

5.0 CONCLUSIONS AND RECOMMENDATIONS

5.1 SUMMARY OF THE STAFF'S ENVIRONMENTAL ANALYSIS

The conclusions presented are those of the environmental staff of the FERC. The Coast Guard will present, in its Letter of Recommendation and LNG Operations Plan, its own conclusions and recommendations prior to construction and operation of the proposed project. The Letter of Recommendation will address the suitability of Narragansett Bay and the Providence River for LNG ship transportation, and the Coast Guard's LNG Operations Plan will address issues related to the public impact of safety or security zones for LNG vessels. Likewise, the COE will present its own conclusions and recommendations in the permits it may issue pursuant to section 10 of the River and Harbors Act and section 404 of the CWA. The EPA has the authority to review and veto the COE decisions on the 404 permits.

We (the Commission's staff) have determined that the existing facility does not meet the current LNG safety standards in 49 CFR Part 193 and NFPA 59A (2001 edition). We recommended in the draft EIS that KeySpan LNG perform an analysis of how its existing LNG storage and sendout facilities could comply with the current federal safety standards. The draft EIS also instructed KeySpan LNG to evaluate design changes or other measures that would need to be applied to comply with the current standards and to file that information. In response, KeySpan LNG stated that in order to meet the current federal safety standards, it would need to make the following modifications to its existing facility: (1) replace anchor straps, increase inner floor thickness, or replace foundation for seismic requirements; (2) install in-tank pumps and eliminate bottom penetrations to reduce flammable vapor exclusion zones; (3) increase impoundment capacity; (4) add pressure and vacuum relief valves; and (5) acquire legal control of eight adjacent industrial properties for thermal exclusion zones. KeySpan LNG concluded that it would not be feasible to make these modifications due to the high financial costs and the fact that making the modifications would require taking the existing facility out of service for two to three heating seasons.

KeySpan LNG's current proposal to convert the facility into a baseload import terminal would not meet current federal safety standards. We believe that all new LNG import terminals should comply with the current standards.

Apart from the fact that the proposed import terminal would not meet current safety requirements, our analysis shows that with the use of KeySpan LNG's and Algonquin's proposed mitigation and the addition of our recommended mitigation measures, construction and operation of the KeySpan LNG Project would result in limited adverse environmental impact.

Our conclusions are based on information provided by KeySpan LNG and Algonquin; data developed from data requests; field investigations and independent analysis by Commission staff; literature search; alternative analyses; comments from federal, state, and local agencies; and input from legislators, public groups, and individual citizens. As part of our review, we developed mitigation measures we believe would appropriately and reasonably avoid or minimize environmental impacts resulting from construction and operation of the proposed project. We are, therefore, recommending that our mitigation measures be attached as conditions to any authorization issued by the Commission.

The discussion below summarizes the environmental impacts and the proposed or recommended mitigation for each resource analyzed in this final EIS.

Geology

Construction and operation of the proposed project would have minimal impact on mineral resources in the area. The potential for geologic hazards or other natural events to significantly impact the project is low.

Existing soil at the LNG terminal site would not be suitable to support the proposed facilities on shallow foundations in its current state. To address this concern, KeySpan LNG's geotechnical consultant recommended deep pile foundations for the heavy loads in the proposed process areas. KeySpan LNG has committed to implementing the recommended foundation systems and pile foundations are planned for the marine structures. To provide an opportunity for us to determine that the final design ensures the stability of all project components, we have recommended that final foundation designs be submitted for our review and approval before commencing construction.

The potential for an earthquake or seismically-induced soil liquefaction to occur that would result in significant damage to the proposed project facilities is low. Construction of the proposed structures and facilities at the KeySpan LNG terminal site on pile foundations would avoid or further reduce the potential for effects resulting from soil liquefaction.

Portions of the LNG terminal site could be flooded by a tropical storm surge or high rainfall event. The areas to be occupied by all new equipment and buildings would be raised to elevations greater than the 100-year base flood elevation. The existing stormwater system would be improved thereby reducing the potential for flooding to affect the site. Potential effects associated with high rainfall events would be further mitigated by implementation of KeySpan LNG's soil erosion and sedimentation plan (which would include applicable provisions of the FERC Plan and Procedures) and Algonquin's ESCP.

Soils and Sediments

The proposed activities at the LNG terminal would have minimal impacts on soils because construction would be contained within the existing KeySpan LNG facility. There are no agricultural fields, residential areas, or wetlands present on the site. The ground surface is primarily covered with gravel and stone, and no topsoil is present. Despite the absence of conditions such as steep slopes, wetlands, and agricultural land, there is potential for erosion due to sediment discharge from temporary soil stockpiles into catch basins and storm drains located close to work areas. KeySpan LNG would minimize the risk of erosion and sedimentation impacts by implementing a soil erosion control plan based on applicable local soil erosion control requirements and the applicable portions of the FERC Plan.

Soils at the KeySpan LNG facility site are contaminated due to historical industrial operations at and near the site. KeySpan LNG would submit a RAWP for the proposed project to the DEM for review and approval prior to construction. The RAWP would include the draft Soil Management Plan provided in appendix 7B of KeySpan LNG's application. By implementing the measures in its DEM-approved RAWP, KeySpan LNG would safely manage existing contaminated soil at the site during construction of the proposed project.

The entire proposed pipeline route and all aboveground facilities are underlain by fill material mapped as Udorthent-Urban land complex, similar to the soils at the LNG terminal site. Because the pipeline facilities would be located in areas that have been previously disturbed and/or paved, we expect construction would have a minimal impact on soils. Like the LNG terminal, potential impacts from erosion and sedimentation and interactions with contaminated soils are the primary concerns for pipeline construction. Algonquin would minimize potential impacts from erosion of soils along the pipeline right-of-way and at the proposed aboveground facilities by implementing its ESCP. Algonquin has had

preliminary discussions with the DEM and intends to conduct additional environmental investigation to characterize soil and groundwater conditions along the pipeline route prior to initiating construction. Algonquin would prepare and submit an SGMP to the DEM for review and approval after obtaining and evaluating these additional data. By implementing a DEM-approved plan for the management of contaminated soils, Algonquin would avoid or minimize the potential to exacerbate existing contamination conditions and provide for the safety of its construction workers and the public.

No dredging would be required for the KeySpan LNG Project; therefore, the project would not disturb a significant volume of contaminated sediment. The construction of the marine facilities would require the use of a spud-anchored work barge and would involve driving piles into the river bottom to support the unloading platform and other marine components. The use of spuds to anchor the barge and the driving of piles would result in some direct impacts on the channel bottom, and the removal and repositioning of the spuds would result in suspended sediment and turbidity. The turbidity and channel bottom impacts would be short-lived, minor, and localized, particularly when compared to the impacts of the recent Providence River Dredging Project.

Water Resources

Groundwater

Construction and operation of the project would not have a significant impact on public or private drinking water supplies or availability. No public or private drinking water wells or springs are known to be within 150 feet of the project, and there are no federal or state sole-source aquifers or wellhead protection areas in the project area.

Groundwater at the KeySpan LNG terminal site and along the proposed pipeline route is contaminated from former manufactured gas operations at the LNG terminal site and from other commercial and industrial activities in the area. The proposed construction activities at the LNG terminal site do not include excavation to the water table; therefore, we do not expect these activities to significantly affect groundwater. Moreover, by implementing its DEM-approved RAWP, KeySpan LNG would protect worker and public health, avoid or minimize significant impacts on groundwater quality, and protect and preserve existing monitoring or recovery wells at the site. Contaminated groundwater would likely be encountered during construction of the pipeline. Implementation of Algonquin's DEM-approved SGMP would ensure that contaminated groundwater is managed in compliance with all applicable regulations and would provide for the safety of site workers and the public.

Construction of the proposed pipeline could affect groundwater along the pipeline route by increasing turbidity, causing fluctuations in groundwater flow, and disrupting groundwater discharge. These effects would be localized and temporary and would not impact groundwater utilization as there are no known groundwater users in proximity to the project. Algonquin would avoid or minimize these impacts by implementation of its ESCP.

Groundwater could also be impacted by a spill of hazardous material during and operation of the project. KeySpan LNG and Algonquin would implement their respective SPCC Plans that would mitigate the potential for and impact of any spills of hazardous materials. KeySpan LNG has committed to implementing the applicable measures in the FERC Procedures which include development of an SPCC Plan. Algonquin provided a copy of its SPCC Plan in its application and we have found it acceptable.

Surface Water

Construction of the proposed ship berth and associated marine facilities at the LNG terminal would affect water quality in the Providence River by increasing turbidity during the driving of piles and the installation and removal of the spuds for the work barge. However, this would be a short-term, temporary, and localized impact and would not affect water quality beyond the construction period. The proposed pipeline route does not cross any waterbodies.

Construction activities at the LNG terminal or along the pipeline route could affect water quality as a result of stormwater runoff from the construction site or as a result of spills of fuels or other hazardous substances. To minimize these impacts, KeySpan LNG and Algonquin would obtain and comply with RIPDES construction stormwater discharge permits and/or other applicable permits and authorizations, and would implement the measures in their respective soil erosion and sedimentation control plans and SPCC Plans. Algonquin has requested approval to use workspace within less than 50 feet of the Providence River for construction of the proposed meter station and also for use of the proposed staging area on the Boliden Metric property. To ensure that appropriate mitigation would be implemented at both locations and that the less than 50-foot setback is necessary for the staging area, we have recommended that Algonquin file, prior to construction, additional detail and justification as to why a less than 50-foot setback is necessary on the Boliden Metric property and describe the specific measures that would be implemented at both locations to protect the river from erosion and sedimentation.

Both KeySpan LNG and Algonquin plan to discharge hydrostatic test water into the Providence River, which could affect water quality. KeySpan LNG plans to obtain hydrostatic test water from the City of Providence water distribution system, and Algonquin would obtain its test water from either a municipal water source or the Providence River. No chemicals would be added to the test water, and KeySpan LNG and Algonquin would conduct discharges in accordance with applicable permits and with their respective soil erosion and sedimentation control plans, which would require the use of energy dissipation devices and other measures to prevent erosion or streambed scour. With the implementation of these measures, we believe that hydrostatic test water discharges would not result in adverse impacts on water quality.

Operation of the upgraded LNG facility could result in water quality impacts as a result of prop wash from the LNG ships and tugboats. KeySpan LNG would develop vessel transport protocols in coordination with the Coast Guard that may include slowing of vessel propellers in shallower waters to minimize prop wash impacts. An LNG spill into the river would be another potential operational impact. We consider an LNG spill into the river to be unlikely, but if such a spill were to occur, the cryogenic liquid, which is less dense than water and not soluble in water, would float on the surface and would vaporize rapidly upon contact with the warmer air and water. There would be no water quality impacts associated with the operation of the proposed pipeline facilities.

Wetlands

No wetlands are present within the areas that would be affected by construction or operation of the project. Therefore, the project would not affect wetland resources.

Vegetation

Land that would be affected by the proposed LNG facility upgrade includes paved, concrete, and gravel surfaces on commercial/industrial land. The sites of the temporary and permanent facilities are almost entirely devoid of vegetation. Similarly, the pipeline right-of-way, ATWS, and staging areas to be used during pipeline construction would be primarily within city streets and disturbed industrial land.

The only vegetated area is the tap valve site. Construction of the tap valve would disturb about 0.17 acre of maintained herbaceous growth. Permanent impacts would be confined to about the 0.08 acre area to be fenced. The remainder of this vegetated area would revert to pre-construction condition following construction. Due to the lack of significant vegetation in the project area, construction and operation of the KeySpan LNG Project would not adversely affect vegetation.

Wildlife and Aquatic Resources

The project area is characterized by urban fill soils, industrial development, impervious surfaces, and sparse vegetation. Terrestrial wildlife that would be expected to inhabit the project area reflects the nature of the area and includes species that have adapted to the urban setting. Construction of the project would result in localized, short-term, and temporary alteration of urban wildlife habitat, and could temporarily displace mobile species and kill or injure less mobile species. However, the developed nature of the area limits habitat value within and adjacent to the proposed construction sites. Neither construction nor operation of the project is likely to result in adverse impacts on terrestrial wildlife.

Construction of the marine facilities at the KeySpan LNG terminal could affect aquatic resources. Disturbance near the water's edge by construction equipment and temporary increases in turbidity resulting from marine construction could lower fish usage in the immediate vicinity of the site and reduce light penetration and the corresponding primary production of aquatic plants, algae, and phytoplankton. In addition, resuspension of organic materials and sediments could cause an increase in biological and chemical use of oxygen, resulting in decreased dissolved oxygen concentrations that could cause temporary displacement of motile organisms and may stress or kill sessile benthic organisms within the affected area. The construction of the underwater components, particularly pile driving, would propagate underwater noise energy, which could harm fish or temporarily reduce fish usage of the area. In addition, direct alteration of the benthic substrate by pile driving would disturb the existing benthic community and could affect prey species, suitable cover, settlement structure, and/or nursery and spawning areas in the immediate vicinity of the work area. None of these effects would likely be significant because only a small area would be affected by construction, and most of the effects would be short term and limited to the construction period. Pioneering benthic invertebrates would likely recolonize the affected area soon after construction, and the new underwater structures would provide additional structural habitat. Another potential construction-related impact on aquatic resources would be mortality if there were a spill of fuel or other hazardous materials into the water. As noted previously, KeySpan LNG and Algonquin would implement their respective SPCC Plans to prevent spills and to minimize the impacts of spills if they occur.

As mentioned above, Algonquin may draw water from the Providence River for hydrostatic testing of its pipeline. If so, Algonquin would screen the intake with wire mesh to prevent the entrainment or impingement of aquatic species. As such, we believe that hydrostatic test water withdrawal would not result in adverse impacts on aquatic species.

Operational impacts of the upgraded LNG terminal would be associated primarily with the LNG ships and could include entrainment or impingement of fish during water withdrawals for ship ballast and impacts from increased turbidity generated by prop wash during LNG ship transit. Based on available ichthyoplankton density data and the maximum anticipated ballast water intake of 11 million gallons, we estimate that the number of fish eggs or larvae that could be affected by water withdrawals during each LNG ship delivery could range from 0 eggs and larvae up to 1.8 million eggs or 86,000 larvae depending on the time of year and the distribution of ichthyoplankton within the water column in relation to the ballast water intakes. However, we note that ichthyoplankton density data are difficult to interpret because natural mortality rates are very high and few eggs or larvae typically survive to become fish. Based on studies conducted for the Manchester Street Power Station that convert numbers of fish eggs

and larvae entrained and impinged at the station to numbers of adult fish, we estimate that the intake of ballast water by 50 to 60 LNG ships per year would result in the annual loss of about 339 to 559 adult fish per year.

A 1995 EIS prepared by the COE and Massachusetts Port Authority included the results of modeling conducted for the Boston Harbor Navigation Improvement Project to assess the effect of ship passage on the resuspension of surface sediments in federal shipping channels. The analysis modeled the effects of several types of vessels, including an LNG tanker, and found that sediments in federal channels and berth areas are subject to resuspension from prop wash by ships. However, the results also indicated that sediments resuspended by ship currents settle back to the substrate after being transported relatively short distances. In addition, while demersal eggs such as those of winter flounder may be partially or completely covered by fine particles as the particles settle back to the bottom, results of recent studies indicate that winter flounder eggs may be more resistant to burial than previously thought. These results were supported by additional studies conducted by the COE to monitor the effects of deep-draft vessel movement on the resuspension of bottom sediments, which indicated that the resuspended sediment plumes resulting from prop wash would remain within the Providence River navigation channel and that TSS concentrations would return to background levels within 1 hour of LNG ship passage.

The potential introduction of invasive species is another possible effect of LNG shipping. Several factors, however, mitigate the potential for LNG ships to introduce invasive species to the project area, including but not limited to the fact that the LNG ships would not discharge ballast water into Narragansett Bay or the Providence River. We also note that, under a new international convention adopted by the International Maritime Organization, the LNG ships would have to carry a Ballast Water Record Book and carry out ballast water management procedures to a specified standard. Further, the U.S. Coast Guard (Coast Guard) has developed *Mandatory Practices for All Vessels with Ballast Tanks on All Waters of the United States*. Moreover, in February 2005, the Ballast Water Management Act of 2005 was introduced to Congress to amend the Nonindigenous Aquatic Nuisance Prevention and Control Act to establish vessel ballast water management requirements.

EFH designations tables identify potential EFH for 16 federally managed species within the project area: American plaice, Atlantic herring, Atlantic mackerel, black sea bass, bluefish, cobia, haddock, king mackerel, little skate, red hake, scup, Spanish mackerel, summer flounder, windowpane flounder, winter flounder, and winter skate. This EIS includes an EFH Assessment as necessary for compliance with the MSA. As a result of our analysis as presented in the EFH Assessment, we have concluded that construction and operation of the proposed project could affect water column, benthic substrate, and man-made structure EFH in the project area. Activities within the Providence River and Narragansett Bay also have the potential to affect anadromous fish and shellfish resources, two primary prey groups for managed fish species. However, none of these effects are expected to be noticeable or significant due to the small area that would be affected by the project and the relatively short duration of construction, which is when most of the potential effects would be experienced. Additionally, KeySpan LNG's and Algonquin's implementation of erosion and sediment control measures and spill control and containment procedures would avoid or minimize impacts on managed fish species and designated EFH, and the proposed new marine terminal facilities would increase the amount of man-made EFH habitat in the project area. The draft EIS was sent to NOAA Fisheries along with a letter that initiated consultation under the MSA.

Threatened and Endangered Species

The FWS has indicated that no federally listed species, proposed species, or designated habitat under its jurisdiction are known to occur in the project area and that the project is, therefore, unlikely to adversely affect federally listed species, proposed species, or designated critical habitat. The FWS

identified a peregrine falcon nest present on the Pell Bridge. The peregrine falcon is not federally listed but is protected under the federal Migratory Bird Treaty Act (16 USC 703-712). However, due to the nature of the proposed activities, the project would not adversely affect the peregrine falcon. We concur with the FWS' findings.

We received a determination from NOAA Fisheries that no federally listed endangered or threatened species under its jurisdiction are known to occur in the Providence River at the proposed LNG terminal site, and that construction and operation of the proposed facility would not affect listed species. We concur with NOAA Fisheries' findings regarding the LNG terminal site.

Through an informal consultation, NOAA Fisheries also indicated that the transiting LNG ships would be unlikely to affect listed species under its jurisdiction, noting that the area has only transitory occurrences of sea turtles and that LNG ships would be unlikely to affect any special status species in Narragansett Bay because of the relatively low speeds at which they would be traveling. However, in its comments on the draft EIS, NOAA Fisheries stated that an increase in vessel traffic in Narragansett Bay could potentially affect federally listed marine mammals or sea turtles as a result of vessel strikes. Of particular concern is the North Atlantic right whale. NOAA Fisheries has developed a Strategy to Reduce Ship Strikes of Right Whales, which is not yet finalized, but would establish speed restrictions within 20 to 30 miles of the approaches in specific areas. In addition, the Coast Guard has been coordinating with NOAA Fisheries on various measures to reduce vessel strikes. KeySpan LNG has committed to complying with applicable speed restrictions for LNG ships if implemented by NOAA Fisheries. We have determined that these measures are important for the protection of right whales from ship strikes, but because the proposed rule has not yet been finalized or implemented, we have recommended that KeySpan LNG coordinate with NOAA Fisheries to determine appropriate speed and seasonal restrictions or other applicable measures to avoid or minimize impacts on right whales and to file the results of that coordination with the Secretary of the Commission. Such protective measures may also facilitate avoidance and/or minimization of impacts on other federally protected marine animals such as other whale species and sea turtles with the potential to occur in the vicinity of the project. With the adherence to restrictions developed through coordination with NOAA Fisheries and with our recommendation, we conclude that the project is not likely to adversely affect North Atlantic right whale (or other federally listed species) and are requesting NOAA Fisheries' concurrence with this finding.

Land Use, Recreation, and Visual Resources

The proposed LNG facility upgrade would be located at the existing KeySpan LNG facility on Fields Point, an industrial waterfront area on the Providence River in Providence. The existing facility occupies an approximately 17.5-acre parcel within a larger 42-acre parcel owned by NEG. The proposed on-land facility upgrade would be contained and operated within the existing LNG plant site with the exception of three mooring dolphins that would be constructed on an adjacent parcel leased from NEG by St. Lawrence Cement. Construction of the proposed upgrades would also disturb about 2.8 acres of temporary workspace, of which about 0.24 acre would be within the KeySpan LNG facility and the remainder would be on previously disturbed, active industrial lands on NEG and/or St. Lawrence Cement property adjacent to the existing facility. All of the land that would be affected by the LNG facility upgrade is commercial/industrial land. The marine facilities would be constructed within about 3.5 acres of the Providence River adjacent to the plant site.

All of the land that would be affected by the proposed pipeline construction is categorized as commercial/industrial land. Of the proposed 1.44 mile pipeline, about 1.14 miles (79 percent) would be constructed within existing city street rights-of-way. The remaining 0.3 mile (21 percent) and the aboveground facilities would be constructed on property owned or managed by KeySpan LNG and U.S. Generating. Construction of the pipeline facilities would affect a total of about 21 acres of land, including

temporary workspace and staging areas. Following construction, about 1.7 acres would be retained as permanent right-of-way and about 0.3 acre would be retained for the aboveground facilities. Algonquin would not establish an easement for the portion of the pipeline installed beneath city roads.

The Rhode Island Statewide Planning Program conducted a review of the project's consistency with relevant components of the Rhode Island State Guide Plan. Based on the Statewide Planning Program's comments, it appears that the project is generally consistent with many of the individual goals, policies, and strategies of the State Guide Plan; however, the Statewide Planning Program commented that the draft EIS lacked certain information necessary for it to find the project consistent with the plan. We have provided or discussed in the final EIS the information the Statewide Planning Program identified as lacking.

Providence 2000: The Comprehensive Plan (Comprehensive Plan), which presents a guide for future growth and change in Providence, encourages water-dependent uses in the industrial waterfront area along the Providence River and recognizes the economic importance of energy-related industries in this area. Because the proposed project would involve converting an existing energy-related facility to a water-dependent use in the industrial waterfront area, we concluded that the project is consistent with the Comprehensive Plan.

We also evaluated the consistency of the project with the Providence 2020 Downtown Investment Strategy, particularly with respect to plans for the future development of Narragansett Landing, a set of plans that, based on studies commissioned by the City of Providence, would be implemented over the next 20 to 25 years. The specific details for implementing the plans are still conceptual, and it does not appear that funding has been committed or that a schedule has been established. As envisioned, Narragansett Landing encompasses the general project area and the KeySpan LNG facility site and would involve acquisition of existing properties, relocation of existing land users, remediation of contaminated sites, and development of various mixed uses. If the Narragansett Landing development plans are realized, the proposed KeySpan LNG Project would not be consistent with the plans' ultimate objectives, which include removal of the existing KeySpan LNG facility. However, the existing facility would have to be acquired and removed regardless of whether the proposed upgrade is constructed. The upgrade would add to but not fundamentally change this requirement. Thus, the project would not prevent the Narragansett Landing plans from being implemented. In addition we conclude that the project would not threaten the development of Narragansett Landing or make it difficult to attract investment money. This conclusion is based on our review of a marketing analysis that focused on Charlestown, Massachusetts, which borders the transit route of LNG ships supplying the Distrigas LNG terminal in Everett, Massachusetts. Charlestown has been undergoing urban redevelopment including a mixed-use development project referred to as the Charlestown Navy Yard, which has attracted hundreds of millions of dollars for revitalization projects in the area. The analysis found that the presence of LNG shipping activity does not appear to have had an adverse impact on redevelopment efforts in Charlestown.

The City of East Providence and other commentors expressed concern about the potential impacts of the proposed project on the recently created East Providence Waterfront Special Development District Plan to develop and revitalize the East Providence waterfront district, about 2,200 feet to the east. However, the project would not affect land or water in the City of East Providence or result in any change in existing land use patterns. The primary impact of the project on the riverfront would be the arrival and departure of LNG ships once a week throughout the year. These ships would be visible from the East Providence shoreline opposite the LNG facility, but would be generally consistent with existing activities in the industrial waterfront area.

Based on our review of the Rhode Island Bays, Rivers, and Watersheds legislation, we anticipate that the KeySpan LNG Project would not conflict with the goals and intentions of the systems-level plan

to be developed by the Coordination Team. To provide the Coordination Team with an opportunity to comment on the project, we sent the Coordination Team a copy of the draft EIS. Two members of the team provided comments in their capacities within other organizations or agencies, but no members provided comments specifically related to the Rhode Island Bays, Rivers, and Watersheds legislation.

RIDOT is currently planning a reconfiguration of Interstates 95 and 195 in Providence, with work anticipated to begin in 2004. RIDOT has not identified any objections to the proposed pipeline, but requested that Algonquin continue to coordinate with RIDOT and its contractor, and that Algonquin install the pipeline before the final paving of Allens Avenue (estimated to occur in 2008). To ensure that this coordination continues and that we are made aware of any conflicts that may arise, we have recommended that Algonquin file copies of its ongoing correspondence with RIDOT with the Secretary prior to construction, and that Algonquin include in its filing any conflicts between the road project and the pipeline, and how those conflicts have been addressed.

Because the project would involve activities in the coastal zone of Rhode Island and requires federal permits, it must undergo a Federal Coastal Zone Consistency Review. KeySpan LNG and Algonquin each filed an application with the Rhode Island Coastal Resource Management Council (CRMC) for a Category B Assent to certify that the project is consistent with the Rhode Island Coastal Resource Management Program (RICRMP) and the Coastal Zone Management Act. The two companies subsequently withdrew their applications, asserting that a Category B Assent is not required for the proposed project. The need for a Category B Assent is currently being addressed in another forum. After withdrawing their Assent applications, KeySpan LNG and Algonquin each submitted a federal consistency certification with the CRMC and have requested CRMC concurrence with their respective certifications. We have recommended that both KeySpan LNG and Algonquin file documentation demonstrating the project's consistency with the RICRMP prior to construction.

There are about 2,580 residences or residential structures within 1 mile of the KeySpan LNG facility site boundaries. The nearest residential area to the LNG facility is about 0.19 mile to the south (measuring from the limits of the nearest project site boundary), and the nearest residences to the pipeline route are about 0.18 mile to the west on the west side of Interstate 95. There are no residential structures within 50 feet of any of the proposed construction areas. During construction, potential impacts on neighboring areas could include construction-related traffic, dust, and noise. However, these effects would be localized in the vicinity of the construction activities and would decrease rapidly as the distance from the construction site increases. Construction-related traffic would use a small number of local roads that connect the project site to Interstate 95 and would not need to cross residential neighborhoods. Operation of the proposed facilities would not affect residential land use because the majority of project-related activities would take place within the existing KeySpan LNG facility, and the pipeline would be underground.

Construction of the proposed facilities would not affect commercial shipping. Recreational boaters might experience temporary impacts as a result of human activity and noise associated with construction of the proposed marine facilities, but these impacts would be temporary and localized within a small area of the river immediately adjacent to the existing KeySpan LNG site. Operation of the upgraded LNG terminal would not affect commercial shipping or recreational boating during periods between LNG deliveries because none of the structures to be constructed as part of the ship berth or offloading facilities would be within the navigation channel. However, commercial and recreational ships and boats, fishermen, and others engaged in marine-based activities could be affected by the safety and security zones that would be imposed by the Coast Guard during periods when an LNG ship is in transit to or berthed at the LNG terminal. Ships and boats present along the shipping channel might experience delays as LNG ships transit the channel, and fishermen would be required to avoid or vacate the areas encompassed by the moving security zone. However, because the security zone would be a moving zone

around the ship, such delays would be temporary and of short duration. Passage of the LNG ships might also damage lobster gear that is placed within the shipping channel. However, the ships would use an existing dredged federal navigation channel that is maintained specifically to allow passage by large vessels, and the placement of lobster gear within the channel assumes this inherent risk. Further, during a series of security workshops sponsored by the Coast Guard, the Coast Guard expressed its intent to minimize impacts on other users of the waterway. In addition, the Coast Guard noted that the security zone around a berthed LNG ship would not be treated as an absolute exclusion zone, and that other commercial and recreational vessels might be allowed to transit through the security zone with the permission of the Captain of the Port.

The proposed LNG facilities would be located at or adjacent to existing industrial facilities and are not expected to significantly alter the visual character of the site. The LNG ships calling on the terminal would result in the most noticeable visual impact of the project. The ships would be most visible from the river and from the East Providence waterfront for approximately 24 hours at a time, 50 to 60 days of the year. However, the Providence River navigation channel is currently used by other cargo ships, tankers, and barges, including LPG carriers. Although the LNG ships would be larger than other vessels typically seen in the area, their periodic presence would generally consistent and visually in character with existing uses of the river.

The most visually noticeable component of the pipeline facilities would be the tap valve, which would be constructed adjacent to the entrance road into Collier's Point Park. We have recommended that Algonquin develop a visual screening plan consisting of shrub plantings or similar measures to screen the tap valve site from park users.

Socioeconomics

Construction of the project would result in a temporary increase in population and related demand for temporary housing and public services. These effects would be temporary and limited to the period of construction. Construction and operation of the project would have a beneficial impact on local tax revenues and economies, and KeySpan LNG anticipates hiring 20 to 25 new permanent employees to operate the upgraded LNG terminal. The project is not expected to have a major impact on most public services, but could result in additional costs for security during LNG ship transit and offloading. In addition, there is a concern that an incident at the LNG terminal could exceed the current response capacity of the local police and fire departments. KeySpan LNG has begun coordinating with local agencies and governmental officials to develop an emergency response plan to be used in the event of an incident and is providing direct financial assistance to the State of Rhode Island and the City of Providence to assist each in its evaluation of the project and preparation of emergency response plans. In addition, KeySpan LNG has committed to providing certain training activities for local firefighters and to funding direct transit-related security costs.

At the request of the COE, we conducted an analysis to estimate the potential cost of delays that might be experienced by other commercial ship traffic as a result of the addition of the LNG ships that would call on the KeySpan LNG facility. Based on our analysis, we estimate that the cost of shipping delays could range from about \$103,000 to \$108,000 per year.

Based on several general and site-specific studies, as well as the fact that the proposed upgrade would be located at an existing LNG facility within a greater industrial area and the values of properties close to the site may already reflect their location near the existing LNG facility and other industrial properties, we concluded that the project would be unlikely to have a negative impact on property values in the surrounding area.

Construction of the LNG facility upgrade would have temporary, localized, and short-term impacts on local vehicular traffic due to construction personnel trips to and from the site and truck traffic related to the delivery of construction materials and equipment. Operation of the upgraded LNG facility would not significantly affect vehicular traffic.

Pipeline construction would temporarily affect traffic on the affected roadways. Impacts would include slower speeds, higher congestion, lane closures, and detours. Algonquin has described certain measures it would implement to minimize impacts on commuter traffic such as selective scheduling of activities, attempting to maintain an open traffic lane, and limiting the length of open ditch within the streets to the length of pipe that would be installed each day. Algonquin would also maintain access to businesses except for the brief periods essential for laying in the pipeline. Affected streets would be repaired following the installation and burial of the pipeline. To further insure that traffic impacts are minimized, we have recommended that Algonquin develop a detailed construction and traffic plan in consultation with appropriate state and local agencies. Operation of the proposed pipeline would not affect traffic along the pipeline route.

We have determined that the project would not have a disproportionately high or adverse effect on the environmental justice communities near the proposed LNG terminal and navigation channel.

Cultural Resources

The KeySpan LNG terminal site was previously surveyed for aboveground cultural resources in 1996. That investigation documented 10 structures associated with the Sassafra Point Station, an early to mid-twentieth century gas storage facility. These structures were recommended eligible for listing on the NRHP as a historic district. KeySpan LNG determined that none of the structures would be affected by the proposed facility upgrade and that no additional investigations were recommended. The RIHPHC concurred with this finding in a letter dated May 7, 2004. We also concur. In addition, KeySpan LNG has proposed to implement safeguards to further ensure that none of the structures are affected inadvertently during project construction. We concur with this plan.

KeySpan LNG also conducted an archaeological assessment of the terminal site. A majority of this area was previously surveyed in 1996, and no sites were discovered. KeySpan LNG assessed the unsurveyed portion of the terminal site as having a low potential for containing intact archaeological deposits, and no additional investigations were recommended. In its letter dated May 7, 2004, the RIHPHC concurred with this recommendation. We also concur.

KeySpan LNG analyzed cartographic and other data to assess the potential of the underwater project component to affect submerged cultural resources. This analysis indicated a low probability for the presence of submerged resources within the project area, and no additional investigations were recommended. The RIHPHC concurred with this recommendation in its May 7, 2004 letter. We also concur.

Algonquin conducted research and a survey to identify any aboveground cultural resources that could be affected by construction of the proposed pipeline. Two previously documented historic properties, the Sassafra Point Station and the Manchester Street Station, were identified in the vicinity of the pipeline corridor, but Algonquin determined that neither property would be affected by the project. No additional investigations were recommended. The RIHPHC concurred with this recommendation in a letter dated July 16, 2004. We also concur.

Algonquin also conducted research and a survey to identify any archaeological sites that could be affected by construction of the proposed pipeline. As a result of this study, Algonquin found that its

proposed pipeline corridor had a low probability for containing intact archaeological remains, and no sites were identified. No additional archaeological investigations were recommended. The RIHPHC concurred with this recommendation in its July 16, 2004 letter. We also concur.

Based on the above findings, we conclude that construction of the KeySpan LNG Project would not affect historic properties. Therefore, compliance with the NHPA is complete.

Air Quality and Noise

Construction and operation of the proposed LNG facility upgrade and pipeline would result in air emissions, including fugitive dust, onshore and offshore construction equipment tailpipe emissions, LNG ship emissions, and water/glycol heater emissions. The fugitive dust and tailpipe emissions during construction activities would be temporary, intermittent, and would vary in location over time. These emissions would not result in a long term impact on air quality. The emissions would be minimized using water application for dust suppression, operating construction equipment on an as-needed basis, and limiting the idling time when equipment is not in use. Based on comments provided by the EPA, and to further minimize emissions associated with the use of diesel fuels during construction, we have recommended that KeySpan LNG and Algonquin provide a feasibility assessment determining which, if any, of the controls used by the Connecticut Department of Transportation in the Interstate 95 New Haven Harbor Crossing Corridor Improvement Program could be used for the KeySpan LNG Project, and that the companies use transportation grade or better diesel fuel in construction equipment used for the project.

The primary pollutants emitted during operation of the LNG terminal would be NO_x and CO. KeySpan LNG would minimize the operational air emissions from the LNG terminal by using low NO_x combustion technology and flue gas recirculation. This mitigation would meet the federal and state air emission requirements by undergoing an air plan approval process through the DEM. Because the facility will be a minor source of air emissions the air impacts from the facility are not expected to be significant. Additionally, the majority of the new stationary sources proposed as part of the LNG facility upgrade would require a minor source air permit prior to construction and would be required to demonstrate compliance with applicable state and federal regulations on an ongoing basis. As such, the air emissions from these units are presumed to conform to the Rhode Island State Implementation Plan.

Noise receptors in the immediate vicinity of construction activities would experience an increase in noise levels. In most areas the increase in noise would be localized, temporary, and limited primarily to daylight hours. The noise mitigation that would be used during the LNG terminal construction may include several options. To ensure that these mitigation measures are sufficient to maintain a reasonable noise level in the project area, we have recommended that KeySpan LNG prepare a noise mitigation plan that would provide more detailed information on the construction noise mitigation measures KeySpan LNG would use during construction. The predicted operational noise attributable to the LNG terminal (including the new and existing equipment) would be below FERC's 55 dBA L_{dn} criterion at the nearest NSAs and in compliance with Providence noise standards. We have recommended that noise surveys be conducted after the LNG terminal is in service to ensure that KeySpan LNG operates in compliance with these guidelines.

Reliability and Safety

We evaluated the safety of both the proposed facility upgrade and the related LNG vessel transit through Narragansett Bay to Providence. As part of our evaluation, we performed a cryogenic design and technical review of the proposed terminal design and safety systems. Several areas of concern were noted with respect to the proposed facility upgrade, and specific recommendations to be addressed prior to construction have been identified. We also note that construction of the existing KeySpan LNG facility

predated the February 1980 federal LNG safety standards in 49 CFR 193, and the facility has operated for 30 years under the grandfather provision of the Pipeline Safety Act of 1979. However, the proposed project represents a significant modification to the historical mode of operation, providing the opportunity to re-evaluate the existing facility and to raise the level of safety to that required for new LNG import terminals. Our review found that the existing facility does not meet the standards of the current version of 49 CFR 193 and NFPA 59A (2001 edition) with respect to standards for thermal radiation and flammable vapor exclusion zones, impoundment capacity requirements, and seismic design requirements.

Thermal radiation and flammable vapor hazard distances were also calculated for an accident or an attack on an LNG vessel. For 2½-meter and 3-meter-diameter holes in an LNG cargo tank, we estimated distances to range from 4,340 to 4,810 feet for a thermal radiation level of 1,600 Btu/hr-ft², the level which is hazardous to unprotected persons located outdoors. However, the evaluation of safety is more than an exercise in calculating the consequences of worst case scenarios. Rather, it is a determination of the acceptability of risk which considers the probability of events, the effect of mitigation, and the consequences of events. Based on the extensive operational experience of LNG shipping, the structural design of an LNG vessel, and the operational controls imposed by the Coast Guard and the local pilots, the likelihood of a cargo containment failure and subsequent LNG spill from a vessel casualty – collision, grounding, or allision – is highly unlikely. For similar reasons, an accident involving the onshore LNG import terminal or LNG trucking from the terminal is unlikely to affect the public. As a result, the risk to the public from accidental causes should be considered negligible.

As part of our marine safety analysis, we considered how vessel security requirements for LNG ships calling on the KeySpan LNG terminal might affect other ship and boat traffic in Narragansett Bay and the Providence River. The potential impacts on other commercial and recreational boaters can be evaluated for several general security requirements: (1) moving safety and security zones for inbound and outbound LNG vessels; (2) safety and security zones around a moored LNG vessel; and (3) other measures as deemed appropriate. The moving safety and security zone, and the safety and security zone at the terminal would affect other commercial, ferry, and recreational traffic using the bay and river. Based on a navigation simulation study conducted by Moffatt & Nichol, International (MNI) on behalf of KeySpan LNG, the addition of 50 to 60 LNG ships per year would cause about 5 percent of the total commercial ship traffic to experience some delay. The impact on ferry traffic would generally be small because most of the ferry routes only cross the LNG ship route and conflicts could be managed by schedule coordination. Further, the Coast Guard has indicated that it would typically grant permission for the Providence to Newport ferry, which would travel along the same route as the LNG ships for several miles, to pass the LNG ship or transit through portions of the security zone.

The extent of the impact on recreational boaters would depend on the number of boats in the project area during the 50 to 60 days that LNG ships would call on the LNG terminal and on several other variables such as the width of the channel at the point where a boat encounters the LNG ship. Using certain assumptions based on the MNI study, we estimate that a recreational craft attempting to travel in the opposite direction of an LNG ship at one of the narrower locations within the navigation channel might need to wait up to 18 minutes for the LNG ship to pass. To minimize potential impacts on other marine traffic, the Coast Guard is expected to use radio announcements to give advance notice of approaching LNG ships. The Coast Guard and pilots would also consider measures to minimize impacts on recreational boaters when determining the appropriate time to bring an LNG ship to port.

Operation of the upgraded LNG facility would not significantly affect vehicular traffic. LNG truck traffic would not increase over the current peak levels because the physical ability to load and unload trucks is limited by the design characteristics of the existing truck loading and unloading station, which can handle up to 24 trucks per day. No changes are proposed for the trucking station. During the recently completed Coast Guard security workshops, port stakeholders and law enforcement agencies

determined that it would not be necessary to close the Pell Bridge to vehicular traffic during passage of the LNG ships- unless warranted by the threat condition or current intelligence. For those transits when the bridge would not be completely closed, other security measures would be in place to protect against potential threats.

Unlike accidental causes, historical experience provides little guidance in estimating the probability of a terrorist attack on an LNG vessel or onshore storage facility. For an LNG import terminal proposal that would involve having a large volume of energy transported and stored near populated areas¹, the perceived threat of a terrorist attack is a primary concern of the local population and requires that resources be directed to mitigate possible attack paths. While the risks associated with the transportation of any hazardous cargo can never be entirely eliminated, they can be managed.

Several commentators have expressed the concern that local communities would have to bear some of the costs of ensuring the security of the LNG facility and the LNG vessel while in transit and unloading at the dock. As a result of its recently completed security workshops, the Coast Guard has identified public and private resources that would be necessary to implement security measures. To meet its anticipated security responsibilities, the Coast Guard has initiated a formal proposal for additional resources through its internal budgeting process for inclusion in the 2006 appropriations bill. A determination on that proposal is pending. KeySpan LNG and BG LNG have committed to providing funding for direct transit-related security costs, which are estimated at approximately \$40,000 to \$50,000 per vessel port call, or between \$2 and \$3 million annually for 50 to 60 LNG ships per year. In addition to these direct transit-related state and local security costs, there may be a need to fund additional capital costs associated with security and emergency response, such as equipment and personnel. Therefore, we have recommended that KeySpan LNG provide a comprehensive plan identifying the mechanisms for funding all project-specific security and emergency response/management costs that would be imposed on state agencies and local communities, including capital costs.

Alternatives

We evaluated the alternatives of no action or postponed action, system alternatives, alternative LNG terminal sites, marine berthing alternatives, and pipeline system and route alternatives. While the no action or postponed action alternative would eliminate the environmental impacts identified in this EIS, the project objectives of providing a source of new, firm, reliable baseload supply of natural gas to Rhode Island and the New England region in the near future and augmenting the supply of LNG to fill regional storage capacity via truck deliveries would not be met.

Our analysis included an evaluation of existing, recently approved, and proposed LNG facilities and pipelines as alternative systems that could be used to meet the objectives of the KeySpan LNG Project. The existing LNG import terminal in Everett, Massachusetts (Distrigas) could not be used to meet the objectives of the KeySpan LNG Project because the Distrigas facility lacks room for additional storage and vaporization, and because construction of new pipeline facilities necessary to meet the existing vaporization capacity at Distrigas would result in greater environmental impacts than the proposed KeySpan LNG Project. We also considered onshore and offshore system alternatives including LNG import terminals in the New England region. Although there are perceived safety and environmental advantages to locating an LNG terminal offshore, there are also environmental, economic, and technical factors that make an offshore LNG terminal not preferable as an alternative to the facilities proposed for the KeySpan LNG Project. In addition, offshore LNG facilities cannot meet the project objectives of storage, and supplying a new source of trucked LNG for the peak shaving market.

¹ We note that LNG is stored at the existing facility under current operations.

We also considered recently approved and proposed LNG facilities outside of the New England region, including Canadian sites. The other LNG facilities we considered are too far away or otherwise would not meet the project objectives, or would not confer a clear environmental advantage. In addition, the expansion of existing pipeline systems, even if combined with the use of an existing, modified, or proposed LNG facility outside the New England region, would not meet the project objectives and would not be environmentally preferable to the proposed project. The use of recently approved LNG facilities in Canada as alternatives to the KeySpan LNG Project would require expansion of existing pipeline infrastructure that would result in environmental impacts that could be as great as or greater than the KeySpan LNG Project. Further, the Canadian sites also cannot economically provide trucking of LNG to supply peak shaving needs in southern New England.

In addition to system alternatives, we considered potential site alternatives to the proposed project location at the existing KeySpan LNG facility. We did not identify any alternative LNG terminal sites at onshore locations that are reasonable and/or would be environmentally preferable to the proposed project. Difficulties associated with identifying suitable locations in the New England region include finding property available for industrial development in an area accessible to LNG ships where there would be fewer environmental impacts.

We evaluated potential marine berth alternatives that would increase the distance of the marine berth from the federal navigation channel. Our analysis included the Northern Waterfront Alternative that would place the berth on the north side of the existing LNG facility and an Eastern Bulkhead Alternative that would place the berth immediately adjacent to the existing bulkhead on the east side of the site. The Northern Waterfront Alternative would require significant dredging and could result in geotechnical soil conditions that could jeopardize the stability of portions of the existing facility. The Eastern Bulkhead Alternative would require dredging to achieve the required water depth adjacent to the bulkhead, which could potentially undermine the existing bulkhead and impinge on existing underwater pipelines. In addition, the Eastern Bulkhead Alternative would require repositioning of the mooring and breasting dolphins in a manner that would create unsafe working conditions for plant personnel. In response to the COE's comments on the draft EIS, we reviewed potential economic impacts on users of the federal navigation project as a result of the security zone associated with both the Northern Waterfront and the proposed eastern berth alternatives. Based on the Coast Guard's security workshops, it appears that there would be no significant economic impact on other users of the federal navigation project as a result of Coast Guard-imposed security measures at either berth alternative. For these reasons, we do not believe that either alternative provides an environmental or safety advantage over the proposed berth design.

Finally, our alternatives analysis included the evaluation of seven alternative pipeline routes that would allow delivery of natural gas to the Algonquin natural gas pipeline system. Alternatives 1 through 5 would all involve crossing the Providence River by horizontal direction drilling and would not offer any environmental advantage over the proposed route. In its application, Algonquin identified a number of utilities within Allens Avenue that could complicate the proposed alignment. As a result, Alternatives 6 and 7 were identified to minimize the amount of pipeline that would be constructed within Allens Avenue and we recommended that Algonquin provide additional environmental and engineering information regarding Alternatives 6 and 7 in its comments on the draft EIS. Based on the information Algonquin provided in response to our recommendation, we have determined that neither Alternative 6 nor Alternative 7 provide a clear environmental advantage over the proposed pipeline route in Allens Avenue.

In summary, our analysis of potential alternatives to the KeySpan LNG Project concludes that no single alternative or combination of alternatives would be capable of meeting the project objectives with fewer construction- or operations-related environmental impacts.

5.2 FERC STAFF'S RECOMMENDED MITIGATION

If the Commission authorizes the KeySpan LNG Project, we recommend that the Commission's Order include measures 1 through 75. We believe that these measures would further mitigate the environmental impacts associated with construction and operation of the proposed project. Measures 1 through 14 apply to both KeySpan LNG and Algonquin. Measures 15 through 68 apply only to KeySpan LNG, and measures 69 to 75 apply only to Algonquin.

Measures applicable to KeySpan LNG and Algonquin:

1. KeySpan LNG, L.P. (KeySpan LNG) and Algonquin Gas Transmission, L.L.C. (Algonquin) shall follow the construction procedures and mitigation measures described in their respective applications, supplemental filings (including responses to staff data requests), and as identified in the environmental impact statement (EIS), unless modified by the Federal Energy Regulatory Commission's (FERC or Commission) Order. KeySpan LNG or Algonquin must:
 - a. request any modification to these procedures, measures, or conditions in a filing with the Secretary of the Commission (Secretary);
 - b. justify each modification relative to site-specific conditions;
 - c. explain how that modification provides an equal or greater level of environmental protection than the original measure; and
 - d. receive approval in writing from the Director of the Office of Energy Projects (OEP) **before using that modification.**
2. For pipeline facilities, the Director of OEP has delegation authority to take whatever steps are necessary to ensure the protection of all environmental resources during construction and operation of Algonquin's proposed pipeline. This authority shall allow:
 - a. the modification of conditions of the Commission's Order; and
 - b. the design and implementation of any additional measures deemed necessary (including stop work authority) to assure continued compliance with the intent of the environmental conditions as well as the avoidance or mitigation of adverse environmental impact resulting from project construction and operation.
3. For liquefied natural gas (LNG) facilities, the Director of OEP has delegated authority to take all steps necessary to ensure the protection of life, health, property, and the environment during construction and operation of the proposed KeySpan LNG facility upgrades. This authority shall include:
 - a. stop-work authority and authority to cease operation; and
 - b. the design and implementation of any additional measures deemed necessary to assure continued compliance with the intent of the conditions of this Order.
4. **Prior to any construction**, KeySpan LNG and Algonquin shall each file an affirmative statement with the Secretary, certified by a respective senior company official, that all company personnel, environmental inspectors (EIs), and contractor personnel will be informed of the EI's authority and have been or will be trained on the implementation of the environmental mitigation measures appropriate to their jobs before becoming involved with construction and restoration activities.
5. The authorized facility locations shall be as shown in the EIS, as supplemented by filed alignment sheets, and shall include the staff's recommended facility locations. **As soon as they are**

available, and before the start of construction, KeySpan LNG and Algonquin shall file with the Secretary revised detailed survey alignment maps/sheets at a scale not smaller than 1:6,000 with station positions for all facilities approved by this Order. All requests for modifications of environmental conditions of this Order or site-specific clearances must be written and must reference locations designated on these alignment maps/sheets.

6. KeySpan LNG and Algonquin shall file with the Secretary detailed alignment maps/sheets and aerial photographs at a scale not smaller than 1:6,000 identifying all route realignments or facility relocations, and staging areas, pipe storage yards, new access roads, and other areas that will be used or disturbed and have not been previously identified in filings with the Secretary. Approval for each of these areas must be explicitly requested in writing. For each area, the request must include a description of the existing land use/cover type, documentation of landowner approval, whether any cultural resources or federally listed threatened or endangered species would be affected, and whether any other environmentally sensitive areas are within or abutting the area. All areas shall be clearly identified on the maps/sheets/aerial photographs. Each area must be approved in writing by the Director of OEP **before construction** in or near that area.

This requirement does not apply to minor field realignments per landowner needs and requirements that do not affect other landowners or sensitive environmental areas such as wetlands.

Examples of alterations requiring approval include all route realignments and facility location changes resulting from:

- a. implementation of cultural resources mitigation measures;
- b. implementation of endangered, threatened, or special concern species mitigation measures;
- c. recommendations by state regulatory authorities; and
- d. agreements with individual landowners that affect other landowners or could affect sensitive environmental areas.

7. **At least 60 days before the start of construction**, KeySpan LNG and Algonquin shall each file an initial Implementation Plan with the Secretary for the review and written approval by the Director of OEP describing how KeySpan LNG and Algonquin, respectively, will implement the mitigation measures required by this Order. KeySpan LNG and Algonquin must file revisions to the plan as schedules change. The plan shall identify:

- a. how KeySpan LNG and Algonquin will incorporate these requirements into their respective contract bid documents, construction contracts (especially penalty clauses and specifications), and construction drawings so that the mitigation required at each site is clear to onsite construction and inspection personnel;
- b. how each company will ensure that sufficient personnel are available to implement the environmental mitigation;
- c. company personnel, including EIs and contractors, who will receive copies of the appropriate material;
- d. what training and instructions KeySpan LNG and Algonquin will give to all personnel involved with construction and restoration (initial and refresher training as the project progresses and personnel change), with the opportunity for OEP staff to participate in the training session(s);
- e. the company personnel (if known) and specific portion of KeySpan LNG's and Algonquin's respective organizations having responsibility for compliance;

- f. the procedures (including use of contract penalties) KeySpan LNG and Algonquin will follow if noncompliance occurs; and
 - g. for each discrete facility, a Gantt or PERT chart (or similar project scheduling diagram), and dates for:
 - i. the completion of all required surveys and reports;
 - ii. the mitigation training of onsite personnel;
 - iii. the start of construction; and
 - iv. the start and completion of restoration.
8. KeySpan LNG and Algonquin shall each develop and implement an environmental complaint resolution procedure. The procedure shall provide landowners with clear and simple directions for identifying and resolving their environmental mitigation problems/concerns during construction of the project and restoration of the right-of-way. **Prior to construction**, Algonquin shall mail its complaint resolution procedure to each landowner whose property would be crossed by the pipeline. KeySpan LNG shall mail its complaint resolution procedure to each landowner abutting the KeySpan LNG site.
- a. In their letters to affected landowners, KeySpan LNG and Algonquin shall each:
 - i. provide a contact that the landowners should call first with their concerns; the letter should indicate how soon a landowner should expect a response;
 - ii. instruct the landowners that, if they are not satisfied with the response, they should call KeySpan LNG's or Algonquin's hotline; the letter should indicate how soon to expect a response; and
 - iii. instruct the landowner that, if they are still not satisfied with the response from KeySpan LNG or Algonquin, they should contact the Commission's Enforcement Hotline at (888) 889-8030.
 - b. In addition, KeySpan LNG and Algonquin shall include in their weekly status reports a copy of a table that contains the following information for each problem/concern:
 - i. the date of the call;
 - ii. the identification number from the certified alignment sheets of the affected property;
 - iii. the description of the problem/concern; and
 - iv. an explanation of how and when the problem was resolved, will be resolved, or why it has not been resolved.
9. KeySpan LNG and Algonquin shall each employ an EI, when appropriate. KeySpan LNG shall file a plan for when EIs will be on site for approval of the Director of OEP prior to initial site preparation. The EIs shall be:
- a. responsible for monitoring and ensuring compliance with all mitigation measures required by this Order and other grants, permits, certificates, or other authorizing documents;
 - b. responsible for evaluating the construction contractor's implementation of the environmental mitigation measures required in the contract (see condition 6 above) and any other authorizing document;
 - c. empowered to order correction of acts that violate the environmental conditions of this Order, and any other authorizing document;

- d. responsible for documenting compliance with the environmental conditions of this Order, as well as any environmental conditions/permit requirements imposed by other federal, state, or local agencies; and
 - e. responsible for maintaining status reports.
10. KeySpan LNG and Algonquin shall file updated status reports prepared by the EI with the Secretary on a weekly basis during ground-disturbing activities and until restoration activities are proceeding satisfactorily. On request, these status reports shall also be provided to other federal and state agencies with permitting responsibilities. Status reports shall include:
- a. the current construction status of the project, work planned for the following reporting period, and any schedule changes for stream crossings or work in other environmentally sensitive areas;
 - b. a listing of all problems encountered and each instance of noncompliance observed by the EI(s) during the reporting period (both for the conditions imposed by the Commission and any environmental conditions/permit requirements imposed by other federal, state, or local agencies);
 - c. corrective actions implemented in response to all instances of noncompliance, and their cost;
 - d. the effectiveness of all corrective actions implemented;
 - e. a description of any landowner/resident complaints which may relate to compliance with the requirements of this Order, and measures taken to satisfy their concerns; and
 - f. copies of any correspondence received by KeySpan LNG and Algonquin from other federal, state, or local permitting agencies concerning instances of noncompliance, and KeySpan LNG's or Algonquin's response.
11. KeySpan LNG and Algonquin must each receive written authorization from the Director of OEP **before commencing service** of the upgraded LNG terminal and the new pipeline, respectively. Such authorizations will only be granted following a determination that the facilities have been constructed in accordance with Commission approval and applicable standards, can be expected to operate safely as designed, and that rehabilitation and restoration of the right-of-way is proceeding satisfactorily.
12. **Within 30 days of placing the certificated facilities in service**, KeySpan LNG and Algonquin shall each file an affirmative statement with the Secretary, certified by a senior company official:
- a. that the facilities have been constructed in compliance with all applicable conditions, and that continuing activities will be consistent with all applicable conditions; or
 - b. identifying which of the certificate conditions KeySpan LNG and Algonquin, respectively, have complied with or will comply with. This statement shall also identify any areas along the right-of-way where compliance measures were not properly implemented, if not previously identified in filed status reports, and the reason for noncompliance.
13. KeySpan LNG and Algonquin shall provide a feasibility assessment to the FERC **prior to construction** determining which, if any, of the emission control strategies used by the Connecticut DOT in the I-95 New Haven Harbor Crossing Corridor Improvement Program can be used during construction of the KeySpan LNG project. (p. 4-98)
14. KeySpan LNG and Algonquin shall use transportation grade (0.05 weight percent sulfur) or better diesel fuel in all construction equipment for the proposed project. (p. 4-98)

Measures applicable only to KeySpan LNG:

(Unless otherwise noted, responses to measures 12-62 must be filed with the Commission for review and approval by the Director of OEP prior to construction.)

15. KeySpan LNG shall file with the Secretary final construction plans for the planned nonjurisdictional sewer and electric connections **prior to construction of these utilities.** KeySpan LNG's filing shall include documentation of applicable environmental clearances (i.e., cultural resources, threatened and endangered species) and permits. (p. 2-19)
16. KeySpan LNG shall file all final foundation designs for all LNG facility upgrade components with the Secretary for review and written approval of the Director of OEP. (p. 4-6)
17. KeySpan LNG shall file with the Secretary a copy of its DEM-approved Remedial Action Work Plan. (p. 4-8)
18. KeySpan LNG shall coordinate with National Oceanic and Atmospheric Administration Fisheries to determine appropriate speed and seasonal restrictions, or other applicable measures, to avoid or minimize impacts on right whales. Results of the coordination, including a discussion of restrictions to be implemented, shall be filed with the Secretary, **prior to commencing operation of the proposed LNG terminal.** (p. 4-44)
19. KeySpan LNG shall file documentation of concurrence from the CRMC that the project is consistent with the Rhode Island Coastal Resources Management Plan (RICRMP). (p. 4-59)
20. KeySpan LNG shall prepare a construction noise mitigation plan that specifies which of the noise mitigation measures listed in its application, including acoustical blanket shrouds for pile driving, will be used during construction activities and file the plan with the Secretary for review and written approval of the Director of OEP. (p. 4-80)
21. KeySpan LNG shall file noise surveys with the Secretary no later than 60 days after placing the authorized units at the KeySpan LNG Facility in service. If the noise attributable to the operation of the new units and the station as a whole at full load exceeds a day-night sound level (L_{dn}) of 55 decibels of the A-weighted scale (dBA) at any nearby noise sensitive area, including the nearby residential areas on the east side of the Providence River, KeySpan LNG shall install additional noise controls to meet that level within 1 year of the in-service date. KeySpan LNG shall confirm compliance with the L_{dn} of 55 dBA requirement by filing a second noise survey with the Secretary **no later than 60 days** after it installs the additional noise controls. (p. 4-104)
22. **Prior to initial site preparation,** the existing plant Piping & Instrumentation Diagrams (P&IDs) shall be redrawn and integrated with the proposed upgrade P&IDs, using the same legend and pipe specifications as the proposed upgrade to provide a complete facility design and consistent design information for the facility. (p. 4-108)
23. **Prior to initial site preparation,** the existing electrical and instrumentation drawings shall be redrawn and integrated with the proposed upgrade drawings, using the same legends as the proposed upgrade, to provide a complete facility design and consistent design information for the facility. (p. 4-108)
24. **Prior to initial site preparation,** the LNG tank contractor shall certify that the tank connections and associated tank piping are designed for the proposed service. (p. 4-108)

25. KeySpan LNG shall provide a technical review of its facility design that:
- a. Identifies all combustion/ventilation air intake equipment and the distance(s) to any possible hydrocarbon release (LNG, flammable refrigerants, flammable liquids, and flammable gases).
 - b. Demonstrates that these areas would be adequately covered by hazard detection devices and indicate how these devices would isolate or shutdown any combustion equipment whose continued operation could add to or sustain an emergency.

KeySpan LNG shall file this review **prior to initial site preparation**. (p. 4-108)

26. **Prior to initial site preparation**, KeySpan LNG shall file a complete plan and list of the hazard detection equipment. The information shall include a list with the instrument tag number, type and location, alarm locations, and shutdown functions of the proposed hazard detection equipment. Plan drawings shall clearly show the location of all detection equipment. (p. 4-109)
27. **Prior to initial site preparation**, KeySpan LNG shall file a complete plan and list of the fixed and wheeled dry-chemical, fire extinguishing, and high expansion foam hazard control equipment. The information shall include a list with the equipment tag number, type, size, equipment covered, and automatic and manual remote signals initiating discharge of the units. Plan drawings shall clearly show the planned location of all fixed and wheeled extinguishers. (p. 4-109)
28. **Prior to initial site preparation**, KeySpan LNG shall file a complete plan and list of the hand-held fire extinguishers. The information shall include a list with the equipment tag number, type, size, and location. Plan drawings shall clearly show the planned location of all hand-held fire extinguishers. (p. 4-109)
29. **Prior to initial site preparation**, KeySpan LNG shall provide a complete firewater system design in compliance with the National Fire Protection Association Standards for the Production, Storage, and Handling of Liquefied Natural Gas (NFPA 59A (2001 edition)), which includes the design flow rate and operating pressure conditions at the design flow rate for the system; a list of the firewater equipment including capacity and size specifications for storage, firewater pumps, and controls; a list of covered areas with the required and available firewater coverage and the tag number of each monitor, hydrant, deluge, hose, and sprinkler to be used for each area; facility plans showing the piping and valves, location of and area covered by each monitor, hydrant, deluge system, hose, and sprinkler; and P&IDs of the complete firewater system. (p. 4-109)
30. The **final design** of the hazard detection equipment shall identify manufacturer and model. (p. 4-109)
31. The **final design** of the hazard detection equipment shall include redundancy and fault detection and fault alarm monitoring in all potentially hazardous areas and enclosures. (p. 4-109)
32. The **final design** of the hazard detection equipment shall provide flammable gas and ultraviolet/infrared hazard detectors with local instrument status indication as an additional safety feature. (p. 4-109)
33. The **final design** shall specify that open path detectors, when used, shall be calibrated to detect the presence of flammable gas and alarm at the lowest reliable set point, in addition to the required 25 percent lower flammability limit set point. (p. 4-109)

34. The **final design** of the fixed and wheeled dry-chemical, fire extinguishing, and high expansion foam hazard control equipment shall identify manufacturer and model. (p. 4-109)
35. The firewater source shall not rely solely on the flow from the municipal supply. The **final design** of the firewater system shall include a secondary source such as river water or a firewater storage tank. In the event that a firewater storage tank is required, the quantity of firewater available from storage shall be no less than the capacity required by the firewater system design. (p. 4-109)
36. The **final design** shall include remotely operated firewater monitors in locations that may not be accessible in the event of adjacent fire or vapor dispersion conditions. (p. 4-110)
37. The **final design** shall include provisions to continuously record municipal water pressure. A low pressure alarm shall be provided in the **final design** to signal supply pressures less than 40 pounds per square inch gauge. (p. 4-110)
38. The **final design** of the piping systems shall allow equipment and piping containing LNG and vapor to be isolated, drained, and depressurized to a safe location. (p. 4-110)
39. The **final design** shall include provisions for the LNG pressure-relief valves to discharge into a system designed for the service. (p. 4-110)
40. The **final design** shall relocate the 20-inch check valves to between the arms and the pressure safety valves, to avoid relieving through the check valve. (p. 4-110)
41. The **final design** shall specify that inlet block valves from the LNG header shall be welded to avoid flange leaks. (p. 4-110)
42. The **final design** shall include provisions to ensure that hot glycol/water circulation is operable at all times when LNG is present in the LNG booster pump discharge piping or when the temperature in the LNG inlet channel to any vaporizer is below 0 °F. (p. 4-110)
43. The **final design** shall specify that the water/ethylene-glycol pump motors shall be connected to the 480-volt emergency bus to ensure that water/ethylene-glycol can be circulated in the event of loss of power. (p. 4-110)
44. The **final design** shall include detection instrumentation and shut down procedures for vaporizer tube leak, shell side overpressure, or bursting disc failure. (p. 4-110)
45. The **final design** shall include low-low temperature vaporization shutdown in the common vaporizer discharge header. (p. 4-110)
46. The **final design** shall include automatic isolation valves at the suction and discharge of vapor return blowers and boil off compressors. (p. 4-110)
47. The **final design** shall ensure that air gaps are installed downstream of all seals or isolations installed at the interface between a flammable fluid system and an electrical conduit or wiring system. Each air gap shall vent to a safe location and be equipped with a leak detection device that: would continuously monitor for the presence of a flammable fluid; would alarm the hazardous condition; and would shutdown the appropriate systems. (p. 4-110)

48. The **final design** shall include a fire protection evaluation carried out in accordance with the requirements of NFPA 59A, chapter 9.1.2. (p. 4-110)
49. The **final design** shall include details of the shut down logic, including cause and effect lists for alarm and shutdown. (p. 4-110)
50. The **final design** shall include emergency shutdown of equipment and systems activated by hazard detection devices for flammable gas, fire, cryogenic spill, and earthquake, when applicable. (p. 4-111)
51. The **final design** shall include procedures for offsite contractors' responsibilities, restrictions, limitations, and supervision of the contractors by KeySpan LNG staff. (p. 4-111)
52. A flow test of the firewater supply shall be carried out at the design flow rate to determine the supply pressure at each independent firewater source prior to and at the design flow rate required by the firewater plan. The results of this test shall be filed **prior to commissioning**. (p. 4-111)
53. Security personnel requirements for prior to and during LNG vessel unloading shall be filed **prior to commissioning**. (p. 4-111)
54. Operation and Maintenance procedures and manuals, as well as emergency plans, emergency evacuation plan, and safety procedure manuals, shall be filed **prior to commissioning**. (p. 4-111)
55. Copies of the final U.S. Coast Guard (Coast Guard) security plan, vessel operation plan, and emergency response plan shall be provided to the FERC staff **prior to commissioning**. (p. 4-111)
56. The FERC staff shall be notified of any proposed revisions to the security plan and physical security of the facility **prior to the commencement of service**. (p. 4-111)
57. Progress on the construction of the LNG terminal shall be reported in **monthly** reports filed with the Secretary. Details shall include a summary of activities, problems encountered, and remedial actions taken. However, problems of significant magnitude shall be reported to the FERC **within 24 hours**. (p. 4-111)

Measures 58 through 61 apply throughout the life of the facility:

58. The facility shall be subject to regular FERC staff technical reviews and site inspections on at least a **biennial** basis or more frequently as circumstances indicate. Prior to each FERC staff technical review and site inspection, KeySpan LNG shall respond to a specific data request including information relating to possible design and operating conditions that may have been imposed by other agencies or organizations. KeySpan LNG shall also submit up-to-date detailed piping and instrumentation diagrams reflecting facility modifications and provision of other pertinent information not included in the semi-annual reports described below, including facility events that have taken place since the previously submitted annual report. (p. 4-111)
59. **Semi-annual** operational reports shall be filed with the Secretary to identify changes in facility design and operating conditions, abnormal operating experiences, activities (including ship arrivals, quantity and composition of imported LNG, vaporization quantities, boil-off/flash gas, etc.), plant modifications including future plans and progress thereof. Abnormalities shall include, but not be limited to: unloading/shipping problems, potential hazardous conditions from offsite vessels, storage tank stratification or rollover, geysering, storage tank pressure excursions,

cold spots on the storage tanks, storage tank vibrations and/or vibrations in associated cryogenic piping, storage tank settlement, significant equipment or instrumentation malfunctions or failures, non-scheduled maintenance or repair (and reasons therefore), relative movement of storage tank inner vessels, vapor or liquid releases, fires involving natural gas and/or from other sources, negative pressure (vacuum) within a storage tank, and higher than predicted boiloff rates. Adverse weather conditions and the effect on the facility also shall be reported. Reports shall be submitted **within 45 days** after each period ending **June 30 and December 31**.

In addition to the above items, a section entitled "Significant plant modifications proposed for the next 12 months (dates)" also shall be included in the semi-annual operational reports. Such information will provide the FERC staff with early notice of anticipated future construction/maintenance projects at the LNG facility. (p. 4-111)

60. In the event the temperature of any region of the outer shell of the storage tank becomes less than the minimum specified operating temperature for the material, the Commission shall be notified **within 24 hours** and procedures for corrective action shall be specified. (p. 4-112)

61. Significant non-scheduled events, including safety-related incidents (i.e., LNG or natural gas releases, fires, explosions, mechanical failures, unusual over pressurization, and major injuries) and security-related incidents (i.e., attempts to enter site, suspicious activities) shall be reported to FERC staff **within 24 hours**. In the event an abnormality is of significant magnitude to threaten public or employee safety, cause significant property damage, or interrupt service, notification shall be made immediately, without unduly interfering with any necessary or appropriate emergency repair, alarm, or other emergency procedure. This notification practice shall be incorporated into the LNG facility's emergency plan. Examples of reportable LNG-related incidents include:

- a. fire;
- b. explosion;
- c. estimated property damage of \$50,000 or more;
- d. death or personal injury necessitating in-patient hospitalization;
- e. free flow of LNG for 5 minutes or more that results in pooling;
- f. unintended movement or abnormal loading by environmental causes, such as an earthquake, landslide, or flood, that impairs the serviceability, structural integrity, or reliability of an LNG facility that contains, controls, or processes gas or LNG;
- g. any crack or other material defect that impairs the structural integrity or reliability of an LNG facility that contains, controls, or processes gas or LNG;
- h. any malfunction or operating error that causes the pressure of a pipeline or LNG facility that contains or processes gas or LNG to rise above its maximum allowable operating pressure (or working pressure for LNG facilities) plus the build-up allowed for operation of pressure limiting or control devices;
- i. a leak in an LNG facility that contains or processes gas or LNG that constitutes an emergency;
- j. inner tank leakage, ineffective insulation, or frost heave that impairs the structural integrity of an LNG storage tank;
- k. any safety-related condition that could lead to an imminent hazard and cause (either directly or indirectly by remedial action of the operator), for purposes other than abandonment, a 20 percent reduction in operating pressure or shutdown of operation of a pipeline or an LNG facility that contains or processes gas or LNG;
- l. safety-related incidents to LNG vessels occurring at or en route to and from the LNG facility; or

- m. an event that is significant in the judgment of the operator and/or management even though it did not meet the above criteria or the guidelines set forth in an LNG facility's incident management plan.

In the event of an incident, the Director of OEP has delegated authority to take whatever steps are necessary to ensure operational reliability and to protect human life, health, property, or the environment, including authority to direct the LNG facility to cease operations. Following the initial company notification, FERC staff will determine the need for a separate follow-up report or follow-up in the upcoming semi-annual operational report. All company follow-up reports shall include investigation results and recommendations to minimize a reoccurrence of the incident. (p. 4-112)

- 62. KeySpan LNG shall provide a revised flammable vapor exclusion analysis for design spills that considers the effects of mixing with air on LNG vapors evolving from a spill within the impoundment in order to verify compliance with 49 CFR Part 193.2059. KeySpan LNG shall file the revised analysis with the Secretary **at least 30 days prior to initial site preparation** for review and approval by the Director of OEP. (p.4-122)
- 63. KeySpan LNG shall examine provisions to retain any vapor produced along the transfer line trenches and other areas serving to direct LNG spills to associated impoundments. Measures to be considered may include, but are not limited to: vapor fencing, intermediate sump locations, or trench surface area reduction. KeySpan LNG shall file final drawings and specifications for these measures with the Secretary **at least 30 days prior to initial site preparation** for review and approval by the Director of OEP. (p. 4-122)
- 64. KeySpan LNG shall provide a separate security staff and coordinate with the Coast Guard to define the responsibilities of KeySpan LNG security staff in supplementing other security personnel and in protecting the LNG ships and terminal. (p. 4-127)
- 65. KeySpan LNG shall develop emergency evacuation routes for the areas along the route of the LNG vessel transit in conjunction with the local emergency and town officials and file the routes with the Commission for review and approval by the Director of OEP **prior to initial site preparation**. (p. 4-129)
- 66. KeySpan LNG shall develop an Emergency Response Plan (including evacuation) and coordinate procedures with local emergency planning groups, fire departments, state and local law enforcement, and appropriate federal agencies. This plan shall include at a minimum:
 - a. designated contacts with state and local emergency response agencies;
 - b. scalable procedures for the prompt notification of appropriate local officials and emergency response agencies based on the level and severity of potential incidents;
 - c. procedures for notifying residents and recreational users within areas of potential hazard;
 - d. evacuation routes for residents along the route of the LNG vessel transit;
 - e. locations of permanent sirens and other warning devices; and
 - f. an “emergency coordinator” on each LNG vessel to activate sirens and other warning devices.

The Emergency Response Plan shall be filed with the Secretary for review and approval by the Director of OEP **prior to commencement of service**. KeySpan LNG shall notify FERC staff of all meetings in advance and shall report progress on its Emergency Response Plan at 6-month intervals starting at the commencement of construction. (p. 4-129)

67. KeySpan LNG shall annually review its waterway suitability assessment for the upgraded project; update the assessment to reflect changing conditions; provide the updated assessment to the cognizant Captain of the Port/Federal Maritime Security Coordinator for review and validation; and provide a copy to the FERC staff. (p. 4-138)
68. KeySpan LNG shall provide a comprehensive plan identifying the mechanisms for funding all project-specific security/emergency management costs that would be imposed on state and local agencies. In addition to the funding of direct transit-related security/emergency management costs, this comprehensive plan shall include funding mechanisms for the capital costs associated with any necessary security/emergency management equipment and personnel base. This plan shall be filed with the Secretary **prior to initial site preparation** for review and approval by the Director of OEP. (p. 4-144)

Measures applicable only to Algonquin:

69. **Prior to construction**, Algonquin shall file with the Secretary a copy of its DEM-approved Soil and Groundwater Management Plan. (p. 4-10)
70. Algonquin shall submit to the Secretary for review and written approval of the Director of OEP additional detail and justification as to why a less than 50-foot setback is necessary at the staging area on the Boliden Metric property and describe what specific measures would be implemented at the staging area and at the meter station site to protect the river from erosion and sedimentation. Algonquin shall file this information **prior to construction**. (p. 4-18)
71. Algonquin shall file copies of its specific construction plans for construction within and across each road and identify how it would maintain access to each business on Allens Avenue, or provide alternate access, during construction of the proposed pipeline facilities. Algonquin shall include documentation of discussions with the City of Providence regarding these plans. Algonquin shall file this information with the Secretary **prior to construction**. (p. 4-47)
72. Algonquin shall file with the Secretary copies of its ongoing correspondence with the Rhode Island Department of Transportation regarding the reconfiguration of Interstates 95 and 195 in Providence, Rhode Island. Algonquin shall include in the filing(s) any conflicts that have been identified between the proposed pipeline and the road project and a description of how these conflicts have been addressed. (p. 4-57)
73. Algonquin shall file documentation of concurrence from the CRMC that the project is consistent with the RICRMP. Algonquin shall file this documentation with the Secretary **prior to construction**. (p. 4-60)
74. Algonquin shall file with the Secretary for the review and written approval of the Director of OEP **prior to construction**, a visual screening plan for the proposed tap valve at milepost 1.44. Algonquin shall include in its submittal documentation of the acceptability of this plan to U.S. Generating New England, Inc. (p. 4-69)
75. Algonquin shall develop and file with the Secretary **prior to construction** a detailed construction and traffic plan in consultation with appropriate state and local agencies that includes a construction schedule, proposed time windows for work (e.g., night or day, weekday or weekend), and the specific measures that would be implemented at various locations along Allens Avenue to minimize traffic impacts. This plan shall include proposed detours and an assessment of the traffic effects (e.g., delays) to both the affected and other nearby roads. (p. 4-76)