the permit can be modified to address the issue. At this point in time, the best data available and reasonable projections do not point to entrainment of plankton as having a significant effect on whale feeding. With respect to the cumulative impact of the Neptune LNG facility, see Response 9.

Although no state is issuing this permit in conjunction with EPA (since the port lies in federal, but not state waters), the Massachusetts Division of Marine Fisheries (DMF), which implements the Commonwealth's right whale conservation program, and other Commonwealth agencies were sent public notices to solicit comments on the draft permit. No comments were received from these agencies other than the one above from the Massachusetts Division of Energy Resources. However, Massachusetts agencies, including DMF, were involved in the review of the project during the EIS phase of work, in compliance with the Massachusetts Environmental Policy Act, and the project ultimately gained approval from the Governor of Massachusetts in 2006 as required by the Deepwater Port Act.

EPA agrees with the concern expressed for the potential for vessel strikes against whales due to the increase in vessel traffic around the port area. Under the Clean Water Act, however, the NPDES permit regulates water intake and discharges associated with the operation of the port, rather than vessels in transit. The issue of vessel strikes was addressed in the Biological Opinion and the Incidental Take Statement (ITS) issued by NOAA. The NPDES permit is contingent on the port having an effective ITS, as stated on page 1 of the permit.

Comments 16 through 18 from Ocean Conservation Program Director Priscilla Brooks and Senior Scientist John Crawford of the Conservation Law Foundation:

COMMENT 16

The Conservation Law Foundation (CLF) offers the following comments on the draft National Pollution Discharge Elimination System (NPDES) permit to discharge pollutants associated with operations of a liquefied natural gas regasification facility into the waters of Massachusetts Bay.

The discharge will be the result of the intake and use of seawater for engine and boiler cooling, a safety-related water curtain, and seawater for a closed-loop warming ("condenser") system that will service the proposed offshore liquefied natural gas terminal in Massachusetts Bay being constructed by Algonquin Gas Transmission, LLC and Northeast Gateway Energy Bridge, LLC. CLF notes that the proposed quantity of condenser cooling water discharge contemplated in the application, 7.82 million gallons per day (MGD) is significant, given that this quantity will be discharged within a very short time frame (two four-hour periods each time the Port undertakes a regasification). The quantity of discharge that will result from the auxiliary seawater service cooling (for boilers and engines) and from the safety-related water curtain is relatively small, at 0.99 MGD and 0.6 MGD, respectively. However, even these smaller amounts of discharge are significant and may have the potential to cause negative impacts to aquatic life.

<u>Regulation of LNG Regasification Facilities Under NPDES Program</u>

CLF supports the determination that moored vessels undertaking regasification operations, such as the proposed Northeast Gateway Energy Bridge, <u>are</u> subject to regulation under the NPDES similarly to other vessel-based or land-based industrial operations. CLF concurs that the requirements of 316(a) [*sic*] are applicable to the facility's cooling water intake structures and that the permit's requirements apply to all discharges from and intakes into the Energy Bridge Regasification Vessels when they are interconnected with the STL buoys and integrated into the port.

<u>Potential Impacts on Species/Aquatic Life</u>

CLF is concerned that the permit anticipates water intake at a velocity above 0.5 feet per second. EPA has acknowledged in other rulemakings, that a water intake velocity of 0.5 feet per second or less should enable most motile marine organisms, including fish, to swim away from the cooling water intake structure. EPA further states that it is "noteworthy" that new offshore oil and gas extraction facilities are required to have cooling water intake structures with a water intake velocity that does not exceed 0.5 feet per second (pp. 16-17 NPDES MA0040266 Fact Sheet). It is not clear why this offshore LNG facility should be allowed to exceed this established limit and how allowing this facility to intake water at above 0.5 feet per second will be protective of marine resources in the vicinity of this project. EPA downplays the potential impact of this higher water intake velocity by stating that the increase in intake velocity will only occur between 4 and 8 percent of the time per port visit. CLF believes that this could nonetheless result in significant mortality of marine species and that the EPA must strictly limit the maximum water intake velocity at any one time to 0.5 feet per second or less.

RESPONSE 16

EPA disagrees that the projected discharges associated with regasification have the potential to cause significant negative impacts to aquatic life. That said, the permit includes effluent limits, as well as monitoring and management practice requirements to ensure that the discharges and any potential impacts are not greater than projected.

EPA believes that the risk of significant impingement mortality due to cooling water intake is relatively small, due to the limited amount of time that the vessels will be withdrawing water, the relatively low intake velocities and the swimming strength of the species most at risk. The intakes on these vessels are located well up off the sea floor, so the types of fish most likely to encounter them will be open ocean pelagic species. Open ocean pelagic species are swimming continuously and as a result are very strong swimmers. Thus, their risk of impingement is much lower than demersal species, which are much weaker swimmers.

COMMENT 17

Monitoring

CLF believes strongly that the permit should require strict monitoring of water quality and the likely entrainment and impingement of marine organisms by the cooling water intake structures. While the permit properly requires monitoring for water quality and entrainment, no such requirement has been set for the equally problematic phenomenon of impingement. The cooling water intake will be located mid-water, 23 below the surface, and will be equipped with an intake screen. During operation, water will be withdrawn at velocities as high 0.82 feet per second and there is significant potential for fish and other marine life mortality due to impingement on the intake screen. In the NPDES Fact Sheet (p. 19) EPA indicates that it is not feasible to monitor the intake screen for impingement and therefore does not make such monitoring a condition of the permit. CLF feels strongly that monitoring of impingement at the cooling water intake screen is essential and must be a condition of the permit, particularly as the proposed facility will operate in a very biologically rich and sensitive body of water and because this particular facility is the first of its kind not only in Massachusetts Bay, but in the entire Gulf of Maine. We do not agree with EPA's assessment that such monitoring is beyond technological reach. At a minimum, a video monitoring system should be affixed at the intake so that visual quantification of impingement can be carried out. Underwater video is widely use by commercial fishermen, marine scientists, ocean engineers, and search and recovery teams, and is clearly readily available and within reach for a large scale and technologically sophisticated project of this kind, operating in waters that support a large diversity of fishes as detailed in the NPDES Fact Sheet Attachment A on essential fish habitat. Monitoring of impingement is a reasonable and prudent requirement for this permit and should not add substantial burden in the context of a robust monitoring program.

RESPONSE 17

Due to the position in the water column of the intakes and the type of fish most likely to encounter those intakes and the limited amount of time of water withdrawal, EPA does not believe that impingement losses will be significant (see Response 16).

Given the limited anticipated impingement impacts, EPA does not believe that implementing a video monitoring program is warranted. Video monitoring of the intake screen presents significant technological challenges. For example, at 23 to 38 feet below the water surface, in

the North Atlantic and within the recesses of a hull, ambient light would not be sufficient to generate useful video. Therefore, substantial lighting would be required. Frequent maintenance would be required of the camera and lighting ports to remove biofouling and ensure that images are of useful quality. Additionally, the presence of the lights would serve as an attractant and may actually increase the risk of impingement.

COMMENT 18

Adaptive Management

Because the vessel design and technology proposed for the Northeast Gateway regasification facility is relatively new and the first of its kind in the waters off New England, there will be unknowns that emerge during construction and operation. Impacts on aquatic life cannot be fully quantified until after the facility begins operation. Therefore, the monitoring provisions proposed in this draft permit and the additional monitoring recommended by CLF are necessary to ensure the protection of aquatic life in Massachusetts Bay. The final permit should also include an adaptive management plan that will be in place before construction and operation commences and that will specify the steps that need to be taken to address impacts as they are discovered, including additional monitoring and mitigation measures.

EPA has acknowledged that even though the design of this facility has taken measures to reduce cooling water intake volume, "the vessels will still require large volumes of seawater" that will represent a new source of mortality for fish eggs and larvae (NPDES Fact Sheet, p. 19). Additionally, the impacts of the thermal plume are still not fully understood although preliminary modeling was conducted. In order to ensure the proper level of environmental consideration while allowing the relatively new technologies in this LNG regasification project to move forward, there must be a rigorous adaptive management protocol in the final permit that will address the inevitable unknown factors that will come with this new use of our offshore ocean waters. A discussion of and requirements for Adaptive Management should be added to this permit and any other permits for offshore LNG regasification in Region 1.

Adaptive management is a process by which data that is collected on an ongoing basis informs real changes in practices to abate unanticipated environmental consequences and compensate for truly unavoidable impacts.[2] "Adaptive management is not a trial and error approach."[3] Rather, an adaptive management plan should be agreed on and put in place *before the facility begins operation*. A good adaptive management plan must be predicated on an appropriate plan for ongoing monitoring during operation of the facility to detect unexpected harm to the environment or unexpected conflicts with other uses.

The Adaptive Management Plan should include provisions for: (1) additional data collection by the project owner/operator in the event that a harmful impact is detected or suspected; (2) a mechanism by which the owner/operator will report back results of

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[2] See Shawn Smallwood and Linda Spiegel, California Energy Commission, *Assessment To Support An Adaptive Management Plan For The APWRA*, (January 19, 2005), *available at* http://www.biologicaldiversity.org/swcbd/Programs/bdes/altamont/CEC-assessment-mitigation-plan.pdf (last accessed 5/14/07).

[3] Id., at 2.

monitoring data collection and make such data publicly available; (3) thresholds over which the facility will take action to mitigate/eliminate harms; (4) a plan specifying the types of actions the facility will take in the event of each category of environmental impact; and (5) provisions for monitoring to assess whether the adaptive measures are effective at remedying the impact, and a re-evaluation of goals if it is determined that the prescribed actions are not working.[4] Finally, EPA should include a re-opener in this permit that would allow EPA to require the project to modify its operations for a portion or all of the facility if ongoing monitoring data reveals that the project's environmental impacts are significant.

RESPONSE 18

The NPDES permit regulations, and this permit in particular, contain several mechanisms to assist EPA in assessing the facility's impacts and, if necessary, taking responsive action.

The permit contains monitoring requirements for each discharge outfall and a monitoring program in Part I.B.3. The Water Technical Unit of EPA Region 1's Office of Environmental Stewardship would review the regular monthly monitoring reports to ensure that discharges are meeting effluent limits prescribed in the permit, as well as for compliance with the conditions applicable to the intakes. In addition, the Ocean and Coastal Unit of EPA Region 1's Office of Ecosystem Protection would review the annual biological monitoring reports on an annual basis as meaningful data sets are developed. These annual reports will be submitted to the aforementioned EPA offices, to NMFS, and to the Stellwagen Bank National Marine Sanctuary Office.

EPA has revised Part I.B.3 to include requirements that otherwise respond to the suggestion of adaptive management proposed by the commenter. Specifically, EPA has added permit requirements that will (1) expand the scope of the thermal monitoring if the sampling at the nearfield station detects temperature increases that are greater than ambient levels, and (2) require annual reporting of certain information pertaining to Port operations over the preceding calendar year. Furthermore, if appropriate, EPA may request information under Section 308 of the Clean Water Act. Finally, any interested person may submit data at any time.

If necessary and appropriate, EPA may modify, revoke, or terminate the permit pursuant to applicable procedures. See 40 C.F.R. §§ 122.62, 122.64, 124.5; Permit Part I.A.5.

Comments 19 through 25 received from Renee M. Mary, Prides Crossing, MA:

COMMENT 19

1) Dumping polluted water from the ships so close to our highly populated shoreline is not good. All of the waves transport the water back to beaches where children play and wild birds feed, not to mention all of the ecosystem in the shallow water where waves break and in salt marshes.

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[4] Shawn Smallwood and Linda Spiegel, California Energy Commission, *Assessment To Support An Adaptive Management Plan For The APWRA*, (January 19, 2005), *available at* http://www.biologicaldiversity.org/swcbd/Programs/bdes/altamont/CEC-assessment-mitigation-plan.pdf (last accessed 5/14/07).

RESPONSE 19

The discharges authorized by the permit will not have any adverse environmental or health impact on persons or ecosystems at or near the shoreline. First, the project will add no chemicals to the seawater that would be used for cooling and for the safety water curtain. Second, the impact of elevated temperature associated with the discharge will dissipate within close proximity to the vessel, which would be moored 13 miles from the shoreline.

COMMENT 20

2) Initially a total of 4 LNG ships will anchor at the 2 ports. Last night, it was suggested that additional ones are highly possible.

RESPONSE 20

Initially, the NEG deepwater port would provide pipeline access and mooring for up to two vessels. The Neptune deepwater port is scheduled to be constructed in 2009 and would provide pipeline access and mooring for up to two more vessels. EPA is not aware of any other deepwater LNG port projects planned for Massachusetts Bay.

COMMENT 21

3) The total cumulative effect of an enlarging industrial zone so close to population centers will have unanticipated, undesirable impacts, the possibilities of which have not been presented.

4) The possibility of either a natural gas or steam explosion is terrifying to us. Frankly, we do not want to be incinerated. I challenge the idea that the anchors will hold: These vessels, when fully loaded, will break free and be smashed onto our rocky shores. The Atlantic is volatile, and because of climate change, storms have become more intense (reference not just to hurricanes, but to regular storms).

RESPONSE 21

The scope of the NPDES permit is limited to the discussion of the adverse environmental impacts due to water intakes and discharges associated with the NEG deepwater port project. Other impacts were addressed during the environmental impact study phase of the project and are summarized in the FEIS.

COMMENT 22

5) The applicant has carefully picked and chosen his data. Important details are missing, as was revealed at last night's public hearing. I, myself, point out that in the DANVERS HERALD (weekly newspaper published in Danvers), I read that a large fire boat would be available in case it was needed. Why have we not heard about this in hearings during the last 2 years.

RESPONSE 22

The NPDES permit is limited to discharges and cooling water intakes associated with vessels when they are moored to the buoys at the NEG deepwater port. If the commenter is concerned that the very availability of a fire boat implies a risk of fire, EPA notes the safety concern, but the Clean Water Act does not regulate fire safety. The Deepwater Port Act license does, however, require safety-related measures. Alternatively, if the commenter is concerned about

discharges from the fire boat itself, the NPDES program specifically exempts discharges from vessels operating as a means of transportation from requiring a permit. See 40 C.F.R. § 122.3(a).

COMMENT 23

6) The plan for this complex project has never been presented in a logical order, generally from beginning to end. For such a complex project the public is entitled to a presentation of this kind, including the possibility of unexpected impacts and how to deal with them before, not after, the project is permitted and construction completed and operations have begun. Right now, I am extremely skeptical about this project and the second one proposed by Suez (Neptune) due to my experience challenging local environmental projects, which were approved by the DEP, and subsequent impacts, like flooding occurred.

7) I totally concur with the technical presentations of 2 speakers – Ms. Polly Bradley of Nahant SWIM, Inc. and the Director of the Whale Center of New England. Please consider me an "unofficial co-author" of the data they presented last night (9/24/07).

RESPONSE 23

In response to this comment, EPA refers to the FEIS executive summary description of public involvement for the NEG deepwater port project environmental review prior to the issuance of the deepwater port license by the Maritime Administration. On pages ES-4 and ES-5, the public involvement activities were summarized as follows:

"On September 21, 2005, the USCG [(United States Coast Guard)] and MARAD *[(United States Department of Transportation Maritime Administration)*] issued a Notice of Intent (NOI) to prepare an EIS in the Federal Register. The NOI described the proposed project and the joint environmental review process, provided a preliminary list of issues to be addressed in the EIS, invited written comments on the environmental issues, and listed the dates and locations of two open house and public scoping meetings to be held in communities in proximity to the project area. The NOI was also published in The Boston Globe; The Boston Herald; The Gloucester Daily Times; The Salem News; and The Daily New of Newburyport. An "Interested Party" letter, the NOI, and a fact sheet describing the proposed project and announcing the location and dates of the open houses and public scoping meetings were mailed to 106 parties on October 5, 2005. The USCG and MARAD sponsored open houses and public scoping meetings in Boston and Gloucester, Massachusetts, on October 18, and 19, 2005 that were also attended by FERC and EOEA [*(Massachusetts Executive Office of Environmental Affairs)*] staff. Public comments submitted in the public scoping meetings and by letter were considered in scoping the DEIS [*(draft environmental impact statement)*].

The EPA published a Notice of Availability (NOA) of the draft EIS in the *Federal Register* on May 19, 2006, that initiated a 45-day period for the public and agencies to review and comment on the draft EIS. The USCG and MARAD also announced the informational open houses and public hearings, and invited public comments on the Draft EIS in the *Federal Register* notice. On June 14, and 15, 2006, the USCG and MARAD held informational open houses and public hearings at the Gloucester High School, Gloucester, Massachusetts, and Salem State Community College, in Salem, Massachusetts. The meetings were attended by over 40 individuals, 30 of whom provided verbal or written comments on the draft EIS at the public meetings. Transcripts of the public hearings are included in Appendix C.

Written comments were submitted to the federal docket by 16 government agencies or public officials and 21 individuals or non-government organizations, and 36 comment letters were submitted to MEPA during the draft EIS review period."

Comment 24 received from John Havighurst, Essex, MA:

COMMENT 24

The formula for averaging water temperature, by averaging water intake and discharge temperatures, does not give an <u>accurate</u> output temperature. It needs to be looked at scientifically – in terms of how it affects the sensitive marine ecosystem of Stellwagen Bank.

Due to the extreme sensitivity of the deep water port in close proximity to our marine sanctuaries, a closer investigation of the effects on marine life should postpone the permit process until a further study is done that takes into consideration the new temperature outflows and the impact on endangered species, toxic algae blooms, and the disruption of plankton growth (the food supply for right whales in this area).

I feel this lack of oversight as to the actual disruption of the marine environment that is protected under the Clean Water Act and Magnuson-Stevens Fishery Conservation and Management Act (1998), and thereby should not be granted a permit.

RESPONSE 24

The CORMIX model estimated the difference (not the average) between the ambient water temperature and the discharge water temperature. As previously stated, EPA reasonably projects that the thermal discharge should have minimal impacts on aquatic life in the area of discharge. If monitoring reveals that impacts are greater than were anticipated, the monitoring program can be expanded. See Responses 8, 9, 13, 14, 18.

Comments 25 through 33 from Rosemary Maglio, Beverly, MA:

COMMENT 25

I am writing to ask that NPDES permit number:MA0040266 should NOT be issued UNLESS and UNTIL it has been unequivocally proven that

a.) **Heat discharge into Massachusetts Bay waters at the outfalls for buoy A and buoy B on EBRVs**

b.) **Sea water intakes at the four designated sea chests on each EBRV**

c.) **Surface pollutants and air condensate pollutants from ship's water curtain and surface pollutants from ship's engine operation's smokestack emissions and ship's surface contaminants (leaks, spills, condensation/"soot" of air emissions/particulate matter)**

d.) **Noise discharge**

e.) **Wastewater treatment/disposal**

f.) **Catastrophic event on EBRV at DWP [deepwater port]**

"will not result in unreasonable degradation of the marine environment"; i.e. will not result in "significant adverse changes in ecosystem diversity, productivity and stability of the biological community within the area of discharge and surrounding biological communities."

Heat, particulate and dissolved pollutants, noise, and loss of organisms via entrainment will impact the stability of this marine environment. Diversity, productivity, and stability of the biological community within the area of discharge/cooling water intake systems will definitely be negatively impacted and the tampering with the ecological balance in this area is to an unreasonable extent , since this area is an area "enclosed" by marine sanctuaries and is an essential fish habitat area. To industrialize this site is unthinkable.

Diversity, productivity and stability of this biological community will be degraded and altered by

1.) **Δtemps – discharge water temperature 2.6ºC (5º) greater (warmer) than ambient seawater (main condenser cooling and Δtemps discharge water temperatures 5.5ºC (10º) greater (warmer) than ambient seawater (auxiliary seawater service cooling). The water temperatures at the discharge ports would be 2.6 – 5.5 ºC warmer that the ambient seawater temperature. These elevated temperatures do NOT meet the water quality criteria at the discharge port locations (criteria of less than 1 ºC) The criteria of less than 1 ºC ΔT would only be met at the water surface, but what about all the depths in between (discharge port up to the water's surface) The heated, warmer water leaving the discharge port would rise vertically to the surface (explaining why the temp Δ is not seen as much in the 500 m horizontal direction downdrift) but there is also a horizontal temp Δ. Notation, monitoring ought to be made of the seawater temperature at different depths in the vertical column between surface and the discharge ports and below the discharge port as well. An expert has testified at the hearing that plankton, icthyoplankton, are sensitive to temperature and would be negatively effected by temp increases. Other organisms (invasive/harmful organisms) might thrive better in this warmer volume of seawater and change the delicate existing balance of this ecosystem (i.e. organisms from ship's hull coming from Trinidad or enroute to port DWP). Movement (circulation) of water up will affect water flow, nutrient and organism flow, density of organisms, types of organisms, potential blooms of algae, turbidity, and dissolved oxygen.**

2.) **These changes in water temperature (discharge water temp to ambient seawater temp.) are most drastic on days #1 and #8 when the 4 hour start-up and shut-offs occur. SO there will NOT be stability of the environment.**

3.) **The loss of eggs, larvae, plankton, icthyoplankton in the cooling water intake system (CWIS)'s entrainment of organisms will affect diversity, productivity, and stability of this marine environment (especially on day 1 and day 8)**

The size of slots between grids on each of 4 sea chests (between metal gratings) of 21 mm (0.83 inches) will still allow smaller organisms to pass through (such as eggs, larvae, and plankton) and would selectively lead to loss of equivalent adults of those organisms that can not avoid being sucked in with the intake water. For example, fish species for which the Port area has been designated essential fish habitat for eggs and larvae (ex. atlantic cod, haddock, whiting, hake, flounder, halibut, sea scallops, herring) and what

about lobsters larvae and clams, quahops, and squids (n/a) and the food sources for these larvae – conditions will be altered by entrainment – which species will be significantly effected? These are unknown.

In conclusion, these are comments to protect this ecosystem, albeit made by an ordinary citizen –

1.) <u>Do not issue this permit</u> (despite prior laying of pipelines)

RESPONSE 25

The Clean Water Act and its NPDES regulations include provisions that specify when a discharge must be prohibited (i.e. when a permit must be denied). See CWA § 403(c), 33 U.S.C. § 1343(c); 40 CFR §§ 122.4, 125.123(b). EPA, in the environmental impact study (EIS) phase of the project, concurred with the FEIS conclusion that an NPDES permit could be issued for this discharge and that there would not be cause to deny a permit under the Clean Water Act. Therefore, EPA has developed an NPDES permit that would ensure operational consistency with the environmental commitments made by NEG during the EIS and provide adequate monitoring to ensure that, as concluded in the FEIS, the impacts on the marine environment are indeed minimal. Specifically:

1. Delta T: Because EPA has not promulgated nationally-applicable effluent limitation guidelines for discharges associated with LNG deepwater ports, EPA develops effluent limits on a case-by-case basis using best professional judgment. The CWA does not require attaining water quality criteria at the point of discharge. The Ocean Discharge Criteria (required by CWA § 403(c) and published at 40 CFR Part 125 Subpart M) require evaluation of nearfield effects, i.e., at the boundary of a zone of initial dilution, rather than at the point of discharge. See 40 CFR § 125.123(d)(1). (This is similar to application of water quality standards for in-land waters, where States and tribes have discretion to allow dilution as part of their water quality standards and implementation procedures.) In addition, EPA has issued guidance to states and tribes that incorporate mixing zone policies into their water quality standards.[5] While the guidance provides states and tribes broad leeway in considering the specific characteristics of the receiving waters, it offers general criteria which require that mixing zones be free from:

- concentrations causing acute toxicity,
- concentrations forming objectionable debris,
- floating debris, oil, scum and other nuisance materials,
- substances producing objectionable color, odor, taste, or turbidity, and
- substances that result in a dominance of nuisance species.

EPA considered this guidance, as well as the physical and biological characteristics of the Massachusetts Bay discharge location, in evaluating the CORMIX model results in developing the effluent limits. The thermal discharge of relatively low delta T and for a limited duration will not result in acute toxicity or unreasonable degradation of the marine environment.

[5] EPA, *Technical Support Document For Water Quality-based Toxics Control*, EPA/505/2-90-001, Office of Water, March 1991.

EPA believes that the ephemeral nature of the discharge will prevent the thermal discharge from contributing to the spread of invasive species. However, in addition to the biological monitoring required in the NPDES permit, the New England Aquarium will be conducting a broad range biological monitoring program designed to detect long term changes of the ecological balance in the port area. See also Response 30.

2. Stability: EPA acknowledges that there will be a discharge of heated water for a 4 hour period every 7 or 8 days. This thermal discharge will affect a small spatial area and persist for a short period of time. EPA believes that the adverse impacts of the first- and last-day temperature changes on the stability of the local aquatic environment will be minimal due to limited delta T, duration and spatial scope of the resultant plumes.

3. Entrainment: The Operational Monitoring Program is specifically designed to collect data regarding icthyoplankton diversity and abundance per volume of water at depths typically withdrawn by the EBRVs. The data would enable analysis in terms of likely impact to the Massachusetts Bay fish populations, as described in the monitoring plan which is attached to the permit (Attachment A).

COMMENT 26

2.) If you do issue this permit, then you MUST add greater limitations, frequent independent monitoring (and avoid averaging ranges), and immediate cease and desist, STOP operations when operations clearly impact the environment negatively – temp., pollutants prior to reversible loss of species.

RESPONSE 26

EPA does not anticipate any substantial biological impacts from the intakes or discharges associated with this permit. The permit does include, however, a variety of monitoring and reporting requirements, including those in Part I.B.3, and, in the event of unanticipated impacts, EPA has various options for responding. See Response 18. The Deepwater Port Act license does, under specified circumstances, provide for immediate operational shut-downs.

COMMENT 27

3.) Have a sound contingency plan in place for handling catastrophic event at this site – containment of environmental effects on this marine environment and its surroundings.

RESPONSE 27

The required response to an accidental release of pollutants due to “upset” in port operations is defined and discussed in Part II.B.5 of the permit. Although “catastrophic” events are not specifically addressed, the safety hazards associated with the port operation were discussed in Section 5.0 of the FEIS. In accordance with the Deepwater Port Act, NEG is required to develop plans to address potential hazards in conjunction with the U.S. Coast Guard which would be the primary responding agency in the event of a disaster at the port. Finally, in the event of unanticipated impacts, EPA has various options for responding with respect to the permit itself. See Response 18.

COMMENT 28

4.) Eliminate entirely open-loop system on day 1 and day 8 which requires use of seawater intake to cool engines and the heated seawater discharge.

RESPONSE 28

EPA requested technical input from NEG regarding the feasibility of the change recommended in the comment. NEG submitted the following response:

> "The Northeast Gateway Deepwater Port utilizes the closed-loop regasification process and does not utilize a direct use of seawater to re-vaporize the LNG. The water intakes and discharges associated with an EBRV during the 4-hour start-up and shut-down of operations on day 1 and day 8 of each Port visit are not related to regasification activities. Energy Bridge Regasification Vessels (EBRVs) are steam driven vessels and water is used to operate the vessels. There is no alternative to using water to safely cool the machinery and support the basic operational needs of the vessel and its crew. This water usage is typical of most LNG and/or large crude carriers that are currently in service today. All vessels regardless of propulsion method (steam turbine/diesel) utilize seawater for cooling and continue to do so regardless of whether or not they are actually underway. What is unique about the EBRVs is that once in the regasification state the vessels can operate under an innovative Heat Recovery System (HRS). Unlike other steam driven vessels, once in HRS the EBRVs can maintain the appropriate engine temperature requirements by using the cold temperatures associated with the LNG cargo to cool the heated machinery water and intake of the normal seawater for the vessel's cooling needs can be halted."

Based on all information in the record, EPA concludes that the closed loop STV system currently represents the best available technology economically achievable (as required by Clean Water Act section 301(b)(2)(A)) for the reduction of "heat" (a non-conventional pollutant) in the discharge from the NEG Port. EPA likewise concludes that the closed loop STV system represents the best technology available (as required by Clean Water Act section 316(b)) for minimizing the adverse environmental impact of the CWIS, at the NEG Port.

COMMENT 29

5.) Reduce the total discharge time (hours) below the 520 annual total and restrict/limit the daily discharge time (to less than 4 hr. start-up day 1/8) and reduce fluctuation of discharge (reduce the high discharge volumes of day 1 and day 8).

RESPONSE 29

EPA requested technical input from NEG regarding the feasibility of the change recommended in the comment. NEG submitted the following response:

> "Northeast Gateway (NEG) is committed to reducing impacts on environmental resources and has worked diligently to reduce water usage to the maximum extent practicable (95 percent) and still maintain safe operations of the EBRVs. Northeast Gateway is also committed to provide a reliable and timely supply of natural gas to meet the demands of the New England markets. To do so, Northeast Gateway has estimated the delivery of 65 cargos per year. The 520 hour cap provided by the EPA represents the minimum amount of discharge hours (with a 10 percent vessel overlap) to achieve 65 cargos. If the hours of

discharges were reduced from 520 to 180, Northeast Gateway would be unable to service the projected gas needs of the region."

Based on all information in the record, EPA concludes that the closed loop STV system currently represents the best available technology economically achievable for the reduction of "heat" in the discharge from the NEG Port.

While reducing the hours of operation would undoubtedly reduce the potential for adverse environmental impacts from the NEG Port, EPA has not received any information suggesting that permitting NEG to operate for less than 520 hours per year is necessary to meet either the Clean Water Act's technology-based standards or the Ocean Discharge Criteria.

COMMENT 30

6.) Decrease the temp. rise (∆T) <u>to less than 1ºC at the discharge port</u> (not 2.6 ºC, not 5.5 ºC) (not just at surface water/or within 500 m. from discharge port). Retain the water for discharge on board <u>until</u> the seawater temp. decreases to less than 1 ºC.

RESPONSE 30

See Response 25. EPA also requested technical input from NEG regarding the feasibility of the operational change recommended in this comment. NEG submitted the following response:

"The operation of all vessels similar in design to the EBRVs utilized at the NEG Port require seawater to maintain the operating temperature for the machinery used for propulsion and electric generation, whether the vessel is moored at a deepwater port or at a dockside facility. NEG is unique in its design to all other vessels with the development of the Heat Recovery System (HRS) system which can be used during the regasification process. During the first four hours of regasification on the EBRV, the intake of seawater absorbs heat from the machinery and is immediately discharged with only a slight increase in temperature. Once in HRS the EBRVs can maintain the appropriate machinery temperature requirements by using the cold temperatures associated with the LNG cargo to cool the heated machinery water and thus the intake of the normal seawater for the vessel's cooling needs can be halted. With regard to the comments suggestion that the cooling water be held on board the vessel, retaining the water on board the vessel poses a fundamental problem; retaining the warmer discharge water on board the vessel will only increase in temperature as the warm effluent is continuously added to the storage. This risks overheating the engines and equipment. For this reason, it is not feasible to retain the water onboard in an attempt to reduce the discharge temperature."

Based on all information in the record, EPA concludes that the closed loop STV system currently represents the best available technology economically achievable for the regulation of "heat" in the discharge from the NEG Port.

COMMENT 31

7.) <u>Monitor</u> also <u>for dissolved air pollutants at port site</u> and along <u>plume trail for smokestack emissions</u>. These pollutants are entering or "discharging" into the water by indirect route of fallout and into seawater. (Ex. NOx, formalin, particulate matter, lead, benzene, SO2 – see air emissions HAP – hazardous pollutants from smokestack emissions)

RESPONSE 31

EPA notes the commenter's concern and is sensitive to the fact that airborne pollutants can be incorporated into the hydrologic cycle through precipitation. The Clean Water Act, however, regulates point source discharges to waters of the United States. EPA currently considers the deposition of air pollutants as a result of precipitation or "fallout" to be non-point discharges, rather than point source discharges, and thus that deposition is not regulated by the permit. The facility's air emissions are regulated by a minor New Source Review permit (No. RG1-DPA-CAA-01) that reflects Best Available Control Technology for control of the relevant pollutants and will ensure that the National Ambient Air Quality Standards are not violated. Furthermore, EPA has no evidence before it suggesting that the facility's air emissions would result in appreciable deposition of air pollutants into the ocean water.

COMMENT 32

8.) Decrease cooling water intake systems to maintain controlled intake velocity no greater than 0.5 feet per second or less with NO exceptions for the 4 hr start-up/shut down intake velocity of 0.82 ft/sec. Eggs are not able to "swim away" or resist the suction action of high velocity water intake and thus loss of eggs and not motile larvae forms will decrease productivity for this area resulting in decreased number of equivalent adults.

RESPONSE 32

EPA agrees that eggs and non-motile larvae forms cannot swim away from the cooling water intake structure and that there will be a decrease number of equivalent adults as a result. The impact of this decrease was evaluated in the FEIS and was estimated to be low. However, the Operational Monitoring Program (Attachment A to the permit) is specifically designed to collect additional data regarding icthyoplankton diversity and abundance per volume of water at depths typically withdrawn by the EBRVs. EPA would analyze this data in terms of the likely adverse impact to the Massachusetts Bay fish populations, as described in the monitoring plan.

COMMENT 33

9.) Use of this DWP should be (after baselines are established year round at various depths)

- **Gradual**
- **<u>Phased in gradually</u> and <u>monitored</u> for effects first before any increase in hours of operation (esp day 1 and 8)**
- **Much less than 520 hours in draft permit perhaps limit to ¼ time or 180 hours for first year of operation for example.**
- **Hours of operation should be minimal during first year of operation and 1st year monitoring (especially day 1 and day 8 and day 4 and incorporate rest period or longer cycle so that discharge water has more time to cool – perhaps 12 day cycle if better)**

- **Effects of the water discharge temp may be cumulatively negative water temp (i.e. – ambient seawater temperature itself may be rising and is changed each 8 days by increased water temp discharge)**

- **Allow for recovery time between use and longer time for discharge water to cool on EBRV (to less than 1 ºC above ambient seawater temperature)**

I know you have a difficult job to balance energy needs and protection of this ecosystem. The protection of this biologically rich and diverse ecosystem is of paramount importance and it truly ought not be made into an industrial area to regasify liquid natural gas. All safeguards, limitations, conditions, monitoring and <u>yes even denial</u> of NPDES permit must be carried out to ensure the protection of this unique marine ecosystem.

RESPONSE 33

EPA acknowledges and agrees that the port area is in an ecologically sensitive area that should be developed cautiously for the sake of maintaining a healthy and ecologically diverse ecosystem. Although this deepwater port is the first of its kind in Massachusetts Bay, it will lie adjacent to protected resource areas, but also in an area that has been used for waste disposal, and is scheduled to contain a second deepwater LNG port within the next few years. Because of the ecological sensitivity of the site, EPA commented and provided input, along with other federal and Commonwealth agencies and the public, during the development of the FEIS to ensure that the project's impact on the aquatic environment would be fully evaluated and minimized. As a result of these efforts, the cooling water intake and discharges associated with the regasification process were reduced by an order of magnitude to a level that EPA believes should have minimal, if any, adverse impact on the aquatic environment.

EPA also requested input from NEG regarding the feasibility of phasing in port operation, as recommended in the comment. NEG submitted the following response:

> "As stated in Section 1.4 of the FEIS, a report of the New England Governors Conference (NEGC) concluded that given the time required for LNG project development, the region must either substantially reduce demand for natural gas or start now to develop infrastructure to ensure reliable delivery of natural gas in the winters beyond 2010. A report from the Special Commission for New LNG Infrastructure in Massachusetts and New England also predicted a regional shortage in natural gas supply as early as 2007 and as late as 2010 (Tierney, 2005).
>
> The Northeast Gateway Deepwater Port will add between 150 Bcf to 175 Bcf of natural gas to New England annually, or approximately 400 MMcfd, depending on operational conditions, by the winter of 2007, to provide the gas necessary to meet the projected increase in demand. Bringing the project online would represent an approximate 8 percent increase in the region's overall delivery capacity. However, if the project was "phased" into operation, New England would potentially be unable to meet both the short and long-term natural gas needs of the region."

Based on all the information in the record, EPA has determined that the permit provisions are adequately protective, and it is neither necessary nor appropriate to phase in operation as proposed in the comment.

Comment 34 received from Heidi Roberts, Sierra Club

COMMENT 34

I am with the local group of the Sierra Club. The Sierra Club supports the organizations like the Whale Center and the Nahant SWIM Team in their efforts to stop this process. And I think we are being misled. I attended all these hearings for several years now when we were told it was a closed loop. Now, to me, a layperson, I thought there was no water in and out. No -- you know -- versus an open loop. Now, that's what I thought. But now today, I hear that the water comes in and goes back out. That's not a closed loop to me.

The other thing, years -- years ago, when all this started, the Algonquin pipeline, which is coming through Boxford and down from Canada and comes through – through the harbor here, at the time when they brought up this -- the LNG vessels coming in, the LNG ports, when they proposed it, they said there was a miscalculation. There wasn't enough gas up in Canada. Now, today in the paper is that they are going to increase or build a -- some sort of station in Boxford to increase capacity for the gas coming from Canada. Apparently, they just found some more.

So -- and at the time, too, the people in Boxford and North Andover were told this pipeline would go through, that the Salem power plant, which is powered by coal, would tie into gas. Well, that's not quite happen, because that's owned by Dominion Coal. So, that was not right. The other thing was, I think, all of this was decided at the LNG conference in Rome several years ago which also, incidentally, an official from the State Energy Commission attended. This was who's who and LNG was there. You know, all the Middle East countries, everybody, Russia, so forth.

And you can see this on what is called PLATTS, which is the energy -- it's on the internet. So, that's all I wanted to say. I feel it was a done deal years ago. Sorry. That's it.

RESPONSE 34

1. The draft permit and attached fact sheet reflect the system described in the NPDES permit application submitted to EPA, which does include cooling water intake and discharge at startup and shutdown.

EPA believes that the relatively small intake and discharge (when compared to open loop regasification systems) should not be a detriment to the environment. The regasification systems to be used at Northeast Gateway are the current state of the art for on-board closed loop regasification systems since they have been retrofitted with heat recovery systems that reuse the warming water for engine cooling. No other such vessels are currently in use anywhere in the world. EPA expects that new vessels will be specifically designed and built to operate with fewer or no discharges.

2. The development of regional natural gas infrastructure is outside the scope of the NPDES permit under consideration in this response to comments which pertain to discharges and cooling water intake associated with the operation of a specific deepwater port.

At the public hearing, Mary Roderick, of Beverly Massachusetts, made the following comments:

COMMENT 35

I believe there are too many issues still in with the whales. And also recently, in fact, in today's newspaper, there is an article about a local issue which means the pipeline is going to have to be -- another site is going to be considered in the local places, Danvers and Boxford, which will connect to this pipeline. And none of us knew that there was any more work to be done within the local area. All of it theoretically is still out in the ocean. We haven't heard about that before. I think, we are all very concerned about not only the whales, but the quality of life for a lot of other sea life.

The temperature of the water coming in and going out, these are serious issues. And I don't think that they have been considered, but I don't think that the EPA has considered them strongly enough for the local area. Especially for the lobsters. Lobsters are not just little, you know, those orange things that we see. They are little baby things that are actually not very -- the size of plankton when they are very small. And these could be affected in that situation. The temperature of the water, anything chemical in the water, we haven't actually seen that data. I believe that this project should not be approved. If it were approved, I think a lot of significant changes have to be made to it.

RESPONSE 35

1. The development of regional natural gas infrastructure is outside the scope of the NPDES permit under consideration in this response to comments which pertain to discharges and cooling water intake associated with the operation of a specific deepwater port.

2. The permittee does not propose to add any chemicals to the cooling water, and the permit therefore does not authorize the discharge of any such chemicals. The permit specifically prohibits the addition of chemicals to the discharge without prior approval from EPA.

3. Early larval stages of lobster are pelagic and thus could be present just below the water surface in close proximity to the thermal discharge. The thermal discharge would occur for a limited duration (4 hours at a time) within a relatively small affected geographical area. Due to the limited temporal and spatial scale of this discharge, EPA does not believe that it has the potential to pose a significant risk to larval lobsters.

At the public hearing, Hope Benne made the following comments:

COMMENT 36

I just want to agree with all of the people here who vehemently oppose this project. This is just another example of a reckless project that's been railroaded through. The burden of proof has not been on the people who will profit from this. The burden of proof is on some of us. We local activists and local environmental organizations who aren't being paid high salaries railroad through a reckless project. And you wonder where the conscience is, the conscience that I feel rests in each of us to search for sensible policies and exercise the precaution -- precautionary principle which has been advanced that, before constructing an extremely complex project such as this, that all questions will be thoroughly exhausted

before the project goes forward. So, yes, I just want to add my voice to the others that oppose this project.

RESPONSE 36

EPA notes the commenter's opposition to issuance of this NPDES permit. With respect to the EIS and permitting processes, see Responses 6 and 23.