Section 8 – Other Environmental Impacts

List of Acronyms and Abbreviations – Section 8

ConEd	Consolidated Edison Company of New York
CVE	Cricket Valley Energy, LLC
DEIS	Draft Environmental Impact Statement
EMF	electric and magnetic fields
EJ	Environmental Justice
kV	kilovolt
Laydown Site	30-acre temporary construction worker parking and equipment laydown site
Property	The 131-acre property optioned by CVE
Project Development Area	The 57-acre portion of the 131-acre Property proposed for development
NYSDEC	New York State Department of Environmental Protection
OPRHP	Office of Parks, Recreation and Historic Preservation
USEPA	United States Environmental Protection Agency
ZLD	Zero liquid discharge

8. OTHER ENVIRONMENTAL IMPACTS

This section addresses other potential environmental impacts associated with the Cricket Valley Energy (CVE) project, including 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.

8.1 Reasonably Related Short-Term and Long-Term Impacts

This section summarizes the short-term and long-term impacts associated with the project as identified in the Draft Environmental Impact Statement (DEIS) environmental analyses, discussed in Sections 2 through 6.

8.1.1 Short-Term Impacts

Short-term impacts associated with the project would be a result of temporary activities related to construction. These include the presence of demolition and construction equipment and workers at the project site, as well as the associated noise, dust and traffic increases that could temporarily occur during the three-year construction process. As outlined in Sections 2 through 6 of the DEIS, the relatively isolated nature of the 57-acre portion of the 131-acre CVE property (the Property) proposed for development (the Project Development Area), along with the best management practices to be employed during the construction period, will prevent temporary construction impacts from being significant.

The most notable short-term impacts would result from alteration of the 30-acre off-site construction parking and laydown site (Laydown Site) and from construction-related traffic during the peak construction period. The Laydown Site has been selected to minimize the potential effect of its use and will be restored following completion of the construction effort. The Laydown Site is adjacent to New York State Route 22 and well buffered and isolated from residential population centers to further minimize impacts. Peak traffic impacts, which will occur only over a five-month peak construction activity period, will be managed through active coordination with the town and the use of manual traffic control measures, as applicable.

8.1.2 Long-Term Impacts

Long-term impacts are those anticipated to occur for the life of the operational project. Detailed analyses of long-term impacts, including project benefits, have been provided in

Sections 2 through 6 of the DEIS. The following sections summarize the identified long-term impacts.

8.1.2.1 Earth Resources

Long-term activities will not result in an adverse change to the Project Development Area's character, as detailed in Section 2. Only small grading changes are proposed, with most topography maintained to preserve existing visual buffering. Development of the project would result in an inactive industrial site being restored to a productive industrial use. Restoration of the site will result in a positive long-term improvement eliminating the dilapidated structures and removal of industrial and other debris and other remnants of former site use.

8.1.2.2 Natural Resources

Natural resources will experience positive and significant long-term impacts, as discussed in Section 3. These include:

- Nearly 100 acres of the 131-acre Property will remain undisturbed during construction and operation, including the entire portion west of the railroad track (approximately 74 acres, including significant wetlands);

- Integration of scrub/shrub and bioretention pond habitat into the site design will permanently alter approximately 6.3 acres of forested habitat and result in a greater diversity of habitat.

- Restoration of approximately 0.6 acre of previously degraded wetland, 1 acre of wetland Adjacent Area and creation of 0.05 new acre of wetland will establish a more diverse wetlands area with an enhanced, highly functioning wildlife habitat.

A small area (0.05 acre) of jurisdictional wetland and 0.2 acres of non-jurisdictional wetland will be permanently filled as a result of the project. However, a more significant area of the wetland (0.6 acres) will be restored, and another 0.05 acres will be created, thus improving its function by removing the altered sediment and other debris currently located in and near on-site wetlands. Approximately 12.9 acres of the Project Development Area that is not currently developed 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 along the transmission interconnection corridor will be cut, but will be allowed to revegetate

to shorter (shrub) vegetation. An additional 1 acre of forested land will be converted to stormwater bioretention facilities.

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. All of the Property west of the railroad track, approximately 74 acres, will remain undisturbed by the project.

8.1.2.3 Air Resources

As discussed in Section 4, the project will be classified by the United States Environmental Protection Agency (USEPA) and New York State Department of Environmental Conservation (NYSDEC) as a new major source of air emissions under the Prevention of Significant Deterioration and Nonattainment New Source Review programs. However, the project will minimize its air emissions by utilizing highly efficient combined cycle technology and using only clean burning natural gas to power the combustion turbines. In addition, stringent pollution control measures will be incorporated into the project design. As discussed in detail in Section 4, the project's air emissions will comply with all applicable state and federal standards. 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. Further, 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 greenhouse gases.

8.1.2.4 Water Resources

As discussed in Section 5, the project incorporates air cooling as well as other substantial water conservation and recycling measures in order to reduce the project demand, and has conducted careful studies of the groundwater supply proposed to serve the project to confirm that there will be no adverse long-term effects to neighboring water supplies. Use of a Zero Liquid Discharge (ZLD) system will sharply reduce the project's process water supply needs, ensuring that no process wastewater will be discharged from the project.

Stormwater will be managed and monitored through a system that has been designed to reflect existing drainage patterns and, under normal storm conditions, will reduce flow rates, improve drainage characteristics and result in improvement of stormwater management from current conditions at the site. Best management practices, using the

most current NYSDEC guidelines, have been incorporated into the stormwater design, which will include bioretention facilities, grass-lines swales, and roof-top rainwater capture as discussed in Section 5.

8.1.2.5 Land Use, Zoning and Community Character

As this project is consistent with the Town's Master Plan and with the site's zoning designation and continued industrial use, as discussed in Section 6.1, no long-term effect related to land use or zoning will result from the project. The Project Development Area has long been in industrial use, is well buffered from residential areas, and is compatible with the present character of the community.

8.1.2.6 Visual Resources and Aesthetics

Views of the project will be well screened by natural buffers from most locations. While the project will result in taller structures than currently exist at the site, the majority of the existing structures are dilapidated and represent a visual eyesore. Even with the project's proposed taller structures, views of the project will be well screened by intervening topography and vegetation from most locations. Small portions of the project may be visible above and through the tree line, particularly at high elevations east of the project. However, as discussed in Section 6.2, the overall visual impact is not considered significant.

8.1.2.7 Traffic and Transportation

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 a state highway, as discussed in Section 6.3.

8.1.2.8 Noise

Project layout and design has carefully considered sound attenuation, and the project will comply with applicable state and local noise standards. As discussed in Section 6.4, no long-term significant effect on noise is anticipated from operation of the project.

8.1.2.9 Electric and Magnetic Field Effects

No measureable long-term effects from electric and magnetic fields (EMF) are anticipated from operation of the project, as discussed in Section 6.5. All new electrical

interconnection lines are located within the Project Development Area, and no substantial change to the existing system is required. EMF levels at the edge of the cleared right-of-way for the interconnecting transmission lines will be well within guideline levels established by the New York State Public Service Commission.

8.1.2.10 Historic and Archaeological Resources

No effect to historic or archaeological resources is anticipated due to project operation, as discussed in Section 6.6. Based on consultation with the New York State Office of Parks, Recreation and Historical Preservation (OPRHP), prior site disturbance significantly precludes the discovery of intact archaeological resources at the Project Development Area. Based on archaeological surveys completed to date at the Laydown Site, OPRHP has determined that adverse impact to cultural resources is unlikely. CVE has committed to completing archaeological surveys at the Laydown Site prior to commencing construction. CVE has developed an Unanticipated Discovery Plan (see Appendix 6-G) to protect archaeological resources in the unlikely event they are encountered during project construction.

8.1.2.11 Socioeconomics

The net short- and long-term socioeconomic effects of the project will be positive, as the facility will not create a significant demand on public resources and infrastructure under normal operations and will contribute economically to the region, both directly and indirectly, as addressed in Section 6.7. Although the lack of a formal Environmental Justice (EJ)[1] community proximate to the Project Development Area eliminates the need for detailed EJ assessment, the project has been carefully designed such that no element of the surrounding community or region would experience significant long-term negative effect associated with its operations.

[1] Environmental Justice (Presidential Executive Order 12898) is the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies and seeks to ensure that no population shoulders a disproportionate burden of the negative human health and environmental impacts of pollution or other environmental hazard.

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

Unavoidable adverse impacts include situations where:

- Reasonably practicable mitigation measures cannot be implemented to eliminate the impact.
- There are no reasonable alternatives to the proposed project that would meet the purpose and need of the action, eliminate the impact and not cause other significant adverse impacts.

As discussed in Sections 2 through 6 of the DEIS, the project will not result in a significant adverse environmental or community impact, with the exception of short-term peak construction-related traffic impacts and the altered viewscape from a limited number of vantage points. 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.

8.3 Irreversible and Irretrievable Commitment of Resources

This section presents those natural and human resources identified in the DEIS environmental analyses that will be consumed, converted or otherwise made unavailable for future use if the project is implemented.

- Earth Resources – As evidenced by the productive reuse of a former industrial parcel for this project, development of the project in this location will represent a positive change to the character of the site. 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, occurring within an area zoned for industrial use and representing only a small incremental increase over existing conditions. Approximately 31,500 cubic yards of demolition debris will be disposed of at a landfill licensed to accept demolition material, representing a permanent commitment of that amount of landfill capacity. Additionally, pending CVE's decision regarding the handling of the ZLD system by-product, long-term disposal of approximately 14.25 cubic yards per month during the summer and 5.19 cubic yards per the winter may be required. The material would be transported to a licensed landfill via truck, requiring less than two trucks per month (based on a truck waste hauler volume capacity of 9 cubic yards with load capacity of 8-9 tons). This annual disposal would represent a permanent commitment of that amount of landfill capacity.

- Natural Resources – While protecting more than 74 acres of land, including pristine wetlands on the Property, permanent fill of 0.05 acre of jurisdictional wetland and 0.2 acre of non-jurisdictional wetland will result from the project. Mitigation for this action includes creation of 0.05 acre of new wetland, restoration of 0.6 acre of previously disturbed wetland, and restoration of 1 acre of wetland Adjacent Area on the site. Approximately 12.9 acres of the Project Development Area that is not currently developed 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 along the transmission interconnection corridor will be cut but will be allowed to revegetate to shorter (shrub) vegetation. An additional 1 acre of forested land will be converted to stormwater bioretention facilities.
- Air Resources – Although the project will be a new major source of air emissions, it will comply with state and federal air quality standards and will purchase nitrogen oxides and volatile organic compound offsets in quantities greater than its emission of these criteria pollutants. In addition, operation of the project will displace the operation of older, less efficient and higher emitting electric generating facilities in the region, resulting in a net decrease in emissions of air pollutants and greenhouse gases, as discussed in Section 4. Even without consideration of these net emissions reductions, operation of the project will neither cause nor significantly contribute to exceedances of health-based air quality standards established by USEPA and NYSDEC to be protective of the most sensitive individuals.
- Water Resources – Water demand will increase as a result of the project. However, consumptive water use has been significantly minimized through the technologies selected, including air cooled condensers, fin-fan coolers, and a ZLD system.
- Community Resources – The project is proposed on an existing, previously developed, industrial site and will not cause an irreversible or irretrievable commitment with regard to: land use, zoning, or community character; visual resources and aesthetics; traffic and transportation; noise; electric and magnetic fields; historical or archaeological resources; or socioeconomics.

8.4 Growth-Inducing Aspects of the Proposed Action

Potential growth-inducing aspects of the project have been considered throughout the DEIS, particularly in Section 6.7, and are summarized here. The project represents 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, while having minimal effect on the community and environment.

8.4.1 Employment and Associated Demand for Housing

Construction and operation of the proposed project will not result in major growth-inducing impacts. As outlined in Section 6.7.3.7, no significant increase in population or demand for additional residential development is expected to occur as a result of the project.

The project is anticipated to require up to 750 workers during the five-month peak construction period, with an average of 300 workers during the entire 36-month construction time frame. The available construction labor force in the area is anticipated to be adequate to meet construction needs without significant in-migration of construction workers.

Once operational, the facility is expected to employ 25 to 30 workers. No significant in-migration would be anticipated, although a limited number of professionals may relocate to the area. Given the number of operational jobs, no significant increase in population or demand for housing would result. No incremental increase in municipal services is anticipated due to growth in the local community.

The project will result in an increase in available jobs, particularly during the construction period. In addition to this beneficial change, the project will also have a positive contribution to the local tax base.

8.4.2 Economic Benefits and Fiscal Impacts

As discussed in Section 6.7.5, the project will result in a capital investment of $955 million for construction. Based on market factors, an evaluation has been completed that indicates the project would cause significant benefit to the local economy by generating new jobs regionally (an estimated maximum of 750 jobs during the peak construction period, and 25 to 30 jobs for the operational facility), increasing income, and increasing local revenues. 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, as discussed in Section 6.7.

8.4.3 Infrastructure Improvement

The purpose of the project is to provide an efficient, reliable, and competitive source of electric energy to assist in addressing the need for additional electricity and improved system reliability to New York State. The project, therefore, will be an infrastructure improvement for the town, county and state. The project, once operational, will generate a nominal 1,000 megawatts of electrical energy and interconnect with the Consolidated Edison Company of New York (ConEd) 345 kilovolt (kV) transmission line that feeds power to the Pleasant Valley substation to meet local demand and beyond to serve regional requirements. Existing interconnecting infrastructure (natural gas pipeline and electric transmission line) can accommodate the additional project demands without the need for substantial upgrades or improvements, including any offsite interconnection infrastructure.

8.4.4 Creation of Further Growth Potential by Construction of Improved Infrastructure

The project will be located on a parcel that is zoned for industrial use, and that currently is characterized by abandoned industrial structures representing the site's history of varied industrial use. Development of the project at this location is consistent with local planning and would bring an underutilized industrial site to more productive use without significant impact to the community or environment. The project is intended to serve existing energy demand within the region and is not expected to result in growth.

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

The proposed project will add baseload electrical generating capacity to meet regional needs and address energy demand and system reliability. Electrical demand directly associated with the project will be met through internal generation.

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 requires 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 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 would be required to generate the same amount of electricity.

Interconnection to the existing 345 kV electrical system and the existing natural gas pipeline at a location immediately adjacent to the Project Development Area and in a

manner that will not require extensive system upgrades (as addressed in Sections 1.5.10 and 1.5.11) provides an opportunity to add efficient energy generation to the state and region in a manner that will have minimal offsite impacts. The project will be among the cleanest combined cycle facilities in the United States.

8.6 Conclusions

The proposed project represents a unique opportunity to restore an inactive industrial site, currently characterized by dilapidated structures and remnants of prior activities, replacing 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 and have been mitigated to the extent practicable. In addition to substantial economic benefits to the community, redevelopment of the site with a highly efficient power plant will yield significant environmental benefits associated with site restoration and wetlands rehabilitation as well as air quality improvements and greenhouse gas reductions associated with the displacement of older, less efficient and higher emitting facilities.