Summary of Rating Definitions and Follow-up Action

Environmental Impact of the Action

LO--Lack of Objections
The EPA review has not identified any potential environmental impacts requiring substantive changes to the proposal. The review may have disclosed opportunities for application of mitigation measures that could be accomplished with no more than minor changes to the proposal.

EC--Environmental Concerns
The EPA review has identified environmental impacts that should be avoided in order to fully protect the environment. Corrective measures may require changes to the preferred alternative or application of mitigation measures that can reduce the environmental impact. EPA would like to work with the lead agency to reduce these impacts.

EO--Environmental Objections
The EPA review has identified significant environmental impacts that should be avoided in order to provide adequate protection for the environment. Corrective measures may require substantial changes to the preferred alternative or consideration of some other project alternative (including the no action alternative or a new alternative). EPA intends to work with the lead agency to reduce these impacts.

EU--Environmentally Unsatisfactory
The EPA review has identified adverse environmental impacts that are of sufficient magnitude that they are unsatisfactory from the standpoint of public health or welfare or environmental quality. EPA intends to work with the lead agency to reduce these impacts. If the potentially unsatisfactory impacts are not corrected at the final EIS stage, this proposal will be recommended for referral to the CEQ.

Adequacy of the Impact Statement

Category 1--Adequate
EPA believes the draft EIS adequately sets forth the environmental impact(s) of the preferred alternative and those of the alternatives reasonably available to the project or action. No further analysis or data collection is necessary, but the reviewer may suggest the addition of clarifying language or information.

Category 2--Insufficient Information
The draft EIS does not contain sufficient information for EPA to fully assess environmental impacts that should be avoided in order to fully protect the environment, or the EPA reviewer has identified new reasonably available alternatives that are within the spectrum of alternatives analyzed in the draft EIS, which could reduce the environmental impacts of the action. The identified additional information, data, analyses, or discussion should be included in the final EIS.

Category 3--Inadequate
EPA does not believe that the draft EIS adequately assesses potentially significant environmental impacts of the action, or the EPA reviewer has identified new, reasonably available alternatives that are outside of the spectrum of alternatives analyzed in the draft EIS, which should be analyzed in order to reduce the potentially significant environmental impacts. EPA believes that the identified additional information, data, analyses, or discussions are of such a magnitude that they should have full public review at a draft stage. EPA does not believe that the draft EIS is adequate for the purposes of the NEPA and/or Section 309 review, and thus should be formally revised and made available for public comment in a supplemental or revised draft EIS. On the basis of the potential significant impacts involved, this proposal could be a candidate for referral to the CEQ.

Detailed Comments for the New England Clean Power Link Project

Purpose and Need Statement

The DEIS states that the purpose and need for the Department of Energy's (DOE's) action is to decide whether to issue a Presidential permit for the project. This is such a narrow statement of purpose and need that it eliminates the development of a reasonable range of alternatives. As DOE's own guidance states: "A statement of the agency's underlying purpose and need is critical to identifying the range of reasonable alternatives. If the purpose and need is defined too broadly, the number of alternatives that might require analysis would be virtually limitless. It is inappropriate in most situations, however, to define purpose and need so narrowly that only a single alternative could be identified for analysis. The proposed action is generally only one means of meeting the agency's underlying purpose and need for action." (NEPA guidance: Revised Recommendations for the Preparation of Environmental Assessments and Environmental Impact Statements (the Green Book), December 23, 2004).

The FEIS should explain the underlying purpose and need to which the DOE is responding in proposing the alternatives including the proposed action (40 CFR 1502.13). Typically the purpose identifies specific objectives of the proposed action and the need for the proposed action identifies a broader underlying problem to be addressed.

We acknowledge that the DEIS includes a section that lays out the applicant's objectives. Were that to be a statement of the purpose of the project, it would allow for a broader set of alternatives to be considered in the FEIS, such as competing transmission projects, new in-region generation, or alternative sources of low GHG electricity. Such a purpose, of course, would require a discussion of the needs to be addressed by the project.

Alternatives

As noted above, the narrow purpose and need statement restricts DOE from generating an adequate range of alternatives. With respect to the single alternative offered, EPA supports the overland routing approach for the project adjacent to and within existing transportation corridor right-of-way (ROW) alignments. This approach is logical and should result in reduced project impacts in areas already maintained in existing ROW areas. Even with reduced impacts, proper mitigation to address impacts from project construction and operation will be an important part of the project design.

The 100 mile segment of the project proposed within Lake Champlain appears to be designed to avoid impacts to shallow water areas. We support the use of horizontal directional drilling (HDD) to achieve that objective. HDD should minimize aquatic impacts discussed below.

Water Supply/Water Resources

The DEIS indicates ninety-nine public water systems draw water from Lake Champlain; however, none are known to occur within the region of impact (ROI) of the proposed project. The overland segment of the ROI includes nine public water supply systems using groundwater sources (wells) that have either designated source protection areas (SPAs) or sources within the immediate vicinity. It also contains four small private wells. EPA recommends that DOE map the locations of these systems and wells along with existing or potential wellhead protection areas, watershed protection areas, and sole source aquifers. Maps of the water supply systems and protection areas should include an overlay of the project. The DOE should work with the Vermont Department of Environmental Conservation (VT DEC), Drinking Water and Ground Water Protection Division, to obtain this information, as well as data on drinking water infrastructure that could potentially be affected during construction, operation, and maintenance of the proposed electric transmission line.

EPA also recommends that the FEIS describe how the proposed project would meet state regulations and any state guidance for protection of surface and groundwater drinking supplies. The EIS should also describe existing and proposed activities that occur in drinking water source protection areas, the distance between the proposed NECPL activities and those sources and any existing local land use restrictions (health regulations, watershed protection bylaws, etc.) in place for the protection of those water sources. Potential costs to human health and the environment from contamination of drinking water sources are well documented and it is extremely important that the TDI-NE consider all state and local restrictions that are designed to protect consumers and private citizens.

In addition, the FEIS should specifically describe what impacts, if any, can be expected to these water supply protection areas and water supply sources as a result of construction and operation of the project, including potential impacts from the proposed activities on the water quality and quantity.

For example the FEIS should discuss how the changes in turbidity (duration and measurement), as well as the real-time monitoring, could be shared with the water suppliers drawing from Lake Champlain. Although it appears based on current projections that the suppliers will not be affected, the FEIS should provide turbidity projections related to the location information on the ninety nine water supply systems to support its conclusions in the FEIS. This information should be shared with the water suppliers so they can make informed decisions as to whether turbidity changes might affect their treatment processes and plan accordingly. Federal and state regulations require water supply systems to monitor turbidity closely, as significant changes may require public notification and treatment modifications.

When responding to contamination events, water suppliers must know the nature and quantity of a contaminant spill in order to properly evaluate risk to public health and treatment options to mitigate that risk. For this reason, it is important that the FEIS describes measures to be used to avoid or minimize impacts from spills of contaminants.

Appendix G provides a list of the measures that TDI-NE has proposed to minimize effects on water quality, including use of an Environmental Inspector responsible for monitoring construction activities to ensure compliance with the Environmental Management and

Construction Practices (EMCP) Plan and a Spill Prevention, Containment and Countermeasure Plan (SPCC). However details of the EMCP and SPCCPs are not provided and should be contained in the FEIS and the plans provided in an Appendix. These plans should include provisions for notification of the state environmental agency and public water suppliers in the event of a spill during construction or operation of the project. They should also provide for notification of the owners of private wells should a spill occur near the draw-down areas of those wells or within 1000 feet. These plans should describe all project activities with the potential to contaminate drinking water sources from spills during construction or with the potential to damage drinking water infrastructure; included should be the types of pollutants that could potentially be spilled. Information presented in the FEIS should be coordinated with state, and local water supply utilities.

Lake Champlain

Background

Lake Champlain was designated as a resource of national significance by the Lake Champlain Special Designation Act (Public Law 101-596) that was signed into law on November 5, 1990, (amended in 2002). A management plan for the watershed, "Opportunities for Action," (revised 2010) was developed to achieve the goal of the Act: to bring together people with diverse interests in the lake to create a comprehensive pollution prevention, control, and restoration plan for protecting the future of the Lake Champlain Basin. The Lake Champlain Basin Project (LCBP) produced such an action plan.

EPA's efforts to protect Lake Champlain support the successful interstate, interagency, and international partnerships undertaking the implementation of the Plan. "Opportunities for Action" address various threats to Lake Champlain's water quality, including phosphorus loadings, invasive species, and toxic substances. The goals of Opportunities for Action include, but are not limited to:

- Reduce phosphorus inputs to Lake Champlain to promote a healthy and diverse ecosystem and provide for sustainable human use and enjoyment of Lake Champlain;
- Reduce contaminants posing risks to public health and the Lake Champlain ecosystem;
- Maintain resilient and diverse communities of fish, wildlife, and plants;
- Prevent the introduction, limit the spread of, and control the impact of non-native aquatic invasive species to preserve the integrity of the Lake Champlain ecosystem;
- Identify potential changes in climate and develop appropriate adaptation strategies to minimize adverse impacts on Lake Champlain's ecosystem and socioeconomic resources; and
- Promote healthy and diverse economic activity and sustainable development principles while improving water quality and conserving natural and cultural heritage resources.

Many of these "opportunities for action" are addressed in the DEIS. Several are not and EPA recommends that they be examined. For example, the DEIS does not address potential changes in climate and the development of appropriate adaptation strategies to minimize adverse impacts. The FEIS should, as appropriate, consider practicable changes to the proposal to make it more

resilient to anticipated climate change. EPA further recommends that the Record of Decision commit to implementation of reasonable mitigation measures that would reduce or eliminate project-related GHG emissions.

With respect to maintaining a diverse community of wildlife, the U.S. Fish and Wildlife Service issued an interim 4(d) rule for the northern long-eared bat on June 17, 2015. DOE should review this interim rule to determine whether it requires modifications to the project or further consultations with the USFWS.

Sediments and Water Quality

Excess phosphorous from a variety of sources has impaired the water quality of Lake Champlain. In 2002, Vermont prepared a plan to reduce phosphorous loadings by developing a Total Maximum Daily Load (TMDL), which was subsequently challenged. EPA is now working to prepare a new phosphorus TMDL, and expects to release it for public comment in August, 2015. The TMDL will undoubtedly require reductions in phosphorus loads into the Lake. As a result, the FEIS should consider all methods to eliminate or minimize the introduction of and re-suspension of phosphorus during project construction, operation and maintenance.

The DEIS states that "between the U.S and Canadian border, and approximately MP 74, the aquatic transmission cables would be installed within the lakebed sediment at a depth of approximately four feet using jet plowing. This would cause temporary increase in turbidity as a result of the re-suspension of sediments from trenching and disturbance of the lakebed. Shear plowing would be used to bury the transmission cable…south of MP 74…..Shear plowing results in less sediment re-suspension and dispersion compared to jet plowing."

The project will also involve crossing of and modification to streams or other water bodies that ultimately discharge to Lake Champlain. The FEIS should discuss how the project will include best management practices that will reduce phosphorus discharges to Lake Champlain from any sources related to the project. While the precise reduction allocations in the TMDL will not be finalized until later this year, it is certain that the TMDL will require phosphorus loading reductions from many sources. The FEIS should discuss all reasonable measures that could be taken to reduce phosphorus loadings through the use of best management practices or other design, construction, operation and management measures, wherever possible.

For every stream that is crossed, the FEIS should discuss how such work will be coordinated with the VT DEC Stream Management Section to support efforts to restore stream system equilibrium (or stability) within the affected stream corridor. Discussions would include mitigation opportunities where appropriate. Disruption to one part of the stream can have unanticipated effects upstream and downstream. Vermont has been working to restore whole stream systems (especially the whole affected stream reach), and many Vermont streams have stream corridor plans with a set of actions to accomplish this overall system goal. The FEIS should identify actions in the final project that will help implement the stream corridor plan. Under the circumstances, this would be an effective way to minimize harmful impacts.

Where no corridor plans yet exist for affected streams, the FEIS should include plans of how to coordinate with Vermont DEC to design specific actions that would minimize harm.

Page 5-21 states that "TDI-NE would use installation techniques that minimize re-suspension of sediments and would adjust the rate of installation to reduce suspension of sediment, if appropriate." The FEIS should provide a detailed explanation of the installation techniques and equipment that would minimize re-suspension of sediments as well as how decisions would be made to adjust the rate of installation to reduce sediment suspension. Given the fact that sediments contain high levels of phosphorus, it should be assumed that these techniques are always appropriate. The FEIS should identify when these techniques would not be appropriate.

On pages 5-26, 5-27 and other places, the DEIS references the text of the Champlain Hudson Power Express (CHPE) FEIS. The relevant facts contained in the CHPE FEIS to which the reader is be directed should be summarized in the text of the FEIS to make the discussion more easily understood. The relevant pages of the CHPE EIS should be appended to the FEIS.

Invasive Species

As noted above the "Opportunities for Action" section of the Lake Champlain management plan identifies various threats to Lake Champlain's water quality, including invasive species. Among the Opportunities for Action is a priority to prevent the introduction, limit the spread, and control the impact of non-native aquatic invasive species (AIS) to preserve the integrity of the Lake Champlain ecosystem. The LCBP has developed a program to help achieve this goal.

Although the DEIS acknowledges the presence of AIS and the resulting impairments, we encourage the TDI-NE to commit to engage LCBP and VT ANR in the early planning stages of the project to seek their expertise to ensure that measures are taken to limit and control the spread of AIS. Also, part of this planning will need to include coordinating activities with the LCBP in areas where the cable installation will potentially conflict with LCBP AIS removal activities. Specifically, LCBP has an active water chestnut removal program in South Lake, where water chestnut is removed by a mechanical harvester and hand-pulling is performed by volunteers. The link below provides further information on this topic.
http://www.lcbp.org/water-environment/aquatic-invasive-species/ais-in-the-lak/#VLM

The DEIS notes that barges, ships or other vessels would be cleaned according to applicable regulations and Best Management Practices (BMPs) to minimize the risk of spreading invasive species to Lake Champlain. The FEIS should explain how those regulations and best management practices will assure that the spread of invasive species does not occur.

A mussel survey was conducted in 2014 and observed that the invasive zebra mussel is the dominant species among the shellfish communities, and stated that the effects on native mussel species are expected to be minimal because native species are generally low and widely dispersed due to the zebra mussel's invasion. Considering that native mussel populations are dwindling and widely dispersed, extra precautions should be taken to preserve these dwindling communities.

The TDI-NE application summarizes the Lake Champlain Sediment Toxics Assessment Program studies, which document the presence of various contaminants, including metals, pesticides and PCBs. The FEIS should discuss how sediments will be tested for contaminants and how the results will affect the disposal methods and options and mitigation for potential impacts. In addition the FEIS should address any circumstances under which contaminated soils, even low level contaminated soils, will be used to backfill trenched areas. EPA is willing to assist the DOE with the consideration of these issues.

While the DEIS notes that soils contaminated with hazardous wastes will likely be encountered in excavations near railroads, there will also likely be other areas where hazardous wastes are found in the overland segment excavations. The FEIS should discuss how the wastes encountered during excavations will be managed and disposed of.

Overall, the model simulations for the re-suspension of dissolved and total phosphorus were adequate (p 5-5). Five points along the cable were modeled, four in the deeper sections of the lake (MP6, MP20, MP50 MP68) and one point (MP83) in South Lake, which is shallow. A more representative simulation would have included additional shallow points in South Lake. The shallow regions are of particular concern for potential algal blooms because shallow conditions allow light to penetrate, and raise water temperatures. These are ideal conditions for algae to proliferate.

Air Quality

Page 5-34 of the DEIS states that, "EPA's MOBILE 6.2 Mobile Vehicle Emissions Factor Model was used in developing onroad emissions."
EPA replaced the MOBILE emission Factor model with MOVES (**MO**tor **V**ehicle **E**mission **S**imulator) in 2009. We encourage the latest model and version of MOVES to be used in any onroad air quality analyses prepared for the New England Clean Power Link Project. Please coordinate with the EPA's Regional Office and the Vermont Department of Environmental Conservation on the use of MOVES in any new onroad air quality analysis.

Page 5-35 of the DEIS states that, "TDI-NE has proposed the following measures to reduce emissions: maintaining construction equipment properly, minimizing idling, using low-emission construction equipment, applying soil stabilizers or wetting dry soil on roads to limit dust releases, covering loads, and reseeding construction areas in the Alburgh and Benson areas.

As we commented earlier, we are encouraged that TDI-NE has proposed measures to reduce emissions, such as maintaining construction equipment properly, minimizing idling, and using low-emission construction equipment. TDI-NE should make a binding commitment to ensure mitigation measures are implemented during construction to help reduce and minimize air quality impacts from the construction phase of the proposed project. This commitment should also specify the individual mitigation measures in detail. For example, the commitment to use low emission construction equipment should be more specific, as there are a number of different emission levels possible from such equipment depending on the year of manufacture and corresponding Tier level of emission control.

Appendix K, identifies the kind of construction equipment to be used (such as 18-yard dump, flatbed truck, pickup truck, generator, small bulldozer, etc.) but the DEIS lacks any commitment to use recent model year equipment or use older equipment with installed retrofits to insure minimal emissions from construction equipment.

Page 6-8 of the DEIS states, "Adverse impacts would be minimized with implementation of TDI-NE-proposed mitigation measures and BMPs as part of the proposed NECPL Project." As stated in our comment above, EPA requests that the specific mitigation measures be identified in detail, and be part of a binding commitment. "Appendix G - TDI-NE General Mitigation Strategies," does not identify or describe mitigation commitments to reduce emissions by maintaining construction equipment properly, minimizing idling, or using low-emission construction equipment. TDE-NE should commit to implementing emission reduction measures during construction to help reduce and minimize air quality impacts from the construction phase of the proposed project. These measures could include adding contract specifications that would require construction vehicles and equipment to include retrofit control equipment (oxidation catalysts or particulate filters installed on the exhaust of the diesel engine). These commitments should specify the individual mitigation measures in detail.

The Northeast Diesel Collaborative has prepared model construction specifications that could be used in developing contract specifications for construction of the transmission line. The model construction specifications can be found on the Northeast Diesel Collaborative web site at URL address http://northeastdiesel.org/pdf/NEDC-Construction-Contract-Spec.pdf.

The FEIS should provide information to assess the sources of the electricity to be imported, and compare the emissions profile of that electricity with that of the electricity it would likely displace from the New England power grid. While the DEIS states that the proposed project is intended to reduce criteria pollutants and GHG emission by alleviating the need to operate older, more emissive power plants and that the proposed project is expected to have long term, beneficial, cumulative impacts on air quality, the FEIS should provide an analysis that supports that statement, including an assessment of the environmental impacts related to criteria pollutants and GHG. To estimate the GHG emissions associated with the proposal and the no action alternative, DOE could use tools for estimating and quantifying GHG emissions that can be found on CEQ's NEPA.gov website. In most cases quantification of GHG emissions involves a relatively straightforward calculation. The FEIS should also contain a discussion of the environmental effects that the project would have on decreasing the need to run power plants with significant cooling water needs. The older plants generating energy that would be supplanted by this project are usually steam units with once through cooling and as a result, have significant water impacts. There is no analysis or discussion of any environmental impacts that would be alleviated by offsetting the need to run power plants with significant cooling needs.

Page 5-35 of the DEIS provides an estimate of the tons of GHG emissions created by the project over the entire construction period. It then compares that number to emissions in Vermont, the United States and globally. Recognizing that climate impacts are not attributable to any single action, but are exacerbated by a series of smaller decisions, we do not recommend comparing GHG emissions from a proposed action to global emissions. As noted by the CEQ revised draft guidance, "[t]his approach does not reveal anything beyond the nature of the climate change challenge itself: [t]he fact that diverse individual sources of emissions each make relatively small

additions to global atmospheric GHG concentrations that collectively have huge impact." We also recommend that the analysis does not compare GHG emissions to total U.S. emissions, as this approach does not provide meaningful information for a project level analysis. Consider providing a frame of reference, such as an applicable Federal, state, tribal or local goal for GHG emission reductions, and discuss whether the emissions levels are consistent with such goals. VT's GHG reduction emissions goals are stated on their Climate Change Team web site. See http://www.anr.state.vt.us/anr/climatechange/Index.html

Environmental Justice

Environmental Justice (EJ) is the fair treatment and meaningful involvement of all people, regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies. Executive Order 12898 requires each Federal agency to address the disproportionately high and adverse impacts from activities affecting minority and low-income populations. The DEIS compares the percentage of the population within Rutland and Windsor counties who are minorities with the percentage within Vermont, concluding that the county percentages are far less than those reported for Vermont. It also states that the percent of the total number of families that earned below the poverty level for Rutland County was slightly higher than that for the state of Vermont. It then concludes that the potential effects of proposed project construction would be equal throughout the population and would not be considered to effect minority and low-income populations disproportionately.

Comparing the demographics and income of the counties through which the project will run with the demographics and income of the State of Vermont does not identify minority and low income populations as they may be disproportionately affected by the project. Minority and low-income populations vary wildly within a single county in Vermont. An earlier analysis noted that Chittenden County had the highest median household income of the four counties examined while also having the largest number of individuals and families living in poverty compared to the other three counties. Environmental impacts from the construction and operation of the project will not be county wide but are most likely to be localized. Thus, the FEIS should examine the impacts on EJ population pockets as they may exist along the alignment.

The FEIS should identify minority and low-income populations by examining the demographics at a scale such as at the municipal level. EPA Region 1 has a tool called EJSCREEN that identifies EJ populations at that level. The Region is willing to help DOE identify EJ communities that may be affected by the project. The FEIS should also consider in its EJ analysis that negative impacts from the project, such as air pollution, water pollution, increased storm water, increased traffic, exposure to dust, vehicle exhaust and exposure to contaminated soil will vary, depending on the distance between the project and affected populations.

The DEIS concludes that there will be no effect on children or the environmental justice population on the overland route because the Region of Influence (ROI) "encompasses the geographic area that would reasonably be affected by the project during construction, operations, maintenance and emergency repair activates, either when hazardous materials were used and generated, or when existing contaminants are encountered." While this statement may be true in many instances, there will be occasions when the ROI is sufficiently close to an area with

sensitive populations, including children, that wind, stormwater or other forces may move contaminants, including lead, close enough to sensitive populations to be of concern. The DEIS does not contain a detailed map of the overland segments that would indicate the proximity of the ROI to residences, schools or other places where people, and particularly children, are likely to be present, but Table 3-17 indicates that thirty seven acres of residential land use is in the ROI. The FEIS should take into account the possibility that pollutants, particularly those generated by the construction and repair of the project, may reach sensitive and EJ populations within and beyond the ROI.

Finally, where appropriate, DOE should actively encourage public input from EJ communities and should provide information in different languages, where there are populations with limited English proficiency. Effective outreach in EJ communities may require using forums most likely to reach EJ populations such as churches, community groups, neighborhood clubs, local non-English newspapers or bulletins and the like, where appropriate.

Wetlands

Page 5-51 states that TDI "would avoid storing hazardous materials, chemicals or lubricating oils; refueling vehicles and equipment; or parking vehicles overnight within 100 feet of the edge of a wetland, unless no reasonable alternative is available." The FEIS should explain why restricting such activities within 100 feet of a wetland is adequately protective, given the potential mobility of such pollutants either overland or through groundwater. Also, DOE should condition such storage on compliance with state and local law.

Page 5-51 states that "because the potentially affected wetlands occur along existing roadway ROIs that have been disturbed previously, the wetlands values of recreation, education/scientific value, uniqueness/heritage and visual quality would be limited or non-existent." The FEIS should support this broad conclusion.

Page 5-52 states that "emergent wetland vegetation would be expected to re-establish quickly following construction, and woody species would return more slowly." This is one of many statements describing expectations of how natural recovery will occur in wetlands and other sensitive areas. EPA suggests that DOE establish as a condition of the permit that a monitoring plan be established over the appropriate time period to assess whether such natural recovery is occurring. The permit should include a condition and TDI-NE should make a commitment for monitoring and active restoration where natural recovery is not occurring in a reasonable time.

Page 5-52 states that "potential effects of storm water runoff and sedimentation would be avoided or minimized through the use of BMPs (e.g. silt fences). Many highly efficient stormwater BMPs have been developed in recent years. The FEIS should examine the most effective BMPs where discharges would occur to sensitive areas. Also, BMPs that capture and treat phosphorus should be considered wherever phosphorus could contribute to water quality impairments.

Page 5-52 states: that to reduce the effects of invasive species, a management, and monitoring and control plan has been developed to control noxious weeds and minimize the effects of

invasive species on important natural resources. This management plan should be included in the EIS. The EIS should also explain why this plan need only be in effect for three years. The impacts described in the DEIS are not consistent with what is included in the Revised Individual Section 404/Section 10 permit applications. In addition, it is unclear whether the term "temporary impacts" in the DEIS is the same as what is described in the Section 404 permit application.

For example, the DEIS (Page 2-25) states that for construction of the overland portion of the NECPL project there will be temporary direct impacts to 4.01 acres of wetlands and permanent secondary direct impacts to .84, totaling 4.85 acres of impact. Page 37 of the Revised Individual Section 404/Section 10 permit application states that the direct temporary impacts to wetlands will be 3.76 acres with secondary impacts to .74 acres with a total of 5.95 acres of impact. The FEIS should reconcile this discrepancy.

The DEIS and the Section 404 permit application do not clearly identify the locations of any required temporary access roads, equipment staging areas and potential impacts to wetland areas. The FEIS and permit application should clearly identify areas on the project plans and describe how wetland ecosystems will be protected from indirect impacts from these structures.

The DEIS and 404 permit application states that the project will not have any permanent loss of wetlands and that no wetlands would be filled for the project. These statements should be corrected to reflect that there will be permanent direct and secondary impacts (i.e., losses of wetland functions and services) due to the construction and operation of the project. The FEIS should clarify that placing fill over the new buried transmission line in wetlands or waters of the U. S. is considered a permanent direct impact. Also, permanent conversion of one type of wetland to another type is a permanent secondary impact.

The FEIS should clearly explain the methodology for the calculation of wetland and stream impacts. Additional secondary impacts should be considered and factored into the assessment of project impacts. These kinds of secondary impacts include, but are not limited to: impacts to riparian buffer and forest canopy over stream channels; impacts associated with stream bank stabilization; and alteration of ground or surface water flow patterns. On Page 37 of the 404 Permit application, the applicant describes a method for determining stream impacts. Its states the "in order to conservatively account for impacts due to temporary dewatering/diversion structures required during construction, five linear feet were added to all impacted streams culverted and non culverted and multiplied by the stream OHW width. The additional 5 feet were added to the summarized total impacts for a given stream or culverted stream". The final EIS and final permit application should discuss the origin of the stream impact method and its intended uses.

The FEIS should provide more detailed information regarding the potential impacts from proposed blasting in waterbodies, especially in areas with ephemeral and headwater streams, as well as more information on practicable alternatives to blasting. The FEIS should more clearly

and definitively demonstrate that no adverse effects on water quality, fish and wildlife or other aquatic resources would result from blasting.

Mitigation for blasting should be discussed in greater detail. Time of year restrictions on blasting activities may be necessary to protect sensitive aquatic species. Instream monitoring may be necessary to assure no adverse impacts to the aquatic ecosystem.

Construction Period Issues

Erosion/Sedimentation Control
The FEIS should discuss measures to prevent erosion and sedimentation during construction for a range of conditions spanning normal precipitation levels to severe weather events.

Stream crossings
We recommend that stream crossing techniques be described in detail in the FEIS and that protocols be established for determining the technique to be utilized for each crossing. The use of open cut construction techniques should include advance notification and be implemented with contingency plans to address severe weather events that could cause excessive erosion and sedimentation.

Blasting
The FEIS should discuss how the project will monitor groundwater wells in the area of the blasting activities and how well owners whose water quality or quantity may be adversely affected will be notified of blasting activities. TDI-NE should also make a specific commitment to potentially affected well-owners should harm to their wells occur.

Cumulative Impacts

The FEIS should address induced growth, e.g., additional residential, commercial or industrial development and the like that might be spawned by this project.

On Page 4-2 the discussion should not be limited to the generation portfolio in Vermont. Vermont is part of a six state interconnected power grid where electricity flows between states twenty-four hours a day. A project such as NECPL will impact the utilization and dispatch of power plants across the region and the associated environmental impacts may in fact occur outside of VT. To say that this project will impact only the electricity portfolio in Vermont does not account for how the power grid works and is in contrast with the discussion of regional system planning done by ISO NE on the previous page.