

## **Cricket Valley Energy Project**

### **Final Scoping Document**

**July 16, 2010**

#### **Introduction & State Environmental Quality Review**

Cricket Valley Energy Center, LLC (CVE) is proposing to construct, own and operate a proposed 1,000 megawatt (MW) natural gas-fired electric generating facility that will serve regional energy needs. Construction is planned to begin in early 2012 and commercial operation is planned to begin in early 2015.

The New York State Department of Environmental Conservation (NYSDEC) has been declared to be the Lead Agency for purposes of State Environmental Quality Review Act (SEQRA) review. Based upon its review of the long Environmental Assessment Form (EAF) submitted for the project, NYSDEC has designated the proposed project a Type I action under SEQRA. SEQRA requires the Department issue a Determination of Significance (see § 617.7) for all Type 1 and Unlisted actions. The Department, based on a review of the Long EAF, has determined the Cricket Valley Energy Center may have a significant impact on the environment. As such, the Department issued a Positive Declaration for the project on May 3, 2010.

The Department has determined that the size of the proposed project, the potential environmental impacts and the level of public interest warrants conducting public scoping. Therefore, along with the Notice of Positive Declaration, the Department also issued a Notice of Public Scoping. The public scoping process for the project included a written comment period of 30 days that closed on June 18, 2010. In addition, the Department conducted public scoping hearings on June 5, 2010 and June 9, 2010 at the Dover Middle School.

This Scoping Document sets forth the issues to be evaluated, analyzed and discussed in the Draft Environmental Impact Statement (DEIS) to be prepared for the proposed project.

#### **Description of the Proposed Action**

CVE, a non-franchised public utility, proposes to construct and operate a nominal 1,000 MW electric generating facility on an approximately 131-acre site in Dover, Dutchess County, New York. As shown on Figure 1, proposed project activities will be located within an approximately 57-acre Project Development Area of the parcel that is bounded to the east by State Route 22; to the north by the existing Consolidated Edison (ConEd) 345 kilovolt (kV) transmission line right-of-way (adjacent to the existing Iroquois natural gas pipeline); to the west by the MetroNorth commuter railroad line; and to the south by industrially zoned property owned by Howlands Lake Partners, LLC.

Three separate F-class technology combustion turbines, heat recovery steam generators, and steam turbines will be utilized in combined cycle mode; the stacks will be 282.5 feet tall. Clean-burning natural gas from the adjacent Iroquois Gas Transmission System, LP. (Iroquois) pipeline will be the sole fuel for the combustion turbines. Electric interconnection will be through the Con Ed 345 kV transmission lines

adjacent to the site. The project will use air-cooled steam condensers to minimize water demand. Process water supply is planned from new on-site bedrock wells. A zero liquid discharge process will internally reuse/recycle water. No process wastewater discharge is proposed. Sanitary discharge will be via an on-site septic system, and stormwater flows will be discharged using an on-site detention basin and other best management practices to maintain peak rates of discharge and minimize the potential for erosion and sedimentation. Construction is planned to begin in early 2012 and commercial operation is planned to begin in early 2015.

Although general characterization will occur of the entire property and its surroundings, the DEIS will focus on the 57-acre development parcel (the "Project Site"); approximately 30 acres of the Project Site will be developed.

Construction worker parking and laydown areas for the project have been identified as illustrated in Figure 1. Impacts associated with the temporary use of these areas during the approximately three-year construction process will be evaluated in the DEIS.

### **Summary of Discretionary Approvals and Involved and Interested Agencies**

Development and construction of the project may require or involve the following discretionary federal, state and local regulatory agency notifications, actions, permits and approvals.

#### ***Federal Review***

- United States Environmental Protection Agency (USEPA) – Prevention of Significant Deterioration (PSD) permit
- United States Army Corps of Engineers (USACE) – Section 404 permit
- United States Fish and Wildlife Service (USFWS) - Endangered Species Act Section 7 consultation
- Federal Aviation Administration (FAA) – Notice of Proposed Construction or Alteration

#### ***NYSDEC***

- Part 201 Air State Facility Permit
- Title V Operating Permit
- Title IV Acid Rain Permit
- Freshwater Wetlands Permit
- Clean Water Act Section 401 Water Quality Certification
- Natural Heritage and Endangered Species Program consultation
- State Pollutant Discharge Elimination System (SPDES) Permit for Storm Water Discharges Associated with Industrial Activities
- SPDES General Permit for Storm Water Discharges from Construction Activities
- Oil and chemical storage authorization
- Notification for large asbestos removal, if applicable

#### ***New York State Office of Parks, Recreation and Historical Preservation***

- National Historic Preservation Act Section 106 consultation

#### ***New York State Department of Transportation***

- Highway work permit for non-utility work

***New York State Public Service Commission (PSC)***

- Section 68 of the Public Service Law Certificate of Public Convenience and Necessity
- Section 69 of the Public Service Law Financing

***Dutchess County Health Department***

- Water Well Construction
- Septic System Approval
- Abandonment of Water Well, if applicable

***Dutchess County Planning Board***

- Special Permit/Site Plan Approval Review (advisory role)

***Town of Dover Town Board***

- Special Permit/Site Plan Approval
- Fire Prevention Permits
- Use of Explosives

***Town of Dover Planning Board***

- Erosion/Sediment Control
- Site Plan Review

***Town of Dover Zoning Board***

- Zoning Variance (height)

***Other Town Board Review***

- Architectural Review Board (Design Review)
- Building Inspector (Building/Occupancy Permits)

## Potential Environmental Impacts

The Environmental Assessment Form prepared for the proposed project identified project characteristics to allow for an assessment of where impacts would potentially occur. The following narrative reviews each of the categories considered and provides discussion of where impact potential will be further considered.

**Impact on Land** – The project is proposed within a portion of the site that has been previously developed and has a history of industrial use. Issues associated with redevelopment of an existing industrial site, such as demolition and clean-up, will need to be considered. In addition, the extent to which cut and fill would change site character or have implications to material demand or disposal will also need to be evaluated.

**Impact on Water** – The proposed facility is located immediately adjacent to DEC Freshwater wetland DP-22, more commonly referred to as the Great Swamp. The Great Swamp is a Class 1 wetland based on the fact it includes various habitat types and provides many important biological functions. 6 NYCRR Part 664 (Freshwater Maps and Classifications). As a State-protected wetland, the Great Swamp is a resource of more than just local importance.

No work is proposed immediately proximate to the Swamp River or wetlands west of the railroad track that transects the site. The extent of the project's impact on wetlands east of the railroad track (i.e., the site development area), a demonstration that the impact is unavoidable, and the implications to wetland functional value will need to be addressed.

The proposed use of on-site groundwater wells will require documentation to demonstrate that the water resource can serve the project without significant impact to other water resources or users. No process wastewater discharge is proposed; sanitary wastewater will be discharged to an onsite septic system and leach field. A description of the proposed wastewater zero liquid discharge system treatment scenarios and inputs, chemical and lubrication oil storage, and potential changes to storm water drainage flow patterns will also need to be considered and evaluated.

**Impact on Air** – The project will result in the construction of a major stationary source of air pollutants. Emissions from the project will need to be reviewed to determine compliance with applicable requirements of the Clean Air Act, including the National Ambient Air Quality Standards, Article 19 of the Environmental Conservation law and implementing regulations and policies. Although increased traffic has the potential to cause emissions of air pollutants during construction, operational traffic will be very limited. No increase in industrial land in the community will occur as a result of this project, as this industrially zoned property has historically been used for industrial use.

**Impact on Plants and Animals** – The project will be constructed in close proximity to the Great Swamp. The Great Swamp is Harlem Valley Calcareous Wetlands and of considerable importance to the region's biodiversity. The Great Swamp provides critical habitat for many different animal species, including rare, Threatened and Endangered species. The bog turtle is an endangered species in New York and is known to inhabit the Great Swamp. Wood turtles, a species of special concern in New York State, have also been documented in the Great Swamp. A timber rattlesnake den is located within a couple of miles of the Project site and may utilize the Great Swamp and the surrounding area for foraging during the summer months.

The project is proposed predominantly on property that has been in industrial use for many years. However, portions of the site that are not proposed for development include wetlands and other potential habitat areas. The project should consider the potential for direct or indirect impacts to federal or state listed species, including but not limited to those referenced above. The extent to which significant wildlife habitat could change or a substantial threat could occur to non-listed species should also be considered.

**Impact on Agricultural Lands** – While the project will not directly impact agricultural lands, the proposed construction worker parking and laydown site will temporarily use an existing agricultural field.

**Impact on Aesthetic Resources** – The project will replace existing buildings and stacks with new industrial buildings and taller stacks. The potential visual impact and visual change should be assessed, along with a determination as to whether the project would be visible to users of visually sensitive public resources or eliminate scenic views.

**Impact on Historic and Archaeological Resources** – Given the developed nature of the project development area, significant impact to historic or archaeological resources is not anticipated. However, the project should confirm the need for studies with the Office of Parks, Recreation and Historic Preservation (OPRHP) and consider whether any nearby historic resources would experience visual impact due to the project.

**Impact on Open Space and Recreation** – The project is proposed in an industrially zoned area of the Town of Dover on a site that has been in industrial use for many years. No significant impact to open space or recreation is anticipated, beyond those considerations associated with potential visual affect.

**Impact on Critical Environmental Areas** – The site includes two Critical Environmental Areas (CEA) designated by the State. The Mica Products CEA, within which the project is proposed, was designed to focus on the need for site cleanup associated with long-term industrial activities. Recognized environmental conditions at the site should be identified, and the extent to which site restoration will occur should be addressed. The portion of the site west of the Metro North rail line is included in the Swamp River CEA. No project activities are proposed in this portion of the site. Measures to prevent direct or indirect impact to this area should be considered. **Impact on Transportation** – The project will generate new traffic on the local network, particularly during the three-year construction period. Intersections surrounding the project site and proposed construction worker parking and laydown areas should be evaluated to determine the extent to which operational levels of service would be affected by project-related trips.

**Impact on Energy** – The project proposes a new source of electricity generation that will utilize combined cycle technology firing natural gas to respond to the region's energy needs.

**Noise and Odor Impact** – The project would result in a new source of noise that should be evaluated to determine compliance with local standards and with state guidance (Assessing and Mitigating Impacts from Noise – Program Policy DEP-00-1). No odor is anticipated from the proposed project.

**Impact on Public Health** – Public health, safety and welfare will need to be addressed through consideration of the project's air emissions. In addition, the project should describe other safety measures to be used to protect workers and the public.

***Impact on Growth and Character of Community or Neighborhood*** – The project is proposed on an industrial site where industrial uses have occurred for many years, and is not anticipated to significantly change the site character. However, implications of the project with regard to local zoning and other requirements; surrounding land use; community services and facilities such as police, fire, highway maintenance, schools and recreation; local infrastructure; fiscal impact; and socioeconomic effects should be considered. In addition, the extent to which the project's visual, traffic and/or noise impacts would affect the character of the community should be described.

## **Proposed Draft EIS Scope of Work**

The DEIS is intended to convey general and technical information regarding the potential environmental impacts of the proposed project to NYSDEC (as Lead Agency), the Town of Dover, as well as several other agencies involved in the review of the proposed project. The DEIS is also intended to convey the same information to the interested public. The Preparer of the DEIS is directed to keep the audience of the DEIS in mind as it prepares the document. Enough detail shall be provided in each subject area to ensure that most readers of the document will understand, and be able to make decisions based upon, the information provided.

The DEIS shall include the following.

### ***Cover Page and Table of Contents***

The DEIS will include all elements required by 6 NYCRR 617.9. The table of contents as currently proposed is as follows:

#### **EXECUTIVE SUMMARY**

##### **1. PROJECT DESCRIPTION**

- 1.1 Project Purpose, Public Need and Benefits
- 1.2 Site Description
- 1.3 Facility Overview
- 1.4 Overview of Combined-Cycle Operation
- 1.5 Project Description
  - 1.5.1 Facility Layout
  - 1.5.2 Site Preparation and Demolition
  - 1.5.3 Construction and Operational Laydown Areas
  - 1.5.4 Air Emission Sources and Control Systems
  - 1.5.5 Water Supply/Wastewater (Zero Liquid Discharge System)
  - 1.5.6 Material Handling and Storage
  - 1.5.7 Storm Water Management
  - 1.5.8 Solid Waste Management
  - 1.5.9 Instrumentation/Control Devices
  - 1.5.10 Electric Transmission Interconnection
  - 1.5.11 Natural Gas Interconnection Pipeline
  - 1.5.12 Security
  - 1.5.13 Fire Protection
- 1.6 Required Permits and Approvals
- 1.7 Project Schedule

##### **2. EARTH RESOURCES**

- 2.1 Applicable Laws, Regulations and Policies
- 2.2 Existing Conditions
  - 2.2.1 Existing Development and Recognized Environmental Conditions
  - 2.2.2 Geology and Seismology
  - 2.2.3 Topography and Soils
  - 2.2.4 Construction Worker Parking Site
- 2.3 Project Related Impacts and Mitigation Measures
  - 2.3.1 Planned Demolition and Clean-up
  - 2.3.2 Grading and Blasting
  - 2.3.3 Seismic Impacts
  - 2.3.4 Construction Best Management Practices
- 2.4 Conclusions

## 2.5 References

### **3. NATURAL RESOURCES**

- 3.1 Applicable Laws, Regulations and Policies
- 3.2 Existing Conditions
  - 3.2.1 Wetland Resources
  - 3.2.2 Vegetative Communities
  - 3.2.3 Wildlife Habitat
  - 3.2.4 Protected Species
  - 3.2.5 Construction Worker Parking Site
- 3.3 Project Related Impacts and Mitigation Measures
  - 3.3.1 Wetland and Setback Impacts
  - 3.3.2 Vegetative Clearing
  - 3.3.3 Potential Wildlife and Habitat Impact
- 3.4 Conclusions
- 3.5 References

### **4. AIR RESOURCES**

- 4.1 Applicable Laws, Regulations and Policies
- 4.2 Baseline Air Quality, Meteorology and Climatology
  - 4.2.1 Precipitation
  - 4.2.2 Temperature
  - 4.2.3 Winds
  - 4.2.4 Background Air Quality and Trends
- 4.3 Control Technology Analysis
- 4.4 Sources and Source Emission Parameters
- 4.5 Air Quality Impact Assessment
  - 4.5.1 Stack Height Optimization
  - 4.5.2 Air Quality Modeling
  - 4.5.3 Class I Impact Analyses
  - 4.5.4 Additional Impacts Analyses
  - 4.5.5 Construction-Related Activities
  - 4.5.6 Emission Reduction Credits
- 4.6 New York State Environmental Quality Review Analyses
  - 4.6.1 Acid Deposition
  - 4.6.2 Non-Criteria Pollutants
  - 4.6.3 Accidental Ammonia Release
  - 4.6.4 Combustion Plume Visibility
  - 4.6.5 Greenhouse Gases
- 4.7 Conclusions
- 4.8 References

### **5. WATER RESOURCES**

- 5.1 Applicable Laws, Regulations and Policies
- 5.2 Existing Conditions
  - 5.2.1 Surface Waters
  - 5.2.2 Hydrogeology and Groundwater Resources
- 5.3 Potential Construction Impacts
- 5.4 Water Supply
  - 5.4.1 Project Water Demand
  - 5.4.2 Water Supply Alternatives
  - 5.4.3 Proposed Water Source
  - 5.4.4 Discussion of Detailed Pump Test Program Results
  - 5.4.5 Water Treatment Requirements
- 5.5 Wastewater Disposal
  - 5.5.1 Anticipated Wastewater Volumes
  - 5.5.2 Zero Liquid Discharge System
  - 5.5.3 Treatment and Waste Disposal Requirements
- 5.6 Stormwater Management

5.6.1 Existing Site Stormwater Runoff

5.6.2 Post-Development Runoff

5.6.3 Best Management Practices

5.6.4 Anticipated Stormwater Impacts

5.7 Conclusions

5.8 References

## **6. COMMUNITY RESOURCES**

### **6.1 Land Use, Zoning and Community Character**

6.1.1 Applicable Laws, Regulations and Policies

6.1.2 Land Use Resources

6.1.2.1 Existing Land Uses

6.1.2.2 Potential Impacts and Mitigation

6.1.3 Zoning and Regional Requirements

6.1.3.1 Description of Applicable Programs and Policies

6.1.3.2 Anticipated Consistency with Programs and Policies

6.1.4 Community Character

6.1.5 Conclusions

6.1.6 References

### **6.2 Visual Resources and Aesthetics**

6.2.1 Applicable Laws, Regulations and Policies

6.2.2 Character and Visual Quality of the Existing Landscape

6.2.3 Visual Characteristics of the Project

6.2.4 Viewshed Analysis

6.2.5 Visual Impact Assessment

6.2.6 Conclusions

6.2.7 References

### **6.3 Traffic and Transportation**

6.3.1 Applicable Laws, Regulations and Policies

6.3.2 Existing Conditions

6.3.2.1 Key Intersections for Construction and Operation

6.3.2.2 Roadway Characteristics and Use

6.3.2.3 Accident History

6.3.2.4 Existing Intersection Service Levels

6.3.3 Future Traffic Conditions Without the Project

6.3.3.1 Traffic Growth and Other Planned Projects

6.3.3.2 Future No-Build Intersection Service Levels

6.3.4 Construction Traffic Impacts

6.3.4.1 Anticipated Construction Parking and Traffic Characteristics

6.3.4.2 Construction Intersection Service Levels

6.3.5 Operational Traffic Impacts

6.3.5.1 Anticipated Operational Traffic Characteristics

6.3.5.2 Operational Intersection Service Levels

6.3.6 Potential Rail Usage

6.3.7 Conclusions

6.3.8 References

### **6.4 Noise**

6.4.1 Applicable Laws, Regulations and Policies

6.4.2 Existing Project Area Sound Levels

6.4.3 Predicted Project Noise Impacts

6.4.3.1 Construction Noise

6.4.3.2 Operational Noise

6.4.4 Evaluation of Facility Noise Levels and Summary of Sound Abatement Measures

6.4.5 Conclusions

6.4.6 References

### **6.5 Electric and Magnetic Field Effects**

6.5.1 Applicable Laws, Regulations and Policies

6.5.2 Proposed Electrical Interconnection

6.5.3 Anticipated Field Effects

6.5.4 Conclusion

6.5.5 References

## **6.6 Historic and Archaeological Resources**

6.6.1 Applicable Laws, Regulations, and Policies

6.6.2 Archaeological Resources

6.6.3 Historical and Architectural Resources

6.6.4 Unanticipated Discoveries Plan

6.6.5 Conclusions

6.6.6 References

## **6.7 Socioeconomics**

6.7.1 Applicable Laws, Regulations and Policies

6.7.2 Construction and Operational Workforce Requirements

6.7.3 Impact on Local Services

6.7.3.1 Fire Protection

6.7.3.2 Police Protection

6.7.3.3 Medical Facilities

6.7.3.4 Schools

6.7.3.5 Solid Waste

6.7.3.6 Utility Services

6.7.3.7 Housing

6.7.4 Economic Effects of Project Construction

6.7.4.1 Workforce Availability

6.7.4.2 Construction Payroll and Secondary Benefits

6.7.5 Economic Effects of Project Operation

6.7.5.1 Workforce Availability

6.7.5.2 Operational Payroll and Secondary Benefits

6.7.5.3 Real Property Taxation

6.7.6 Environmental Justice

6.7.7 Conclusions

6.7.8 References

## **7. ALTERNATIVES**

7.1 Introduction

7.2 "No-Action" Alternative

7.3 Alternative Project Sites

7.4 Alternative Interconnections

7.5 Alternative Project Technology Including Cooling Technology

7.6 Alternative Emission Control Technologies

7.7 Facility Design Alternatives

7.8 Fuel Use Alternatives

## **8. OTHER ENVIRONMENTAL IMPACTS**

8.1 Reasonably Related Short-Term and Long-Term Impacts

8.2 Adverse Effects Which Cannot Be Avoided if the Project is Implemented

8.3 Irreversible and Irrecoverable Commitment of Resources

8.4 Growth-Inducing Aspects of the Proposed Action

8.5 Effect of the Proposed Action on the Use and Conservation of Energy

8.6 Conclusions

8.7 References

## **Scope of Environmental Impact Assessments**

### **Executive Summary**

The DEIS shall contain an Executive Summary that provides a brief description of the project; a list of involved agencies and approvals required for each such agency; a list of interested agencies; a list of federal agencies which have jurisdiction over the project but are not governed by SEQRA; a brief description of the adverse environmental impacts discussed in the DEIS, conclusions reached about the potential significant adverse impacts, and the mitigation proposed for such impacts; and a brief description of the alternatives to the project that are considered in the DEIS.

### ***Description of the Proposed Action and Project (Section 1.0)***

The following information relative to the description of the proposed action will be provided within the DEIS:

- A general description of the project area will include topography, existing road networks, surface waters, tax map boundaries of participating and adjacent land parcels, parcel acreages, and any easements or restrictions that could affect the proposed project.
- Site plan drawings of the project layout will show locations of the proposed electric generating equipment, access roads, substation and related electric transmission facilities, staging and storage areas, parking areas, operations and maintenance facilities, lighting, fences, and gates. Security measures will be described. Each of these project components will be portrayed relative to the locations of adjacent land parcels and private buildings, existing overhead electric transmission lines, property lines, wetlands, and public roads. A brief description of the decommissioning plan will be given.
- The DEIS will provide a description of gas and electric interconnections.

## **Earth Resources (Section 2.0)**

The DEIS will assess potential impacts related to existing site conditions, soils, geology, and seismology following appropriate procedures described below and, where applicable, using the data provided in the following documents:

- Jacob, Klaus, Seismic Vulnerability of New York State: Code Implications for Buildings, Bridges and Municipal Landfill Facilities, National Center for Earthquake Engineering Research (NCEER), Buffalo, New York (April 1993).
- U.S. Geological Survey (USGS). 2008 United States National Seismic Hazard Maps (2008).
- Cadwell, D.H., Surficial Geologic Map of New York: Lower Hudson Sheet. New York State Museum (1991).
- United States Department of Agriculture, Natural Resources Conservation Service, Soil Survey of Dutchess County, New York (2001).

### ***Site Conditions***

The proposed site for the facility is a 131 acre parcel. The site consists of an area previously disturbed by industrial activities over the last 60 years and also a large area of NYSDEC protected wetlands. The DEIS will include a detailed description of existing site conditions, with a primary focus on the 57-acre Project Development Area. Therefore, the DEIS will include:

- A description of existing structures and current and historical development at the Project Development Area. The description will include a discussion of solid waste disposed of onsite as a result of previous industrial activities at the site. A map indicating disposal areas and quantities will be included in the description.
- A summary of the Project Sponsor's American Society for Testing and Materials (ASTM) Phase I Environmental Site Assessment (ESA) for the project site and any resulting planned actions, as well as a summary of the results of any previously conducted Phase II ESAs
- A description of proposed demolition actions associated with site preparation activities, including discussion of anticipated waste disposal requirements.

### ***Geology***

The DEIS will include the following:

- A map delineating underlying bedrock types on the Project Development Area, and any area to be disturbed for off-site infrastructure or improvements required to support the project, including an evaluation for potential impacts due to project blasting, construction and operation, based on information to be obtained from available published maps and scientific literature, review of technical studies conducted on and in the vicinity of the project, and on-site field observations, test pits and/or borings.
- A description of the characteristics and suitability for construction purposes of each bedrock type identified above.
- A map delineating existing slopes (0 - 3%; 3 - 8%; 8 - 15%; 25 - 35%; 35% and over) on the

Project Development Area and any area to be disturbed for off-site interconnections or improvements required to serve the project.

- A proposed site plan showing existing and proposed contours at 2-foot intervals for the Project Development Area and any area to be disturbed for off-site interconnections or improvements required to serve the project at a scale sufficient to show all proposed buildings, structures, paved and vegetated areas, and construction areas.
- A preliminary calculation of the cut and fill necessary to construct the project, including separate calculations for topsoil, sub-soil and rock.
- A description and preliminary calculation of the amount of fill material to be brought in to the Project Development Area and any area to be disturbed for off-site interconnections or improvements required to serve the project.
- A description and preliminary calculation of the amount of cut material or spoil to be removed from the Project Development Area and any area to be disturbed for off-site interconnections or improvements required to serve the project.
- A description of excavation techniques to be employed.
- A delineation of temporary cut or fill storage areas to be employed.

### **Seismology**

The DEIS will include the following:

- A description of the regional geology, tectonic setting and seismology of the project vicinity.
- An analysis of the expected impacts of blasting, project construction and operation of the project with respect to regional geology, if such can be determined.
- An analysis of the impacts of typical seismic activity experienced in the project area on the operation of the project.

### **Soils**

The DEIS will include the following:

- A map delineating soil types on the Project Development Area, and any areas to be disturbed for off-site interconnections or improvements required to serve the project.
- A description of the characteristics and suitability for construction purposes of each soil type identified above, including a description of the recharge/infiltration capacity of each soil type, a discussion of any dewatering that may be necessary during construction, and whether the project will contain any facilities below grade that would require continuous dewatering.
- A map delineating depth to bedrock on the Project Development Area, and any area to be disturbed for off-site interconnections or improvements required to serve the project.
- A map delineating existing topography showing contours at 2-foot intervals on the Project

Development Area, and any area to be disturbed for off-site interconnections or improvements required to serve the project.

### ***Planned Demolition and Cleanup***

The DEIS will include a discussion of planned activities associated with demolition and removal of existing structures at the site. Procedures for determining appropriate use and/or disposal will be described. In addition, a description of planned site cleanup activities will be provided, including:

- Addressing solid waste disposal and other housekeeping issues throughout the site; and
- Specific plans associated with restoration of on-site wetland that has been affected by the site's historic uses.

### ***Blasting***

The DEIS will include the following:

- An assessment of geologic site conditions and construction specifications to determine the amount of bedrock required to be removed during construction. The assessment should be based on a "worst case scenario." The assessment will address the need for blasting to remove the amount of bedrock estimated for removal.
- A preliminary plan describing all blasting operations including location, blasting contractor qualifications, charge sizes and limits, quantity of discrete blasts, hours of blasting operations, warning measures, measures to ensure safe transportation, storage and handling of explosives, use of blasting mats, a plan for a pre-blasting videotape condition survey of nearby buildings and improvements, and coordination with local safety officials.
- A discussion of applicable blasting regulations for safety and vibration. The discussion should include any limits regarding vibrations during blasting and the measures to be employed to meet the limits, as well as vibration monitoring during blasting.
- An assessment of potential impacts of blasting to environmental features, above-ground structures, and below-ground structures such as pipelines and wells.
- An identification and evaluation of reasonable mitigation measures regarding blasting impacts, including the use of alternative technologies and /or location of structures, and including a plan for securing compensation for damages that may occur due to blasting.

### Natural Resources (Section 3.0)

The DEIS will address terrestrial resources on the project site and provide an analysis of the probable natural resource impacts of the construction and operation of the project. With regard to the assessment of natural resource impacts, the DEIS will address vegetation, wetland and wildlife resources and all potential impacts.

#### **Wetlands**

- To the extent applicable, the methodology for identifying wetland resources and assessing the potential impacts to wetlands will follow the procedures and use predictive data provided in the following documents:
  - For identifying the appropriate vegetation, hydrology, and soils criteria which would define federal-jurisdictional wetlands, the U.S. Army Corps of Engineers (ACOE) Wetlands Delineation Manual (Environmental Laboratory, 1987. Corps of Engineers Wetlands Delineation Manual. Technical Report Y-87-1. U.S. Army Engineer Waterways Experiment Station, Vicksburg, Mississippi).
  - For identifying appropriate vegetation, hydrology, and soils criteria which would define state-jurisdictional wetlands, the New York State Department of Environmental Conservation (NYSDEC) Freshwater Wetlands Delineation Manual (July 1995).
  - For identifying appropriate mitigation for unavoidable impacts to federally regulated wetlands, Compensatory Mitigation for Losses of Aquatic Resources (33 Code of Federal Regulations [CFR] Part 332).
  - For identifying appropriate mitigation for unavoidable impacts to state-regulated wetlands, Freshwater Wetlands Regulation Guidelines on Compensatory Mitigation (NYSDEC, 1993. [http://www.dec.ny.gov/docs/wildlife\\_pdf/wetlmit.pdf](http://www.dec.ny.gov/docs/wildlife_pdf/wetlmit.pdf)).
- An on-site identification and delineation of all federal and state regulated wetlands on-site and along all off-site interconnections or improvements required to serve the project.
- A description of the characteristics of all federal and state regulated wetlands identified above, including a description of the vegetation, soils, and hydrology data collected for each of the wetland sites identified, based on actual on-site wetland observations. All available information will be considered in the evaluation including the information on the Swamp River contained in *Hudson River Estuary Wildlife and Habitat Conservation Framework (2006) at pages 71 - 74*. The project sponsor will also rely upon any addition publically available assessments or surveys of the Great Swamp and its resources in completing the analysis of the resource and its impacts.
- A survey map of the location of all on-site federal- and state-regulated wetland boundaries identified above, as approved by NYSDEC.
- A qualitative and descriptive wetland functional assessment, including seasonal variations for all wetlands identified above for groundwater recharge/discharge; floodflow alteration; fish and shellfish habitat; sediment/toxicant retention; nutrient removal; sediment/shoreline stabilization; wildlife habitat; recreation; uniqueness/heritage; visual quality/aesthetics; and protected species habitat.
- A description of all Rare, Endangered or Threatened vegetation species within the wetland areas.

The description shall be based upon consultation with state and federal agencies. Any onsite surveys will also be utilized and referenced.

- An analysis of all wetlands within 100 feet of the Project Development Area and the wetlands identified above, observed in the field where accessible to examine their general characteristics and relationship, if any, to on-site, interconnection area or improvement area wetlands.
- An identification of all wetland disturbances including a quantification of wetland to be impacted, as well as a specific discussion of the wetland quality and its function to be lost. The DEIS will also address any indirect wetland impacts from stormwater runoff and groundwater withdrawal.
- DEC regulation and guidance provides that for all projects involving impacts to wetland resources, the project sponsor must demonstrate that impacts cannot be avoided. If wetland impacts cannot be avoided than impacts must be minimized to the maximum extent practicable. Lastly, if wetlands impacts cannot be avoided or minimized the Department can consider mitigation for the wetland impacts. As such, the DEIS will provide a detailed discussion of all measures undertaken to avoid, minimize and mitigate all wetland impacts.

### ***Vegetation***

The primary portion of the project site where the energy facility and associated structures will be constructed has been previously disturbed by former industrial activities at the site. Buildings and other areas associated with the previous activities do not contain any vegetation and will be addressed in other sections. There is a small portion of undisturbed upland area that contains vegetation. The ecological characteristics of these areas will be reviewed in the DEIS as follows:

- A description of the ecological communities on the site, according to Edinger, et al., Ecological Communities of New York State, Second Edition (2002).
- A characterization of the Project Development Area and any areas to be disturbed for off-site interconnections or improvements required to serve the project, as to the type of plant communities present, the structure of those communities and the dominant species of each community, based on on-site surveys.
- A list of the dominant species of herbaceous vegetation occurring on the Project Development Area and areas to be disturbed, and the relative abundance of each.
- A description of all Rare, Endangered or Threatened vegetative species within the vicinity of the project site. The description shall be based upon consultation with state and federal agencies. Any onsite surveys will also be utilized and referenced.
- A delineation of the vegetative communities-cover type present at the Project Development Area and off-site areas to be disturbed on the basis of recent aerial photography and field observations, including an identification and delineation of any unusual habitats or natural communities that could support listed threatened or endangered species or species of special concern (based on agency correspondence).
- Documentation of the structure of these communities (canopy, understory and ground cover) by visual observation identifying the structure and composition of the plant communities identified based on dominant species.

- An estimate of the species and number of all trees 12 inches or greater in diameter at breast height within the Project Development Area.
- An analysis of the impact of the construction and operation of the project and all off-site interconnections or improvements required to serve the project, on the vegetation identified, including a delineation of vegetative areas to be removed or disturbed.
- An identification and evaluation of reasonable mitigation measures, including the use of alternative technologies, regarding vegetation impacts identified.

### ***Wildlife***

- A characterization of the Project Development Area and any off-site interconnections or improvements required to serve the project as to the wildlife, including mammals, birds, amphibians, and reptiles, and wildlife habitats, that occur in, on, or in the vicinity of the Project Development Area and areas to be disturbed. The identification of wildlife on the project site will be based on spring and/or summer reconnaissance or systematic surveys, supplemented by available data from the New York State (NYS) Amphibian and Reptile Atlas project, the NYS Breeding Bird Atlas and range maps, and other similar reference sources.
- A list of the species of mammals, birds, amphibians, and reptiles reasonably likely to occur in, on or in the vicinity of the project site and the Project Development Area based on site observations and supplemented by publicly available sources.
- A description of all Rare, Endangered or Threatened wildlife species within the vicinity of the project site. The description shall be based upon consultation with state and federal agencies. Any onsite surveys will also be utilized and referenced.
- An identification and delineation of unusual habitats or natural communities which could support listed species or species of special concern (based on updated agency correspondence and field surveys).
- An analysis of the impact of the construction and operation, including air emissions, of the project and off-site interconnections or improvements required to serve the project on the wildlife, wildlife habitats, and wildlife travel corridors identified above.
- An identification and evaluation of reasonable mitigation measures, including the use of alternative technologies, regarding wildlife impacts identified.

## **Air Resources (Section 4.0)**

The DEIS will include an examination of the impacts of criteria pollutants and regulated non-criteria pollutants from the project on air quality. The DEIS will include a description of the existing climate and meteorology of the project area; an assessment of existing and historical air quality conditions; an inventory of proposed emission sources associated with the project; and an assessment of project technology and design, emissions, and air quality impacts.

The assessment of the project's impact on air quality will follow the procedures outlined, and use data contained, in the following documents.

For performing air quality dispersion modeling:

- NYSDEC DAR-10: NYSDEC Guidelines on Dispersion Modeling Procedures for Air Quality Impact Analyses (May 2006);
- A project-specific Dispersion Modeling Protocol to be approved by the NYSDEC and the United States Environmental Protection Agency (USEPA);
- USEPA Guideline on Air Quality Models (November 2005); and
- USEPA Draft New Source Review Workshop Manual (October 1990).

For determining stack height:

- USEPA, Guidelines for Determination of Good Engineering Practice Stack Height (USEPA Technical Support Document for the Stack Height Regulations), Document Number EPA-450/4-80-023R (June 1995).

For impacts on soil and vegetation:

- USEPA, A Screening Procedure for the Impacts of Air Pollution Sources on Plants, Soils and Animals, Document Number EPA-450/2-81-078 (1981).

For performing visibility modeling

- USEPA, Workbook for Plume Visual Impact Screening and Analysis. Document Number EPA-454/R-92-023 (October 1992).

For non-criteria pollutant ambient air limitations and benchmarks:

- NYSDEC DAR-1: Guidelines for the Control of Toxic Ambient Air Contaminants (November 1997).

For greenhouse gas emissions:

- NYSDEC Guide for Assessing Energy Use and Greenhouse Gas Emissions in an Environmental Impact Statement (July 2009).

The air quality impact analysis for criteria pollutants will include:

- An assessment of existing climate data (average and extreme conditions) for the region

surrounding the project, obtained from local climatological summaries, meteorological data sets from nearby stations, and/or other sources, as described in the Dispersion Modeling Protocol, required to determine the normals and extremes of wind speed, temperature, and precipitation.

- An assessment of existing air quality levels and air quality trends for criteria pollutants in the region surrounding the project including air quality levels and trends taken from regional air quality summaries and air quality trend reports, as described in the Dispersion Modeling Protocol.
- An existing major source inventory within the largest significant impact area plus 50 kilometers (if applicable), using data to be obtained from the NYSDEC and agencies from other relevant states, the inventory of all sources used in the analysis to be an appendix to the application and verified by the source state or per DAR-10 requirements and the Dispersion Modeling Protocol. An assessment of the impacts from quantifiable emissions, including those generated from construction of the project in accordance with NYSDEC Policy DAR-1 (1997) and USEPA procedures for estimating emissions contained in AP-42.
- A control technology assessment for pollutants subject to Prevention of Significant Deterioration (PSD) review and Nonattainment New Source Review (NNSR) promulgated under 40 CFR 52.21 and 6 NYCRR 231, respectively, to determine the best available control technology (BACT) and lowest achievable emission rate (LAER) for the applicable pollutants.
- Pursuant to DAR-10, an assessment of optimal stack height taking into consideration Good Engineering Practice (GEP) stack height for the project, air quality related values, Federal Aviation Administration restrictions, and aesthetic or other considerations.

An assessment of stack emissions of criteria and other regulated air pollutants, stack emissions being provided in hourly and annual estimates based on manufacturer's data, emission factors as published in USEPA Publication AP-42 (compilation of Air Pollutant Emission Factors, design control efficiencies, and other data or specifications related to the design of the project).

- A calculation of the number of nitrogen oxide (NO<sub>x</sub>) and volatile organic compound (VOC) emission offsets to be obtained at the 1.15 to 1.0 ratio and how those offsets will be obtained in accordance with 6 NYCRR 231, and a discussion of the applicability and requirements of the "cap and trade" program pursuant to 6 NYCRR 227-3 and the federal Title IV acid rain program.
- An assessment of the potential impacts to ambient air quality that may result from stationary combustion source emissions from the project, the modeling to be done using the models and input meteorological data approved by the NYSDEC and USEPA in accordance with the Dispersion Modeling Protocol, a computer file output of dispersion modeling results to be provided to NYSDEC and USEPA.
- An assessment of the impacts to soils and vegetation that may result from stationary combustion source emissions of the project using USEPA screening criteria.
- An assessment of the air quality impacts of any significant economic growth resulting from development of the project in accordance with the Dispersion Modeling Protocol.
- For those pollutants for which project impacts exceed USEPA's Significant Impact Levels, an assessment of the predicted cumulative air quality impacts from the dispersion modeling analyses to the Prevention of Significant Deterioration (PSD) increments and air quality standards.
- In accordance with the State Acid Deposition Control Act, an assessment of the project's

contribution to the New York State total deposition of sulfates and nitrates at defined sensitive receptors as identified in the Dispersion Modeling Protocol.

The air quality impact analysis for regulated Non-Criteria Pollutants will include:

- A review of pertinent available data on non-criteria pollutants that may be emitted by natural gas-fired combustion turbines, including formaldehyde, ammonia, and any other non-criteria pollutants with emission factors such as those published by USEPA that may be identified after review of available emissions data.
- An assessment of the emission rates for non-criteria pollutants that may be emitted from the project exhaust stacks.
- An estimation of the potential ground level air concentrations (short-term and annual averages) of non-criteria pollutants due to the project, quantified using the models and approach as discussed in the Dispersion Modeling Protocol.
- A comparison of the maximum predicted (ground level) air concentrations to benchmark air concentrations for both short- and long-term exposures. These benchmark air concentrations will include NYSDEC short-term guideline concentrations (SGCs) and annual guideline concentrations (AGCs), and any other applicable health risk-based criteria referenced in DAR-1.
- If the maximum predicted ground level concentration of any non-criteria pollutant is estimated to exceed the respective SGC, AGC, or health risk-based benchmark air concentration, the applicant will consult with NYSDEC and New York State Department of Health (NYSDOH) to develop a protocol for performing a cumulative air quality impact analysis. An offsite-consequence analysis for ammonia that will be stored on-site for use in the proposed selective catalytic reduction (SCR) system, including an analysis of an accidental release scenario for ammonia performed to meet the requirements of USEPA's regulations implementing Section 112(r) of the Clean Air Act.

The DEIS will include an assessment of greenhouse gas emissions per the NYSDEC Guide for Assessing Energy Use and Greenhouse Gas Emissions in an Environmental Impact Statement and other relevant state and federal guidelines. This assessment should take into account the regional greenhouse gas emission reductions that may occur through displacement of less efficient electric generating sources.

## **Water Resources (Section 5.0)**

The DEIS will include in Section 5 a study of the water resource impacts of the construction and operation of the project. Regarding water resource impacts, CVE will provide:

### ***Water Supply***

- An estimate of the hourly and daily peak and the hourly and daily average water supply needs and consumptive water losses of the project, in gallons, for each day of a typical year, broken down by power production, domestic, and fire protection uses, with daily, monthly and annual totals.
- An estimate of the daily peak and daily average flow rate needs of the project in gallons per minute.
- A description of water conservation measures incorporated into the project design.
- A description of the methodology used (i.e., estimate, comparison, data, calculation) to prepare the water supply needs and minimum and maximum flow rate estimates stating all factors used.
- A description of the water chemistry requirements for water to be supplied to the project, indicating any requirements that are more stringent than New York State standards for potable water, and describing any additional water treatment that will be necessary to obtain the desired water chemistry.
- An identification of alternatives considered and the water supply source or sources to be used by the project, including an analysis of the available capacity of the water supply source in terms of quantity, quality, and pressure and an analysis of the impacts of such water usage during both normal and drought periods on other users of the water supply source or aquifer (including potential impacts to wetlands or the Swamp River), and an identification of all infrastructure requirements or improvements necessary to serve the project.
- An evaluation of potential effects of the long-term use of the proposed water supply on nearby groundwater wells and on regional water supplies. This assessment shall take into account the results of the 1999 Chazen Companies study of the Harlem Valley aquifer.
- The Project Sponsor will complete a 72-hour pump test of the proposed bedrock wells to demonstrate adequate water yield and monitoring to evaluate potential impacts to wetlands, water bodies and off-site wells. A pumping test and aquifer test protocol will be developed for pre-approval prior to implementing the pump test. The protocol will show pumping well locations, monitoring well locations, conditions that would trigger extension of tests beyond 72 hours, discussion of the relationship and likely quality impacts of pumped wells relative to the proposed septic system, discharge locations for water pumped during the test, and surface water and wetland gauging sites. Agency personnel will be invited, in the protocol, to visit the site during the test to observe the flow test procedure. The protocol will describe the proposed analysis of on-site and off-site impacts including surface water bodies and nearby private wells, and any water supply quality concerns associated with any potential contaminant sources on the site.
- An identification of contingency plans in the event the proposed water supply becomes unavailable for either a short-term or long-term interruption.

## **Wastewater**

- A water balance diagram for minimum, average and maximum water use operating conditions for the project that shows in detail all water sources, plant water uses, water treatment facilities, wastewater treatment facilities, and wastewater discharges.
- An identification and description of any process wastewater generated from the project, including an estimate of the hourly and daily peak and average volumes and effluent characteristics.
- An identification and evaluation of reasonable mitigation measures, including the use of alternative technologies, regarding wastewater generation and disposal impacts.
- A description of the proposed zero liquid discharge system and other proposed disposal methods for wastewater generated from the project, including a review of options explored.
- A discussion regarding disposal of solids resulting from the zero liquid discharge process, including potential for productive reuse, anticipated locations and methods of disposal, and status of agreements with applicable disposal facilities.

## **Groundwater**

- A map of the Project Development Area showing the depth to seasonal high groundwater table.
- A discussion of the need and procedures planned for construction dewatering.
- A map based on publicly available information showing all areas within a 1-mile radius of the Project Development Area delineating all groundwater aquifers and groundwater recharge areas, and identifying groundwater flow direction, groundwater quality, and location, depth, yield and use of all public and private groundwater wells or other points of extraction of groundwater, and including delineation of well water and aquifer protection zones.
- As detailed in the pumping test and aquifer test protocol, results of short-term and long-term groundwater pumping tests, including an analysis and evaluation of all reasonably potential impacts created by the construction or operation of the project on groundwater quality and quantity in the project area, including potential short- and long-term impacts on public and private water supplies, the Swamp River, wetlands, and wellhead and aquifer protection zones.

## **Surface Waters**

- An identification of the extent of all Waters of the State of New York and the United States within the Project Development Area.
- An identification of the extent of all Waters of the State of New York and the United States along and adjacent to all off-site interconnections or improvements required to serve the project.
- A description of the characteristics of all Waters of the State of New York and the United States identified above.
- An analysis of the impact of the construction and operation of project elements on the surface waters identified above.
- An identification and evaluation of reasonable mitigation measures, including the use of alternative technologies, regarding impacts on the Waters of the State of New York and the United States and the other surface waters identified above.

### **Construction/Operation Stormwater Runoff**

- A description of all techniques that will be used to prevent stormwater contamination, and a conceptual site plan showing all intended structures and improvements to prevent stormwater contamination, including chemicals, lubricating oil, diesel fuel, or other contaminants from storage facilities, product delivery, plant operation, plant maintenance, waste handling activities, and vehicles in parking lots or other areas.
- An identification and evaluation of reasonable mitigation measures, including the use of alternative technologies, regarding stormwater quality impacts.

### ***Erosion Control***

- A preliminary plan for the collection and treatment of stormwater runoff from the site during construction and operation, including: delineation of watershed boundaries and subbasins; existing flowpaths and proposed flowpath relocations; the location, type, and size of all existing and proposed storm drainage facilities; stormwater outfall and/or surface disposal locations and conditions; design flows and outfall velocities; proposed method of stabilizing outfall channels; the location, size and type of nearest upstream and downstream bridge or culvert affected by the project; location, size and structural details of stormwater detention facilities; preliminary hydraulic calculations for the 2-, 10- and 100-year storm frequencies for both existing and proposed conditions; delineation of affected floodways and flood hazard areas; a description of techniques that will be used to prevent or control stormwater-related soil erosion, runoff and subsequent sedimentation in areas that have been cleared and graded, both during construction and operation; an analysis of stormwater impacts; and an identification and evaluation of reasonable mitigation measures regarding stormwater impacts, including the use of alternative technologies and subsurface disposal.
- The above analysis will be completed in accordance with the Department's SPDES General Permit for Stormwater Discharges from Construction Activity -GP-0-10-001 and General Permit (MSGP) for Stormwater Discharges Associated with Industrial Activity (GP-0-06-002).

## **Community Resources (Section 6.0)**

### *Land Use/Zoning*

The DEIS will include in Section 6.1 a study of the land uses in the vicinity of the Project Development Area. The study will include:

- A map of all existing land uses on and within a 1-mile radius of the Project Development Area, including representation on an aerial photograph.
- A map of existing land use zones within a 1-mile radius of the Project Development Area, including a description of the permitted uses within each zone.
- A map of all publicly known proposed land uses within a 1-mile radius of the Project Development Area, gleaned from interviews with state and local planning officials, from the applicant's public involvement process, or from other sources.
- A qualitative assessment of the compatibility of the project with existing, potential and proposed land uses, and local and regional land use plans, within a 1-mile radius of the Project Development Area.
- After consultation with appropriate state and local agencies, an identification and analysis of the recreational land uses in the vicinity of the Project Development Area that might be affected by the sight or sound of the construction or operation of the project and any off-site improvements required. Where recreational resources exist, a description of the resource with available information about volume and type of use by season will be provided. The analysis will also consider the 2009 Open Space Conservation Plan and the identification of the Great Swamp as an important resource. An assessment of the project's compliance with local zoning requirements, setbacks, site development regulations and local code requirements applicable to the zone and scale and type of development.

### ***Visual Resources and Aesthetics***

The DEIS will include a visual impact assessment (VIA) to determine the extent and assess the significance of project visibility in Section 6.2. The components of the VIA will include identification of visually sensitive resources, viewshed mapping, confirmatory visual assessment fieldwork, visual simulations, visual impact analysis, and proposed visual impact mitigation.

The methodologies, standards, and definitions for assessing visual resources will generally follow the procedures outlined in the following documents:

- NYSDEC, Assessing and Mitigating Visual Impacts, DEP-00-2, 2000.
- NYSDEC, D.E.C. Aesthetics Handbook, 1996.
- U.S. Forest Service, Landscape Aesthetics: A Handbook for Scenery Management, Agriculture Handbook Number 701, 1995.

The VIA will address the following issues:

- The character and visual quality of the existing landscape, including visibility of project

operational characteristics, such as visible plumes from the stack and project lighting.

- Visibility of the project, including all roadways to be constructed, if any, and all gas, electric and other off-site interconnections or improvements required to serve the project, within a study area as determined by the viewshed analysis described below.
- Appearance of the project upon completion, including façade colors and textures.
- Lighting (including lumens, location and direction of lights for facility area and/or task use and safety, including stack requirements), and similar features.
- Representative views (photosimulations) of the project, include side and rear views, indicating approximate elevations
- Nature and degree of visual change resulting from construction of the project, including all roadways to be constructed, if any, and all gas, electric and other types of off-site interconnections or improvements required to serve the project.
- Nature and degree of visual change resulting from operation of the project.
- Proposed mitigation and mitigation alternatives, including landscaping, lighting options for work areas and safety requirements, and lighting options for stack lighting as required by the Federal Aviation Administration (FAA).

The viewshed analysis component of the VIA will be conducted as follows:

- A viewshed map of the project study area will be presented on a 1:24,000 scale topographic base map. The viewshed study area is defined as the area within a 5-mile radius of the center of the Project Development Area. The viewshed map(s) will provide an indication of areas of potential visibility based only on topography and the top of the structure(s) with the highest peak elevation (the stacks). The potential screening affects of vegetation will also be shown. The map(s) will be divided into foreground, midground and background areas based on visibility distinction and distance zone criteria as defined by the references cited above. Visually sensitive resources of statewide concern as defined in NYSDEC's Assessing and Mitigating Visual Impacts, cultural and historic resources, and public vantage points within the viewshed study area will be included on the map(s) or an overlay. An overlay indicating landscape similarity zones will be included.
- The VIA will include a detailed description of the methodology used to develop the viewshed maps, including software, baseline information, and sources of data.
- The viewshed mapping will be used to determine the sensitive viewing areas and locations of viewer groups in the project vicinity. These will include recreational areas, residences, businesses, historic sites (listed or eligible), and travelers (interstate and other highway users).
- Viewpoints will be selected based on the following criteria:
  - Representative or typical views from unobstructed or direct line-of-sight views;
  - Significance of viewpoints, especially historic sites, high public use areas, parks and scenic outlooks;
  - Level of viewer exposures, i.e., frequency of viewers or relative numbers, including residential areas, business centers, recreation areas, or high volume roadways;
  - Proposed land uses; and
  - Input from local public sources, including consultation with the Town Board or Planning Board.

- Leaf-off simulations (photographic overlays) of the project, including all off-site improvements required to serve the project, will be prepared from the representative viewpoints established to demonstrate the post-construction appearance of the project. Representative viewpoints are anticipated to be from:
  - Residential areas off of Cricket Hill Road where the existing stacks on the site can be seen;
  - Route 22, at the 345 kV ConEd easement, where clearing provides the most direct view towards the site; and
  - The middle school/high school complex playing fields, where elements of the existing facility are visible through the treeline.

The visual simulations of the project from each of the viewpoints will be limited to the project as it would appear in typical operating conditions. At least one photosimulation should show the visible water vapor vapor plume from the exhaust stack under reasonable worst case operating conditions.

- Each set of existing and simulated views of the project will be compared and the change, if any, in visual character will be identified. Based on the likely viewers, and their likely visual sensitivity, the potential impact will be discussed. Where visual impacts from the proposed facility are identified, potential mitigation measures will be outlined, and the extent to which they effectively minimize such impact will be discussed.
- An overlay of a USGS map showing the photographic view locations and the results of computer visibility potential modeling will be provided.

### ***Traffic and Transportation***

The DEIS will include a study of the traffic and transportation impacts of the construction and operation of the project in Section 6.3. In addition to activities at the project site, potential construction laydown areas identified for the project are illustrated on Figure 1.

The methodology for assessing the potential traffic and transportation impacts from traffic generated by the construction and operation of the project will generally follow the methodology provided in Transportation Research Board, National Research Council, Highway Capacity Manual, Special Report 209, Fourth Edition 2000.

The study will include a description of the pre-construction characteristics of the roadways in the vicinity of the project, including State Routes 22 and 55, and Cricket Hill Road. To the extent the same intersections will be evaluated, the study will consider data collected in 2008 for the Knolls of Dover project. The description will include:

- A review of existing historical data on vehicle traffic and accidents obtained from the New York State Department of Transportation, Dutchess County, and the Town of Dover.
- A review of local school bus routes and schedules.
- An identification of approach and departure routes to and from the Project Development Area for police, fire, ambulance and other emergency vehicles.

- A review of available load bearing and structural rating information for expected project traffic routes;
- The results of peak turning movement counts for typical weekday morning and weekday afternoon at the following intersections: Route 22/Cricket Hill Road; Route 22/Route 55/Pleasant Ridge Road; Route 22/Dover High School; and Route 22/Dover Furnace Road/Sherman Road.
- The results of 24-hour traffic volume counts (vehicle classification counts), including a calculation of average daily traffic (ADT) for each intersection listed above.
- For each intersection listed above, documentation of the number of approach lanes, the lane widths, shoulder widths, traffic control devices by approaches, and sight distances.
- A calculation of Level of Service (LOS) for each intersection listed above, giving detail for each turning movement.
- An estimate of the annual rate of traffic growth in the vicinity of the project incorporating general growth and growth from planned land use changes, but not including projected traffic for the project, including the source and manner of calculation of the estimate.

The study will include an estimate of the trip generation and trip distribution characteristics of the project during both construction and operation. The estimate will include:

- A description of each major phase of construction, including duration of construction, daily shift periods and project totals.
- Identification of potential offsite laydown and construction worker parking areas to be used during the construction effort.
- For each major phase of construction, an estimate of the number and frequency of vehicle trips, including time of day and day of week arrival and departure distribution, by size and type of vehicle.
- An identification of approach and departure routes to and from the Project Development Area for vehicles carrying equipment or materials for construction of the project.
- For demolition activity, a separate estimate of the number and frequency of vehicle trips, including time of day and day of week arrival and departure distribution, and including a delineation of approach and departure routes, by size, weight and type of vehicle.
- An estimate of the number of employees per shift for each major phase of construction.
- A description of the potential use of rail shipments for construction deliveries, and if likely, the routes or rail recertification required to reach the Project Development Area.
- A description of the operation of the project, including the number of employees per shift, operating shift periods and seasonal and annual totals.
- An estimate of the number and frequency of vehicle trips generated during operation of the project, including time of day and day of week arrival and departure distribution, by size and type of vehicle.
- An identification of approach and departure routes to and from the Project Development Area for

vehicles carrying chemicals or hazardous materials for operation of the project.

The study will include a conceptual site plan, drawn at an appropriate scale, depicting all Project Area Development Area driveway intersections, showing horizontal and vertical geometry, the number of approach lanes, the lane widths, the shoulder widths, traffic control devices by approaches and site distances.

The study will include an analysis and evaluation of the traffic and transportation impacts of the project, including:

- A comparison of projected future traffic conditions with and without the proposed project, including a calculation and comparison of the LOS for each intersection listed above, giving detail for each turning movement, the analysis to be conducted separately for the peak construction impacts of the project and for the typical operations of the completed project.
- An evaluation of the adequacy of the road system to accommodate the projected traffic, the analysis to be conducted separately for the peak construction impacts of the project and for the typical operations of the completed project.
- An identification and evaluation of reasonable mitigation measures regarding traffic and transportation impacts, including the use of alternative technologies, the construction of physical roadway improvements, and the installation of new traffic control devices. Additional mitigation measures will be considered based upon the specific conclusions of the analysis, including but not limited to alternative shift change times or staggered shift changes, law enforcement controlled intersections during peak times, rail deliveries, and specific travel routes.
- A cumulative analysis of traffic impacts from both the project and the proposed Knolls of Dover development.

### **Noise**

The DEIS will assess impacts from noise in Section 6.4 generally following the procedures and using data provided in the following documents:

- NYSDEC, Assessing and Mitigating Noise Impacts (October 2000).
- USEPA, Office of Noise Abatement and Control, Protective Noise Levels. USEPA Report No. 550/9-79-100. 1978.

Noise source input data for the computer models used to predict noise impacts will be a combination of data acquired from equipment suppliers, data based on actual measurements of similar equipment at other facilities, and computations from published empirical equipment noise equations.

The DEIS will include:

- A map showing the location of the nearest noise receptors in relation to the Project Development Area, including the nearest residential and other sensitive receptor locations.
- Identification of selected monitoring locations:
  - o Green Acres Conference Center, northwest of the Project Development Area;

- o Electric transmission corridor at Vincent Road, north of the Project Development Area;
  - o Cricket Hill Road at Route 22, northeast of the Project Development Area;
  - o East property line along Route 22; and
  - o North Chippawalla Road, south of the Project Development Area.
- An evaluation of ambient pre-construction baseline noise conditions (long-term residual sound levels) – the residual noise level (L90), peak noise level (L10), and equivalent noise level (Leq) at the nearest noise receptors, using actual measurement data recorded as a function of time and frequency using a Type I precision real time sound level meter (SLM) and octave band frequency spectrum analyzer.
  - A description of the noise design goals for the project at the nearest noise receptors, including the nearest residential and other sensitive receptor locations, based on the NYSDEC guidance and Town of Dover noise ordinance.
  - An estimate of noise levels at the nearest noise receptors during major construction phases using a hemispherical free field noise prediction computer model that uses geometrical spreading, atmospheric and anomalous attenuation, on-site structural barrier effects, and effects of prominent terrain features to calculate the sound level decrease with increasing distance from the source. The model will account for the noise emissions from each source in each octave band that propagates to each point on a specified receptor grid, identifying the source and value of all data inputs used. The increase in daytime equivalent sound levels (Leq) will be shown for the nearest noise receptors.
  - An identification and evaluation of reasonable noise abatement measures for construction activities for each major construction phase.
  - An estimate of noise levels at the nearest noise receptors during operation of the project using a hemispherical free field noise prediction computer model that uses geometrical spreading, atmospheric and anomalous attenuation, on-site structural barrier effects, and effects of prominent terrain features to calculate the sound level decrease with increasing distance from the source. The model will account for the noise emissions from each source in each octave band that propagates to each point on a specified receptor grid, identifying the source and value of all data inputs used. The increase in nighttime equivalent sound levels (Leq) will be shown for the nearest noise receptor.
  - An identification and evaluation of reasonable noise abatement measures, including the use of alternative technologies, for the final design and operation of the project during all operating scenarios.

### **Electric Magnetic Fields**

The DEIS will describe the electrical interconnection proposed for the project in Section 6.5. It is anticipated that the interconnection will occur to the ConEd 345 kV transmission system located immediately adjacent to the Project Development Area's northern boundary. No new transmission facilities requiring an Article VII filing will be required.

- The DEIS will describe the interconnecting facilities including the overhead electric transmission conductors, and interconnecting substations.

- The DEIS will include an analysis of the levels of electric and magnetic fields (EMF) that will result at the edge of the right-of-way proposed for the new conductors between the proposed new combined CVE substation and ConEd substation. The DEIS will include an analysis with all input and output data showing that operation under summer normal, winter normal, and short term emergency loading conditions of the proposed interconnection will comply with:
  - The Public Service Commission's applicable electric field strength standards, as set forth in Opinion 78-13 (issued June 19, 1978); and
  - The applicable provisions of the Commission's Interim Policy Statement on Magnetic Fields (dated September 11, 1990).

### ***Cultural Resources***

The DEIS will include in Section 6.6 an assessment of the probable impacts on cultural resources of the construction and operation of the project. The methodology for assessing the potential impacts on cultural resources will be in accordance with standards and methods contained in Standards for Cultural Resource Investigations and the Curation of Archaeological Collections in New York State, published by the New York Archaeological Council in 1994.

The DEIS will include a summary of the nature of the probable environmental impact on any historic or cultural resources identified and identify how those impacts are avoided or minimized. The New York State Office of Parks, Recreation and Historic Preservation (OPRHP) will be consulted throughout the investigation.

### Archaeological Resources

The project site has been substantially disturbed by previous industrial activities at the site. The project sponsor will seek written confirmation from OPRHP that an archaeological investigation of the site and the interconnection is not warranted.

If OPRHP determines the project sponsor must undertake an archaeological investigation, the assessment in the DEIS will include:

- Phase IA studies, and if requested through consultation with OPRHP, Phase IB studies for the Area of Potential Effect (APE) for the project site and any areas to be used for interconnections, including a description of the methodology used for such studies;
- Where warranted based on Phase I study results, Phase II intensive archaeological field investigations will be conducted to assess the boundaries, integrity and significance of cultural resources identified in the Phase I studies. Phase II studies will be designed to obtain detailed information on the integrity, limits, structure, function, and cultural/historic context of an archaeological site, as feasible, sufficient to evaluate its National Register eligibility. The need for and scope of work for such investigations will be determined by the project archaeologists in consultation with OPRHP.

- All archaeological materials recovered during project cultural resource investigations will be cleaned, catalogued, inventoried and curated according to New York Archaeological Council standards. To the extent possible, recovered artifacts will be identified as to material, temporal, or cultural/chronological associations, style and function. The project archaeologists will provide temporary storage for artifacts until a permanent curatorial facility is identified.
- The DEIS will include an Unanticipated Discoveries Plan that will identify the actions to be taken in the unexpected event that resources of cultural, historical or archaeological importance are encountered in the excavation process. This plan will include a provision for work stoppage upon the discovery of possible archaeological or human remains. In addition, the plan will specify that the methodology used to assess any discoveries will follow the most recent Standards for Cultural Resource Investigations and Curation of Archaeological Collections in New York State. Such an assessment, if warranted, will be conducted by a professional archaeologist, qualified according to the standards of the New York State Archaeological Council and the National Park Service 36 CFR 61.

In the event that significant cultural resources are identified, the Project Sponsor will identify potential measures to avoid or minimize adverse effects to these resources. The OPRHP Coordinator will be consulted throughout the investigation and the Town of Dover and NYSDEC will be informed of the status and results of the investigations.

#### Historical Resources

The Project Development Area has been substantially disturbed by previous industrial activities at the site and a recent fire in 1996. Some of the buildings are over 50 years old and may qualify for inclusion on the National Register. The Project Sponsor will seek written confirmation from OPRHP that a historical investigation of the onsite structures and interconnection is not warranted. If OPRHP determines that an historical investigation of the onsite structures is warranted, the Project Sponsor will adhere to current OPRHP guidelines.

Regardless of OPRHP's determination regarding onsite structures, the DEIS will evaluate the potential impact to historic structures in close proximity to the Project Development Area. The analysis of potential impacts to historic structures will include:

- A review of the files maintained by OPRHP and other appropriate databases to identify any sites, districts or structures located on the State or National Register of Historic Places within a 2-mile radius of the Project Development Area.
- Identification of any locally designated historic sites, districts or structures within a 2-mile radius of the Project Development Area.

Potential visual impacts to significant historic structures within the project viewshed that are individually listed on the State or Federal Register of Historic Places will be characterized as part of the visual resources study, as described in "Visual Resources," below.

#### **Socioeconomics**

The DEIS will include a study in Section 6.7 of the socioeconomic impacts of the construction and operation of the project, including:

- An estimate of the number of temporary construction jobs that will be created, by discipline.

- An estimate of the average construction work force, by discipline, for each quarter, during the period of construction, and an estimate of the peak construction employment level.
- An estimate of the annual construction payroll, by trade, for each year of the project and an estimate of annual direct non-payroll expenditures likely to be made in the vicinity of the project (materials, services, rentals, etc.) during the period of construction.
- An estimate of the secondary employment and economic activity likely to be generated in the vicinity of the project by the construction of the plant. This analysis will state the basis for any economic multiplier factor or other assumption used and will include an order of magnitude comparison of the employment and economic activity likely to be generated in the Town of Dover and Dutchess County with recent levels of employment and economic activity.
- An estimate of the number of jobs and the on-site payroll, by discipline, during a typical year once the plant is in operation, and an estimate of other expenditures likely to be made in the vicinity of the project during a typical year of operation.
- An estimate of the annual secondary employment and economic activity likely to be generated in the vicinity of the project by its operation.
- A comparison of the anticipated construction work force, by trade, with the construction work force available within commuting distance, assuming a continuation of recent construction work force employment levels, with the exception that the labor force demands of any unusually large project which has been publicly announced for construction in the vicinity of the project site during construction of the project will be addressed in the analysis.
- An estimate of the extent and duration of temporary construction worker in-migration.
- An identification of the amount and location of temporary housing expected to be used by any in-migrating construction workers.
- An estimate of incremental school operating and infrastructure costs that will be incurred by an affected school district due to the permanent operation of the project.
- An estimate of incremental school operating and infrastructure costs that will be incurred by any affected school district during the construction phase of the project.
- An estimate of the impact on community services during the construction phase of the project, including the incremental municipal or utility operating and infrastructure costs that will be incurred by the Town of Dover, Dutchess County, and any other affected municipality of utility for police, fire, emergency, water, sewer, solid waste disposal and other municipal or utility services.
- An estimate of the impact on community services due to the permanent operation of the project, including the incremental municipal or utility operating and infrastructure costs that will be incurred by the Town of Dover, Dutchess County, and any other affected municipality of utility for police, fire, emergency, water, sewer, solid waste disposal and other municipal or utility services.
- An identification of all jurisdictions that level real property taxes upon the project site, its improvements and appurtenances.

- For each taxing jurisdiction, an identification of the most recent tax rate, and total tax levy for the jurisdiction.
- For each taxing jurisdiction, an identification of the most recent assessed value levied against the project site, its improvements and appurtenances.
- For each taxing jurisdiction, an identification of the amount of the most recent annual taxes levied against the project site, its improvements and appurtenances.
- A discussion of anticipated tax and other benefits to the community.
- A description of all on-site equipment and systems to be provided to prevent or handle fire emergencies or hazardous substance incidents.
- A description of all contingency plans to be implemented in response to the occurrence of a fire emergency or a hazardous substance incident.
- No designated Environmental Justice community is located proximate to the project site; therefore, no associated analysis will be conducted except to the extent required for air permitting. Geographical depictions of the population demographics should be included depicting the minority and disadvantaged income percentages of the population by census tract in the project area.

### **Alternatives (Section 7.0)**

The DEIS will include a discussion of the alternatives to the project that were considered, including the “no-action” or “no build” alternative. The DEIS will discuss the any impacts if the project is not constructed in the proposed location. The DEIS should explain the applicant’s site and technology selection rationale and describe and compare the alternate cooling and emissions control technologies that were considered along with the rationale for selecting the proposed technologies. The DEIS should also discuss facility design alternatives, including alternate facility sizes, fuels and sources of water supply.

### ***Other Environmental Impacts (Section 8.0)***

The DEIS should address other potential environmental impacts associated with the project, including: short-term and long-term impacts; unavoidable adverse effects that cannot be avoided; irreversible and irretrievable commitments of resources; growth-inducing aspects of the project; and the effect of the project on the use and conservation of energy.