



Draft Environmental Impact Statement – Volume 1 Cricket Valley Energy Project

Dover, Dutchess County, New York

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List of Acronyms and Abbreviations – Executive Summary

ACC	air cooled condenser
BACT	Best Available Control Technology
BMP	Best Management Practice
CEA	Critical Environmental Area
CEMS	continuous emissions monitoring system
CO	carbon monoxide
ConEd	Consolidated Edison Company of New York
CTG	combustion turbine generator
CVE	Cricket Valley Energy, LLC
DLN	dry low NO _x
DEIS	Draft Environmental Impact Statement
EMF	electric and magnetic fields
EJ	Environmental Justice
FTE	full-time equivalent
GHG	greenhouse gases
gpm	gallons per minute
H ₂ SO ₄	sulfuric acid
HRSG	heat recovery steam generator
kV	kilovolt
LAER	Lowest Achievable Emission Rate
Laydown Site	30-acre temporary construction worker parking and equipment laydown site
M	Town of Dover Industrial/Manufacturing District
MW	megawatt
NO _x	nitrogen oxides
NYSDEC	New York State Department of Environmental Protection
OPRHP	Office of Parks, Recreation and Historic Preservation
PCBs	Polychlorinated biphenyls

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Property	The 131-acre property optioned by CVE
Project Development Area	The 57-acre portion of the 131-acre Property proposed for development
PSC	Public Service Commission
PSD	Prevention of Significant Deterioration
PM _{2.5}	particulate matter less than 2.5 microns
PM ₁₀	particulate matter less than 10 microns
REC	recognized environmental condition
ROW	right-of-way
RU	Town of Dover Rural District
SEQRA	State Environmental Quality Review Act
SO ₂	sulfur dioxide
SPCC	Spill Prevention Control and Countermeasure
STG	steam turbine generator
SWPPP	Stormwater Pollution Prevention Plan
ULSD	ultra-low sulfur diesel
USEPA	United States Environmental Protection Agency
VOC	volatile organic compounds
ZLD	Zero liquid discharge

EXECUTIVE SUMMARY

Cricket Valley Energy Center, LLC (CVE) proposes to construct and operate a highly efficient, combined cycle natural gas powered 1,000-megawatt (MW) electric generating facility on an approximately 131-acre property (the Property) in Dover, Dutchess County, New York. The project is being reviewed under the New York State Environmental Quality Review Act (SEQRA) as a Type I action, with the New York State Department of Environmental Conservation (NYSDEC) designated as the Lead Agency.

The purpose of this Draft Environmental Impact Statement (DEIS) is to address items identified in the Scoping Document issued by the NYSDEC on July 16, 2010. This DEIS provides general and technical information regarding the proposed project, its potential environmental impacts and measures to mitigate any such impacts.

Involved and Interested Agencies, Permits and Approvals

Table 1 provides a list of involved agencies and approvals required by each agency. Also listed are interested agencies and federal agencies which have jurisdiction over the project but are not governed by SEQRA.

Project Description

The CVE project will be a state-of-the-art electric generating facility that will provide needed electricity to the New York State bulk power grid and which will provide long-term economic and environmental benefits on a local, regional and state-wide basis. The project will begin construction in 2012 and is anticipated to be operational in 2015.

The facility will be located in southeastern New York, an area that has been determined by the New York Independent System Operator (NYISO) to have electric transmission constraints. The facility will take advantage of nearby existing natural gas and electric transmission infrastructure and will utilize clean burning natural gas to provide reliable baseload electric generating capacity to the New York State power grid while improving air quality through the displacement of less efficient and higher polluting generating facilities. The project will meet local, regional and state planning objectives to bolster economic growth with minimal negative impact on the human and natural environment. The project will reuse a former industrial site and will be compatible with local zoning and community planning goals.

Table 1: List of Agencies Permits and Approvals

Agency	Permit/Approval
State	
<i>New York State Department of Environmental Conservation</i>	Part 201 Air State Facility Permit (air quality)
	Prevention of Significant Deterioration (PSD) Permit
	Title V Operating Permit (air quality)
	Title IV Acid Rain Permit (air quality)
	Freshwater Wetlands Permit
	Clean Water Act Section 401 Water Quality Certification
	Natural Heritage and Endangered Species Program consultation
	State Pollutant Discharge Elimination System General Permit for Stormwater Discharges from Construction Activities
	Oil and chemical storage authorization
	Notification for large asbestos removal, if applicable
<i>New York State Office of Parks, Recreation and Historical Preservation</i>	National Historic Preservation Act Section 106 consultation
<i>New York State Department of Transportation</i>	Highway work permit for non-utility work
<i>New York State Public Service Commission</i>	Section 68 of the Public Service Law Certificate of Public Convenience and Necessity
	Section 69 of the Public Service Law Approval of Financing
County/Town	
<i>Dutchess County Health Department</i>	Water Well Construction
	Septic System Approval
	Abandonment of Water Well, if applicable
<i>Dutchess County Planning Board</i>	Special Permit/Site Plan Approval Review (advisory role)
<i>Town of Dover Town Board</i>	Special Permit/Site Plan Approval
	Fire Prevention Permits
	Use of Explosives
<i>Town of Dover Planning Board</i>	Erosion/Sediment Control
	Site Plan Review
<i>Town of Dover Zoning Board</i>	Zoning Variance (height, noise)
<i>Other Town Board Review</i>	Architectural Review Board (Design Review)
	Building Inspector (Building/Occupancy Permits)
Federal (agencies not subject to SEQRA but which have jurisdictional authority)	
<i>United States Army Corps of Engineers</i>	Section 404 permit
<i>United States Fish and Wildlife Service</i>	Endangered Species Act Section 7 consultation
<i>Federal Aviation Administration</i>	Notice of Proposed Construction or Alteration

Site Description

The site was selected specifically for the CVE project due to existing infrastructure, current zoning, and topography and tree cover that provide a natural buffer to the surrounding community. The Property is a total of 131 acres, bounded by New York State Route 22 (NY Route 22) to the east; to the south by industrially zoned property owned by Howlands Lake Partners, LLC; to the west generally by the Swamp River and a Metro-North rail line, which transects the 131-acre parcel in a north-south direction. To the north is an existing Consolidated Edison Company of New York (ConEd) electric transmission right-of-way, to which the facility will interconnect and which contains an Iroquois Gas Transmission (Iroquois) natural gas pipeline which will provide fuel to the facility. The Property is within the Town of Dover's Industrial/Manufacturing District (M) which permits industrial and related uses.

Approximately 74 acres of the 131-acre Property lie west of the railroad track and are currently undeveloped, except for a small pump house associated with a former use. This portion of the Property has been designated within the Great Swamp Critical Environmental Area (CEA) for its natural resource value. It contains a NYSDEC-mapped wetland system associated with the Swamp River, which flows northward past the site to its confluence with the Ten Mile River, just south of Dover Plains. This area is not proposed for any development activity related to the project.

The 57-acre portion of the Property east of the railroad track has a long history of industrial use and numerous dilapidated, vacant industrial buildings and associated debris are located in the area. This portion of the Property (the Project Development Area), has been identified by Dutchess County as the Mica Products CEA, due to the need for clean-up associated with former uses. Within the 57-acre Project Development Area, approximately 30 acres will be re-developed. The Project Development Area has a long history of industrial use. It was used as a magnesium refining facility from 1932 until 1966. Between 1966 and 1980 a Formica production facility used it for its manufacturing operations. In the early 1990s it was used as a tire recycling facility until a 1996 fire caused extensive damage to many of the buildings. The site has been vacant for many years and there is still debris and evidence of the site's varied industrial history.

The proposed temporary construction worker parking and equipment laydown area (the Laydown Site), is located approximately 2.5 miles north of the Project Development Area. The Laydown Site consists of an approximately 30-acre agriculture field, and is a portion of a larger parcel which includes actively farmed fields and associated outbuildings and some undeveloped land. The Laydown Site is adjacent to NY Route 22 from which access will

occur. The Laydown Site will allow for parking for up to 850 cars as well as sufficient area for the storage of construction materials.

Facility Overview

The CVE facility will generate approximately 1,000 MW of electricity, fueled only by natural gas. The CVE facility will use “combined cycle” generation technology, one of the most efficient technologies for producing electricity. The facility will be comprised of three combined-cycle units, each consisting of a combustion turbine generator (CTG), a Heat Recovery Steam Generator (HRSG) with supplemental duct firing, and a steam turbine generator (STG).

Auxiliary equipment will include a low nitrogen oxide (NO_x) natural gas-fired auxiliary boiler, needed to keep the HRSGs warm during periods of turbine shutdown and to provide sealing steam during startups, and four diesel-fired black start generators, each with a maximum power rating of 3 MW. The four black start generators will be used to re-start the facility in the event of a total power loss on the local or regional transmission grid.

The project will be equipped with state-of-the-art emissions control technology, including dry low NO_x (DLN) burners and selective catalytic reduction (SCR) technology to control emissions of NO_x, and an oxidation catalyst to control carbon monoxide (CO) and volatile organic compounds (VOC) emissions. A continuous emissions monitoring system (CEMS) will be utilized to ensure and document facility compliance with applicable emissions standards.

Water use will be minimized by the use of air cooled condensers (ACC). Process water supply will be provided from new on-site bedrock wells. A zero liquid discharge (ZLD) system will recycle and reuse water internally, reducing the need for process water and ensuring that no process wastewater will be discharged. The facility will employ best management practices (BMPs) for stormwater management, which will include a system that reflects existing drainage patterns and incorporates a wet extension detention pond, small bioretention facilities, and roof top rain capture to maintain peak rates of discharge and minimize the potential for erosion and sedimentation.

There will be several storage tanks on-site, including a 1,000,000-gallon raw water storage tank, used to supply the facility’s water needs and for fire protection; a 250,000-gallon demineralized water storage tank; and two 30,000-gallon aqueous ammonia storage tanks. A secondary safety containment area, designed to hold 110 percent of the entire volume of the tanks, will be provided around the ammonia storage tanks, consistent with New York State requirements. There also will be on-site storage of small quantities of ultra-low sulfur

diesel (ULSD) fuel and lubricating oils. ULSD storage will be limited to the fire pump's integrated 650-gallon fuel tank and the four emergency black start generators, each with an integrated 1,000-gallon fuel tank. As required, all tanks, equipment and vessels containing ULSD fuel and/or lubricating oils will be located inside a concrete safety containment, sump or curbed dike area for spill control and management.

There will be two utility interconnections at the facility. The electricity generated from the facility will be transmitted via a 700-foot on-site overhead interconnect to the existing ConEd 345 kilovolt electric transmission line located north of the Project Development Area. A new switchyard and substation, incorporating gas-insulated switchgear to minimize footprint requirements, will be built at the facility. Clean burning natural gas will be the sole fuel for the facility, transported via a new 500-foot, 12-inch gas pipeline from the Iroquois pipeline, just north of the Project Development Area.

The combined-cycle process is one of the most efficient technologies for producing electricity, using less fuel than alternate technologies and resulting in environmental emissions that are less than that of traditional fossil fuel technologies per megawatt-hour of electricity generated.

Project Layout and Access

The project has been designed to be complementary to the Property's environmental resources and surrounding land uses. The extent of change to the site and surroundings has been minimized and is limited to the portion of the Property already altered due to past industrial uses. Facilities have been oriented to maximize use of already developed areas and to minimize impacts to the surrounding community.

The project will be accessed by the existing driveway off of NY Route 22. Major improvements to the driveway will include widening and grading to improve stormwater flow. The driveway will be shared with other industrial uses located south of the facility, until just prior to the project's security gate and fencing. Facility traffic entering the site will be required to pass through the security gate. Employee and service parking will be provided immediately upon entering the secured area. Parking for visitors and delivery traffic will be provided outside of the security fencing to limit traffic inside the secured areas. A ring road will be constructed inside the secure area to provide access to the various equipment areas and to allow emergency response equipment to access all areas of the Project Development Area. An alternate secured entrance will be located south of the administrative and warehouse building.

The administrative and warehouse building will be located near the facility entrance. This building will include space for offices, a meeting room, kitchen, storage area, restroom facilities, warehouse space and a maintenance area. The three CTGs will be enclosed in a single turbine generator building, which also will enclose ancillary mechanical equipment. The three STGs will extend from the building, one for each of the three units, with the HRSGs situated to the west side of each STG. Each HRSG will exhaust its emissions to one of three 282.5 foot stacks, which are co-located to minimize the visual effect to the surrounding areas and to enhance dispersion of the exhaust plumes. Other major facility components will include a water treatment building, fin fan cooler, ACC, ammonia tanks, service/fire water tanks, demineralized water storage tanks and a wastewater holding tank.

To maintain as much of the Property's vegetation as possible, no vegetation will be removed from areas located west of the railroad track and a significant amount of wooded buffer will be maintained around the Project Development Area, including a 300-foot buffer between the Project Development Area and NY Route 22. Four areas are planned for landscaping or forest restoration, including: the area at the plant entrance; two locations near the administrative building and front visitor parking area; and the area between the new natural gas metering/conditioning area and an isolated non-jurisdictional wetland area (just south of the new electric transmission line), which will provide additional visual buffer from NY Route 22. Additionally, restoration of 0.6 acre of formerly degraded wetland and approximately 1 acre of associated Adjacent Area, and the creation of 0.05 acre of new wetland will be undertaken as part of the project activities.

Lighting for both normal operation and emergency or temporary shutdown will be provided throughout the facility. The proposed lighting will minimize off-site impacts, while providing sufficient lighting to ensure worker safety during routine operations and maintenance. Site lighting will be in accordance with appropriate standards and the Town of Dover code requirements. Stack lighting will comply with Federal Aviation Administration requirements, modified as practicable to minimize off-site impacts while maintaining aviation safety.

As noted above, the project will include a temporary Laydown Site which will be located within an approximately 30-acre agricultural field, approximately 2.5 miles north of the Project Development Area. The Laydown Site will be used for construction worker parking and for the storage of materials and will be accessed from a new temporary driveway off of NY Route 22.

Safety and Security

Safety and security at the facility will be a top priority of CVE. Combined cycle plants have an excellent safety record and CVE will follow all applicable federal, state and local codes

and regulations. In addition to incorporating advanced safety technology, CVE will coordinate its safety plans with local emergency agencies and the local fire company, the J.H. Ketcham Hose Company.

A more detailed description of the proposed project is provided in Section 1.0.

Summary of Project Impacts and Proposed Mitigation Measures

Earth Resources

No unique or unusual geologic conditions exist at the Project Development Area or the Laydown Site to preclude the proposed development of the project. The Project Development Area is located in a region that consists primarily of metamorphic rock with underlying layers of marble and sedimentary deposits of limestone and dolomite. There is mapped bedrock underlying the majority of the Property, identified as Stockbridge Marble. Some limited blasting may be required to reach competent bedrock suitable for the proposed building construction and to support the heavy equipment necessary for excavation. If blasting is necessary, a detailed safety plan will be developed and a comprehensive public outreach plan will be implemented. All blasting operations will adhere to applicable New York State statutes and regulations governing the use of explosives.

The area has a mapped seismic hazard rating of “intermediate” within the four seismic zone ratings in the State of New York. The project will be designed in compliance with the appropriate code to address this rating.

The Project Development Area is located on the western slope of a north-south trending ridge that separates the Swamp and Ten Mile rivers. The Project Development Area itself is relatively flat, although there is a gentle slope trending west toward the Swamp River. Soils at the Project Development Area are a mix of gravelly or sandy silt loams.

At the Laydown Site, the geology is underlain by Stockbridge Marble, with Everett Schist underlying a small portion of the southwest corner. No unique or unusual geologic conditions preclude this area for being used for construction worker parking or equipment laydown. Topographically, the Laydown Site is relatively flat with a gentle slope to the south. Soils at the Laydown Site include a mix of silt loams, including one silt loam that is characterized by the United States Department of Agriculture as “prime farmland.”

As noted earlier, there are multiple dilapidated buildings and structures at the Project Development Area related to former industrial uses along with debris. Materials associated with these structures include concrete, steel, wood and brick. In addition to the structures,

there are miscellaneous solid waste disposal areas. Previous site investigations have indicated that neither the site nor the surrounding properties have any active, current or open cases regarding a release of hazardous materials. A Phase II Site Investigation conducted in 1991 found that no extensive contamination from the previous operations exists at the site and recommended that the site be delisted from the Inactive Hazardous Waste Sites list and properly closed as a non-hazardous industrial landfill under the guidance of NYSDEC. NYSDEC concurred and the site was delisted in November 1991.

A Waste Characterization Report, conducted in 1994 to characterize four specific disposal areas, did not indicate that hazardous waste thresholds were exceeded.

A subsurface investigation was conducted in 1995, which indicated that no action had commenced regarding the closure of the waste piles previously studied. Further, it determined that there was a significant presence of tire crumb material and a mass of fire bricks and an isolated finding of polychlorinated biphenyls (PCBs) which were not observed at other sampling locations.

A Phase I Environmental Site Assessment conducted in 2009 identified four on-site Recognized Environmental Conditions (RECs), including: a number of inactive aboveground storage tanks; a former gas holder; the incomplete status of the closure of the waste piles discussed above; and a yellow sawdust-type material that extended into an on-site wetland. As part of project construction, the above items will be removed from the site and the degraded wetland will be restored.

Prior to any demolition activities at the Project Development Area, a pre-demolition characterization survey will be conducted to evaluate any potential environmental concerns. Demolition debris for disposal or reuse will be tested, sorted and properly disposed of at a licensed landfill, or recycled as fill, in accordance with applicable disposal regulations.

Following demolition, the Project Development Area will be re-graded and excavated. Natural vegetation will be preserved wherever possible in accordance with the approved site plan and final clearing and grubbing plan. Temporary fences will be installed to protect equipment from damaging areas designated for preservation, including established wetlands. Before the start of below-grade preparation, all surface cover materials, including topsoil, will be removed, sorted, and stockpiled on the site within designated erosion control areas. Any additional excavated materials will be temporarily stockpiled and disposed of or used as fill. Stockpiles will be maintained in accordance with the Stormwater Pollution Prevention Plan (SWPPP) which will be developed in accordance with state regulations and final bid specifications.

Due to anticipated shallow bedrock within the construction area, limited blasting may be necessary to excavate foundations and support structures. A detailed geotechnical survey will be conducted to determine if, or how often, blasting will need to occur. If deemed necessary, a detailed safety plan will be developed and a comprehensive public outreach plan will be implemented. All blasting operations will adhere to applicable New York State statutes and regulations governing the use of explosives, as well as to the requirements of the Town of Dover. The impacts of grading and blasting are expected to be minimal and confined to the Project Development Area.

Work at the Laydown Site will require temporary removal of agricultural plantings and topsoil. Designated as prime farmland, all soils will be removed, temporarily stockpiled and ultimately restored in accordance with guidelines established by the New York State Department of Agriculture and Markets and the NYSDEC. All stockpiles will be protected from erosion. The Laydown Site will be cleared and grubbed. A driveway will be cut through a narrow strip of forested land located on the western edge adjacent to NY Route 22. Standard excavation equipment and techniques will be used for these activities which will be conducted in accordance with the SWPPP. The temporary parking area will consist of coarse material, such as gravel, to help prevent channels and ruts and to minimize the potential for tracking soil onto public roadways. Immediately following its use as a parking and storage area, all imported fill, lighting and fencing and any other installed items will be removed. In areas where topsoil was removed, soil decompaction will be conducted prior to soil replacement. The soil will be reseeded to maintain consistency with the adjoining field, and will be monitored to identify any agricultural impacts associated with the mitigation.

Prior to operation, a Spill Prevention Control and Countermeasures Plan (SPCC) will be developed to detail both general and facility-specific methods to prevent a release of oil or hazardous materials into the environment. The SPCC will be approved by the applicable regulating agencies

A more detailed description of earth resources and potential impacts and mitigation is provided in Section 2.0.

Natural Resources

The project has been designed to be compatible with the Project Development Area's environmental resources and surrounding land uses. The 57-acre Project Development Area has been limited to the portion of the 131-acre Property that has largely been altered due to past industrial uses. The entire 74-acre portion of the Property west of the railroad track, will remain undisturbed during project construction and operation.

To the greatest extent possible, project design has incorporated the following goals: avoidance of wetland impacts and NYSDEC-jurisdictional wetland Adjacent Area impacts; use of the existing developed footprint; minimal clearing of forested areas; avoidance of substantial earth movement; and maintenance of practical technical equipment orientation to facilitate construction and operations in an efficient, safe and least impact manner. Based on discussions with NYSDEC, project design improvements included: shifting the project footprint, reducing building size, and relocating buildings to avoid wetland impacts; reducing slopes near wetland areas to minimize grading effects; reconfiguring the stormwater detention basin; and incorporating bioretention facilities to control stormwater runoff to a rate equal to or less than pre-development site conditions.

Due to careful project design and the reuse of a formerly developed industrial site, minimal impacts to natural resources will occur. The project will conform to the minimum “no net loss” of regulated wetland policy, and, in fact, there will be an increase in the quality of wetland and Adjacent Area through a wetland restoration and replication plan. Approximately 0.25 acre of formerly degraded wetland area (of which 0.05 acre is located in NYSDEC- or United States Army Corps of Engineers-jurisdictional wetlands) will be permanently lost and 1.5 acres of non-jurisdictional forested wetland will be converted into maintained shrub/scrub wetland, to accommodate the new overhead utility lines connecting the project to the ConEd transmission line. To compensate for the permanent loss and temporary disturbance within NYSDEC-jurisdictional wetlands, the project will restore 0.6 acre of previously degraded wetland and 1 acre of Adjacent Area, and create 0.05 acre of new wetland.

While there will be some permanent loss of non-wetland vegetated areas, the amount of vegetative clearing has been minimized by project design which takes advantage of the previously disturbed industrial footprint to the extent possible, minimizing permanent conversion of existing vegetated communities to developed areas. Further, construction corridors not located within previously disturbed areas will be minimized to the extent possible through use of construction mats, and ground disturbance and subsequent vegetative impacts are anticipated to be limited and temporary. Approximately 4.8 acres of forested habitat will be cleared permanently as part of project construction. Approximately 6.3 acres of forested habitat will be altered permanently and converted to scrub/shrub or bioretention pond habitat, resulting in a greater diversity of habitat. All non-structural portions of the project will be vegetated, landscaped or otherwise stabilized upon completion. A permanent buffer of undisturbed forested land will be maintained between the project structures and NY Route 22, and temporarily disturbed areas will be allowed to revegetate with local plant species, where project design allows.

No significant wildlife habitat areas will be lost as a result of the project and no rare, threatened, or endangered species will be displaced from the Project Development Area. Previously identified bird, mammal, reptile and amphibian species of conservation concern that could potentially occur on the Property or in the vicinity of the project are generally mobile and likely only to use portions of the Project Development Area for limited habitat requirements. Since no work is planned within the designated Great Swamp CEA, wildlife which utilize this resource will be affected minimally during construction and continuing operation.

During project construction, wildlife currently utilizing the Project Development Area will be displaced temporarily. Since large areas adjacent to the project are comprised of similar habitat to that which will be impacted, it is expected that overall impacts to these species will be minimal and limited to the immediate construction area. Once the project is operational, it is anticipated that wildlife will return to undeveloped portions of the Project Development Area.

A more detailed description of natural resources and potential impacts and mitigation is provided in Section 3.0.

Air Resources

The project is a state-of-the-art facility designed to minimize air emissions and associated resource impacts during operation. The project will utilize combined cycle technology using only natural gas to power the combustion turbines. In addition, stringent pollution control measures will be incorporated in the project design to meet Lowest Achievable Emission Rate (LAER) and Best Available Control Technology (BACT) as applicable. The project's state-of-the-art design, coupled with the incorporation of advanced pollution control equipment and operational practices will ensure that air emissions are minimized and will not result in significant adverse environmental impacts.

The project will be classified by the United States Environmental Protection Agency (USEPA) and NYSDEC as a new major source of air emissions under the Prevention of Significant Deterioration (PSD) and Nonattainment New Source Review programs. PSD review was conducted for NO_x, VOC, CO, sulfur dioxide (SO₂), particulate matter less than ten microns (PM₁₀), particulate matter less than 2.5 microns (PM_{2.5}), sulfuric acid (H₂SO₄), and Greenhouse Gases (GHGs). PSD review requirements include the application of BACT and demonstration of compliance with ambient air quality standards and other air quality criteria. A BACT analysis has been conducted and pollution control measures consistent with BACT are being implemented for these pollutants. A dispersion modeling analysis has been performed to demonstrate compliance with ambient air quality standards

in addition to other impact analyses required under the PSD regulations. The dispersion modeling results demonstrate that the project is in compliance with all air quality standards and has an insignificant impact on air quality. These analyses are provided in Section 4.

Dutchess County is designated as a Subpart 2/Moderate Nonattainment Area with respect to the 8-hour ozone ambient air quality standard. Because NO_x and VOC are ozone precursors, these pollutants are regulated as non-attainment pollutants in this area. The project is classified as a major source of both of these non-attainment pollutants, and, therefore, is required to apply LAER technology for these pollutants and obtain emissions offsets. A LAER analysis was conducted for NO_x and VOC, and pollution control measures consistent with LAER, including SCR and oxidation catalyst systems, are proposed for the project. In addition, the project will purchase NO_x and VOC offsets in quantities greater than its emission of these criteria pollutants.

As quantified in Section 4, CVE's highly efficient production of energy is expected to displace the operation of older, less efficient and higher emitting power plants, and improve regional air quality by a net reduction in regional emissions of air pollutants and GHGs.

A more detailed discussion of air resources and potential impacts and mitigation is provided in Section 4.0.

Water Resources

The project has incorporated proven water conservation measures to minimize water demand and associated resource impacts during operations and construction and to make it one of the most water-efficient electrical generating facilities in the region. These measures include: a highly efficient combined-cycle technology; air-cooled condensers; ZLD system; rain capture system; and stormwater management systems.

The project proposes to use on-site, bedrock wells to meet water needs. A pumping test program was developed to demonstrate that the extraction of up to 120 gallons per minute (gpm) from the bedrock aquifer would not have an adverse impact on: private well water supplies in the areas surrounding the site; wetlands within and adjacent to the Property; and the Swamp River. The testing program was intended to demonstrate that the primary and backup wells have sufficient production to supply a continuous 60 gpm, the anticipated summer water demand, and a short-term supply of 120 gpm, the maximum amount required during unanticipated upset conditions. The pumping test confirmed there would be no significant impacts on offsite wells, wetland areas, or the Swamp River due to the project's water withdrawal from the primary well.

Water budget calculations on the aquifer indicate that the site is fully capable of supporting its proposed average water consumption under both average and drought conditions, and that the site's overall water budget needs are, therefore, self-sufficient and would generate no permanent off-site drawdown impacts of any type.

All construction and operation activities at the site will be conducted in accordance with the SWPPP using BMPs, and with the Erosion and Sedimentation Control requirements of the Dover Town Code. This will ensure minimal impact to surface waters, on-site wetlands and subsurface conditions at the site and the surrounding areas.

Stormwater discharge from the Project Development Area will be controlled by three bioretention facilities and one stormwater management basin. They have been designed to provide quantity controls by attenuating stormwater runoff and releasing runoff to off-site locations at a rate equal to or less than that which existed prior to development of the site. For all design points and design storms the peak rate of runoff will not be increased. Therefore, the project will not have a significant impact on the adjacent or downstream properties or receiving water courses.

A full description of water resources and potential impacts and mitigation is provided in Section 5.0

Land Use, Zoning and Community Character

The majority of the Property is located within the Town of Dover's Industrial/Manufacturing District (M), which permits industrial and related uses in isolated and well-buffered locations. A small portion of the Property, west of the Swamp River where no development will occur, is located within the Rural District (RU), which promotes agriculture and compatible open space and rural uses. Given its location, size and proximity to necessary infrastructure, the project will be consistent with the purposes of the Zoning Chapter and the industrial district in which it will be located. The project also will comply with special zoning requirements that apply with limited areas where relief will be sought, including fence height and noise limits along adjoining industrial property boundaries.

The project has been designed to be consistent with the Town of Dover's Zoning Code and Master Plan, in particular the community values, economic growth goals, and preservation objectives identified in the Town's Master Plan. It is reflective of Dover's core community goal of balancing its traditions and natural resources with responsible economic growth. Located on a previously developed industrial parcel with a large natural vegetative and topographic buffer, the project will not impact the rural characteristics of the area, and in fact, will preserve natural features and minimize impacts to its surroundings. It will remove

unsightly, partially destroyed buildings from the Property as well as solid waste and other debris remaining on the site from previous occupants. It will utilize a natural buffer of trees and topography to minimize its aesthetic impact and will limit its development to a previously disturbed industrial footprint. The project design will respect and preserve important water resources by minimizing water demand through advanced technologies. The new state-of-the-art facility will produce both temporary and permanent jobs and generate tax revenues for the town. Further, CVE plans to conserve approximately 74 acres comprised primarily of NYSDEC-designated wetlands to preserve forever its character as a natural wetland and forested area.

A more detailed description of the project relative to existing land uses and the Town of Dover zoning and planning documents is located in Section 6.1.

Visual Resources

Visual impact is assessed within the framework of a wide range of factors, including the context of the viewers, the duration of the view, the degree of discernable detail, the number of viewers, the degree of natural buffering, and the scenic value of the setting. Although modeling did not indicate a potential change in view from identified federal, state or local areas of visual importance, the rural character of Dover and its surrounding communities is of high local value. The visual analysis indicates that, although the project will be visible from certain locations, the Project Development Area possesses a number of qualities that will minimize visual impacts to its surroundings including its location within a valley, a substantial buffer of mature trees, and a hillside that will shield the majority of the project structures from view. Project feature designs have been purposefully located within a compact footprint, including co-locating the three stacks in order to minimize their visual impact on surroundings. Given the design attributes of the project, the natural buffer of its surroundings, the context and number of viewers, the duration of the view, the degree of discernable detail, and the scenic value of the setting, the visual impact of this project is assessed as minimal.

A more detailed discussion of visual resources and potential impacts and mitigation is discussed in Section 6.2.

Traffic

Long-term impacts on local traffic patterns will be insignificant, based on the discrete number of permanent employee and other trips anticipated to occur and the direct access from NY Route 22. Short-term traffic impacts are expected as a result of construction

workers traveling to and from the Laydown Site, but traffic will be controlled and mitigated in coordination with town and state highway officials.

A traffic analysis was prepared under four scenarios: traffic under current conditions; a projection of future traffic conditions without the proposed project; a projection of traffic conditions during the peak construction period in 2013; and a projection of traffic during the operational period in 2015.

The traffic analysis demonstrates that project construction activities would temporarily increase traffic congestion along NY Route 22, mainly from construction workers turning into and out of the Laydown Site. These temporary conditions, however, improve to acceptable levels by applying enhancements to certain intersections in the study corridor during the construction period. Recommendations to improve traffic operations during the site construction year (2013) include installing temporary signals or providing manual traffic control during the peak morning and evening hours at the intersections of NY Route 22 and: the Laydown Site entrance; Duncan Hill Road; and the Project Development Area entrance. Additional mitigation includes a temporary left turn storage lane for a distance of 400 feet to be added to NY Route 22 proximate to the Laydown Site entrance. This would enable traffic to pass those cars queuing to make a left turn into the Laydown Site. Following construction, all intersections would operate at an acceptable level of service during the operation year (2015), when project-related traffic is more discrete.

CVE will coordinate with the New York State Department of Transportation and local officials to ensure traffic impacts during construction and operation are minimized.

A complete discussion of the traffic analysis including impacts and mitigation is provided in Section 6.3.

Noise

CVE has carefully considered noise impacts to the surrounding community in developing the project layout and in the selection of facility components and orientation. As such, the project is not expected to produce a significant noise impact and will meet the requirements of NYSDEC and local noise guidelines.

To demonstrate compliance with NYSDEC noise guidelines and the local Town of Dover Zoning Code, CVE conducted a sound evaluation study to quantify and characterize the existing acoustic environment in the vicinity of the proposed project. This program implemented both long-term continuous sound measurements, and short-term intermittent sound measurements to account for varying characteristics of sounds in the

project area. The results of the survey allow for both a quantitative and qualitative analysis of the acoustical environment surrounding the project.

Results of the noise modeling for project construction activities indicates that noise will occasionally be noticeable at the nearest receptor properties, particularly during the excavation phase of construction which may include rock splitting, blasting, and pile driving. Construction-related sound at the more distant residential properties is expected to be consistent with typical daytime background sounds, and will have only minimal impacts. Because of the temporary nature of the construction noise, no adverse long-term effects are anticipated.

Results of the noise modeling for operation of the facility indicate that the project will be below the NYSDEC guidelines of an allowable maximum increase of 6 A-weighted decibels at all of the five measurement locations analyzed. Operation of the project is not expected to produce a significant acoustic impact at these nearest receptors and, therefore, will not exceed levels established in the NYSDEC guidelines.

While the project is expected to comply with the most restrictive night time sound level limit of the Town of Dover Zoning Code at the north and east property lines, the west property line abutting the Metro-North rail line and the southern proposed property line abutting other industrially zoned property are expected to be non-compliant. However, these properties are not occupied by noise-sensitive uses. CVE is requesting a minor amendment to the Town of Dover Zoning Code so as to permit the anticipated noise levels without negatively impacting community character and residential uses.

A full description of the noise survey and modeling methodology and results can be found in Section 6.4.

Electric and Magnetic Fields

Maximum electric and magnetic field (EMF) strengths expected to occur at the edge of the outer right-of-way (ROW) were calculated and compared with the New York State Public Service Commission (PSC) interim standards. The comparison indicates that the project will be well below the New York State PSC electric field strength interim standards and magnetic field strength interim standards for electric transmission lines at the edge of the ROW. Consequently, anticipated project impacts associated with EMF are insignificant.

A full description of EMF as it relates to the CVE project is provided in Section 6.5.

Cultural Resources

CVE undertook an investigation and review for archaeological and cultural resource potential at the Property in the summer 2009. A review of the Office of Parks, Recreation and Historical Preservation (OPRHP) website found no historic resources identified in the vicinity of the Project Development Area. In addition, the Project Development Area has been substantially disturbed by previous industrial activities. However, the Property is entirely within an area identified as “archaeologically sensitive” and, thus, further investigation was warranted.

Consultation with OPRHP was initiated in June 2009. After confirmation that no work would take place west of the Metro-North railroad line, OPRHP determined that there will be “No Effect” to cultural resources at the Project Development Area. While CVE has minimized the potential for adverse impacts to cultural resources by utilizing a previously disturbed site, largely within the footprint of the previously developed area, as a cautionary measure, CVE has developed a construction methodology that establishes procedures to follow in the unanticipated event a cultural resource is discovered during the construction process (Unanticipated Discoveries Plan).

CVE requested a similar review of potential archaeological or cultural resources from OPRHP with regard to the Laydown Site, located 2.5 miles north of the Project Development Area. OPRHP requested a Phase 1A survey at the Laydown Site, which includes a literature review and sensitivity analysis. The Phase 1A survey, conducted in December 2010, indicated a low potential for the presence of historic cultural resources at the Laydown Site, but a moderate to high potential for the presence of prehistoric cultural resources.

As a result, a Phase 1B field reconnaissance survey was initiated in mid-December 2010 at the Laydown Site, which included digging shovel test pits. Survey crews were unable to complete the entire field survey, but were able to complete about one-half of the total number of test pits before snow and cold weather suspended further work. To date, no prehistoric material has been found in any of the shovel tests. The interim Phase 1B survey report opined that it is not likely that any finds made at the site would preclude development of the Laydown Site. OPRHP has concurred that the project is unlikely to have an adverse impact on cultural resources, provided that CVE completes the Phase 1B survey at the Laydown Site prior to commencing construction. CVE has committed to ensuring that no work will be undertaken at the Laydown Site until the completion of Phase 1B field work and receipt of permits and approvals.

A more detailed description of the assessment of cultural and historic resources is provided in Section 6.6.

Socioeconomics

It is anticipated that during its construction and long-term operation, the project will produce significant direct and indirect socioeconomic benefits to the local, regional, and state economies. The project also will result in induced spending, additional economic activity resulting from the increase in direct and indirect economic activity. The project will not result in significant operating or infrastructure costs to the Town of Dover, Dutchess County, or the Dover Union Free School District.

Project development and construction will require an estimated investment of approximately \$955 million, which will provide a significant benefit to the local, regional, and state economies. It is expected that an average of 300 construction jobs will be created during the three-year construction of the project, with up to 750 jobs during the five-month peak construction period. Once completed, operation of the facility will support approximately 28 well-paying permanent jobs in Dover. The investment in the plant, during both construction and operation, will also result in significant secondary economic benefits to the local, regional and state economy. Project construction is estimated to generate and induce creation of 2,202 full-time equivalent (FTE) jobs, including 751 secondary jobs in Dutchess County in a wide variety of industries. Upon completion, the project will create 56 FTE jobs, including 26 secondary jobs. The project will also provide a long-term revenue source for the Town of Dover, Dutchess County and the Dover Union Free School District through an anticipated Payment in Lieu of Taxes agreement.

The project will not present significant operating or infrastructure costs to the local economy. Since the project does not involve the construction of new residences, its operation would not be expected to generate additional school children for the Dover Union Free School District. Should the 28 plant employees represent new households within the district, the anticipated additional school students would represent less than 1 percent of district enrollment, which could be accommodated due to the district's existing surplus capacity and declining enrollments.

The project will not impact existing local fire, police, or emergency protection services. The project will include a comprehensive on-site system for fire emergencies which will comply with applicable state and local codes. Similarly, the project will maintain continuous, on-site security staff. Any increase in demand for police services during project operation is expected to be minimal. During construction, additional police service needs will be limited to traffic control, and will be compensated; thereby, not incurring additional operating or

infrastructure costs. Because the project will not result in a significant population increase, no increase in use of the existing emergency medical services is expected.

The project will not impact existing municipal infrastructure services. It will not result in municipal cost implications related to water or sewer infrastructure. Water will be provided to the project via on-site wells, supplemented by the facility's rooftop rain capture system, as available. For sewerage facilities, the project will use an on-site septic leach field. Process wastewater will be internally recycled and treated in the ZLD system so that no wastewater will be discharged from the site. A subsurface sewage disposal system will be used to dispose of domestic wastewater. Similarly, because the required construction force is anticipated to be met with available workers within Dutchess County and the Hudson Valley region, in-migration of workers, and a corresponding increase in demand for municipal services, is expected to be minimal. While the project operation will require a 28-person staff, this increase will represent an insignificant population increase, which will not significantly increase municipal or county-wide service costs.

A comprehensive projection of the direct, secondary and induced benefits to be created by the project is included in Section 6.7.

Alternatives

Alternatives to the proposed project are evaluated and described in this DEIS. These include the "no-action" alternative and site and technology alternative comparisons. The technology alternatives that were considered include alternative cooling and emissions control technologies. Also addressed are facility design alternatives, including alternate facility sizes, fuel use alternatives, and alternative sources of water supply.

The "no-action" alternative would result in no economic or environmental benefit to the Town of Dover, the region or the State of New York as a whole.

Local benefits that would not be realized include:

- Reusing a dilapidated industrial site and converting it to a productive use;
- Stimulating economic growth without creating a significant burden on the community or significant adverse impact to the environment;
- Creating approximately 750 construction jobs and, post construction, 25-30 full-time positions;
- Increasing tax revenue;
- Purchasing local materials and indirectly creating additional secondary employment;
- Preserving a reach of the Swamp River and bordering wetlands;

- Restoring existing previously damaged wetlands.

Regional benefits that would not be recognized include:

- Displacement of existing less efficient electric generators with higher emission rates of air pollution and GHG emissions.

Statewide benefits that would not be recognized include:

- Enhancing the reliability of the New York energy system;
- Reducing GHG and other air pollutant emissions;
- Stabilizing energy costs and improving economic competitiveness.

As an alternative to the project, CVE considered Demand Side Management (DSM). While DSM is important for decreasing energy consumption and optimizing patterns of electricity usage through efficiency improvements, it does not meet the demand for the baseload electric supply which the CVE project can meet.

Alternate sites in southeastern New York for the proposed project were considered by CVE. However, none of the sites met the major criteria required for such a project, which include proximity to natural gas and electric interconnects, zoning compatibility, and a suitable surrounding natural environment to buffer potential impacts of the project.

Alternative cooling technologies were evaluated, including once through cooling, evaporative (wet) cooling towers and hybrid (wet and dry) cooling towers. Because the proposed facility does not have access to a water supply sufficient to support these alternative cooling systems, air cooling was selected as the preferred condenser cooling alternative.

With regard to air emissions, the combination of DLN combustors, SCR and oxidation catalyst systems, along with the exclusive use of natural gas as the sole fuel for the project's turbines represents the most effective state-of-the-art methods to minimize air emissions. With regard to fuel alternatives, natural gas is the cleanest available fuel for the combustion turbines and HRSGs. ULSD is the cleanest fuel available for the emergency generators and fire pumps.

Alternate sources of water were considered for the project. These included: municipal or other existing water supply sources, treated effluent from existing wastewater treatment plants, surface water from the Swamp River or from other potential sources, and groundwater. After an analysis of the hydrologic resources in the Project Development

Area, it was determined that the use of bedrock wells was demonstrated to provide sufficient water for project needs without adversely affecting other water users in the area.

A full description of the evaluation of alternatives is provided in Section 7.0.

Other Environmental Impacts

Other potential environmental impacts associated with the CVE project include short-term and long-term impacts; unavoidable adverse effects; irreversible and irretrievable commitment of resources; growth-inducing aspects of the proposed project; and the effect of the project on the use and conservation of energy.

Most short-term impacts associated with construction will be insignificant due to the relatively isolated nature of the Project Development Area and the best management practices to be employed during construction. The Laydown Site is also well-buffered and isolated from population centers. The most notable short-term impacts would be construction-related traffic during the peak construction period. Temporary peak traffic impacts will be managed through active coordination with the Town of Dover and the use of manual control measures, as applicable.

The project's long-term impacts are deemed to be either positive and significant, or less than significant. No significant adverse long-term impact will result from the CVE project. Project-related impacts can be effectively minimized to levels that are less than significant or well within standards and guidelines established for the protection of public health and welfare.

Implementation of the project will result in a positive long-term improvement to earth resources by restoring an inactive industrial site to a productive industrial use. With respect to natural resources, approximately 17 acres of the project's 22-acre permanent footprint will occur on previously developed land; the remaining portions of the Project Development Area will remain undeveloped or allowed to revegetate. While there will be limited impacts to existing wetlands, a wetland restoration and creation plan will restore a previously degraded wetland, creating a greater diversity of habitat than that which currently exists. While it will be classified by the USEPA and NYSDEC as a new major source of air emissions, air emissions will not result in significant adverse impacts. The project's state-of-the-art design, coupled with the incorporation of advanced pollution control equipment and operational practices will ensure that air emissions are minimized and will not result in significant adverse environmental impacts.

No long-term adverse effects to water supplies will occur due to the project. Water usage will be minimized through the use of ZLD and other technologies, and site stormwater management will improve in post-construction conditions.

Based upon the discrete number of permanent employees, long-term impacts on local traffic patterns will be insignificant.

While no effect to historic or archaeological resources is anticipated due to project operation, an Unanticipated Discovery Plan has been developed to protect such resources in the unlikely event that they are encountered during project construction.

Both the net short- and long-term socioeconomic effects of the project will be positive; the facility will not create a significant demand on public resources and infrastructure under normal operations and will contribute economically to the region.

No long-term effects associated with land use, zoning, noise, or electric and magnetic fields are expected.

The project will require a limited number of irreversible and irretrievable commitments of earth resources, natural resources, air resources, and water resources. While nearly 100 acres of this 131 acre site will remain undisturbed, approximately 5 acres of currently undeveloped land will be permanently developed for the project footprint. The development will occur within an area zoned for industrial use, and will represent only a small increase in land use from existing conditions. The project will require a permanent commitment of landfill capacity through the disposal of demolition debris and, pending characterization analysis, annual disposal of crystal solids associated with the ZLD system. Permanent fill of wetlands will be less than 0.3 acre, and will be mitigated through a wetland restoration and creation plan which will include restoration of 0.6 acre of previously degraded wetland and 1 acre of associated Adjacent Area, and creation of 0.05 acre of new wetland area. Approximately 12.9 undeveloped acres of the Project Development Area will be disturbed. Of that amount, 5.1 acres will be developed, while 5.3 acres of wooded vegetation and 1.5 acres of wetlands will be allowed to revegetate to shorter (shrub) vegetation. An additional 1 acre of forested land will be converted to stormwater bioretention facilities.

Although the project will be a new major source of air emissions, it will purchase emissions offsets in greater quantities than its emission of these criteria pollutants. Further, operation of the project will displace the older, less efficient and higher emitting electric generating facilities in the region, resulting in a net emissions reduction.

While water demand will increase as a result of the project, through the application of various technologies, consumptive water use has been significantly minimized.

Construction and operation of the proposed project will not result in major growth-inducing impacts. The project will represent a net benefit to the local community, providing productive reuse of an underutilized industrial parcel, meeting regional energy needs, adding employment opportunities during construction and operation, and contributing to the tax base, without significant impact to the community or environment. Development of the project will provide an efficient, reliable, and competitive source of electric energy to address the need for additional electricity and improved system reliability to New York State. The project is anticipated to require an average of 300 workers during the entire 36-month construction time frame, with a maximum of 750 workers during the five-month peak construction period, with a permanent work force of 25 to 30 employees. No significant in-migration is anticipated for either project construction or operation. The project will produce an increase in available jobs, particularly during the construction period, and positive contribution to the local tax base. Further, in addition to the construction and operational benefits resulting from direct and indirect project expenditures, when operational, the project will represent a long-term source of additional revenue for the Town of Dover, the Dover Free School District, and Dutchess County.

The project will have a positive impact on the current use and projected conservation of energy. It will add baseload electrical generating capacity to meet regional needs and address energy demand and system reliability. The project is a combined cycle electric generating facility, which is one of the most efficient methods of producing baseload electricity. The project's high efficiency will require less fuel to produce equivalent amounts of electricity than other fossil-fuel based technologies. In addition, the sole use of clean-burning natural gas for the combustion turbines means that not only is fuel efficiently used, but also the cleanest possible fossil fuel is utilized. By displacing the operation of older, less efficient generating plants, the project will contribute to regional fuel savings, as less fuel will be required to generate the same amount of electricity.

A complete discussion of other environmental impacts is provided in Section 8.0.

Conclusion

The proposed project represents a unique opportunity to restore an inactive industrial site, currently characterized by dilapidated structures and remnants of prior activities, and to replace it with a new state-of-the-art natural gas-powered electric generating facility that represents a positive long-term improvement to the area and region as a whole. Short- and long-term environmental impacts associated with the project have been carefully studied

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and have been mitigated to the extent practicable. The project will offer substantial economic benefits to the community and will yield significant environmental benefits associated with site restoration and wetlands rehabilitation, as well as air quality improvements and greenhouse gas reductions due to the displacement of older, less efficient and higher emitting facilities.