



EXCELSIOR ENERGY CENTER

Case No. 19-F-0299

1001.17 Exhibit 17

Air Emissions

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Exhibit 17: Air Emissions

This Exhibit will track the requirements of Stipulation 17, dated July 6, 2020, and therefore, the requirements of 16 New York Codes, Rules and Regulations (NYCRR) § 1001.17.

This Exhibit contains a discussion of potential temporary impacts to ambient air quality resulting from the construction of the Project, typical of a commercial construction project. Such impacts could occur as a result of emissions from engine exhaust, from the generation of fugitive dust during earth moving activities, and travel on unpaved roads. There will be no back-up generator installed for operation of the Project. An identification of appropriate control and mitigation measures to minimize potential adverse impacts is provided.

17(a) Demonstration of Compliance with Applicable Federal, State, and Local Regulatory Requirements Regarding Air Emissions

The Project will comply with any applicable federal, state, and existing, substantive local regulatory requirements regarding air emissions.

(1) Federal Regulatory Requirements

Section 111 of the Clean Air Act (CAA) authorizes the U.S. Environmental Protection Agency (EPA) to develop technology-based standards, which apply to specific categories of stationary sources. These standards are referred to as New Source Performance Standards (NSPS) and are found in Title 40 of the Code of Federal Regulations (40 CFR) Part 60. The NSPS are developed and implemented by the EPA and are delegated to the states. There are approximately 100 NSPS, which apply to new, modified, and reconstructed affected facilities in specific source categories. There are no NSPS which apply to solar panels or energy storage facilities, as they do not emit air pollutants or greenhouse gases (GHGs) while in operation.

Section 112 of the CAA requires that the EPA develop and enforce regulations to protect the public from exposure to airborne contaminants that are known to be hazardous to human health and are not covered by the National Ambient Air Quality Standards (NAAQS). National Emission Standards for Hazardous Air Pollutants (NESHAP) are established to control the emissions of air toxics from sources in an industry group or source category. NESHAPs are found in 40 CFR Part 61 and 63. There are no NESHAPs which apply to solar panels or energy storage facilities.

The Acid Rain Program (ARP) was established by Title IV of the 1990 Clean Air Act Amendments. It requires major emission reductions of sulfur dioxide (SO₂) and nitrogen oxides (NO_x), the primary precursors of acid rain from the power sector. The SO₂ program sets a cap on the total amount of SO₂ that may be emitted by electric generating units (EGUs) in the contiguous United States. NO_x reductions under the ARP are achieved through a program that applies to certain coal-fired EGUs. The ARP will not apply to the proposed Project because it will not burn fossil fuels or emit either SO_s or NO_x.

(2) State Regulatory Requirements

2015 New York State Energy Plan (SEP)

The SEP, adopted by the New York State Energy Planning Board pursuant to New York State Energy Law § 6-104 in June 2015, provides a wide range of goals for New York's energy system (Senate Bill S6599). The SEP is based on five Guiding Principles: market transformation, community engagement, private sector investment, innovation and technology, and customer value and choice. The SEP, among other things, "sets out specific initiatives to increase renewables and decrease [greenhouse gas (GHG)] emissions" (SEP at 11). Its goals include attracting private investment in New York's energy sector and combating climate change. The SEP calls for reducing statewide greenhouse gas (GHG) emissions 40% from 1990 levels and generating 50% of the State's electricity from renewable resources by 2030 (SEP at 112). According to the SEP, large-scale renewables have several immediate benefits for the State: "economic development and jobs for communities across the State, greater stability in customer bills, [and] cleaner air..." (SEP at 71). The SEP was amended in 2020 to reflect the GHG reduction targets in the CLCPA, discussed below.

Clean Energy Standard (CES)

In August 2016, the New York State Public Service Commission (NYSPSC) adopted the CES to ensure that New York will achieve the SEP's 50% by 2030 goal (NYSPSC, 2016). The chief focus of the CES initiative is on building new renewable resource power generation facilities (CES at 78) (NYSPSC 2016). The CES also sought to reduce the "total emissions of air pollutants resulting from fossil fuel combustion" (CES at 3).

The CES employs two related mechanisms to reach the SEP's renewables goal. First, it requires load-serving entities (LSEs) to obtain an increasing percentage of their electricity needs from renewables. LSEs demonstrate compliance by purchasing renewable energy credits (RECs) from

renewable resources (CES at 14). Second, to ensure that an increasing amount of RECs are available to LSEs, the CES authorizes the New York State Energy Research and Development Authority (NYSERDA) to procure RECs from renewables (CES at 16). Renewables sited within New York are eligible to sell RECs regardless of their location within the State (CES at 106).

The NYSPSC's highest projection for the amount of utility-scale solar that would need to be installed to help reach the 50% renewables mandate was approximately 6,900 MW (CES, Appendix G at 17, 19). The NYSPSC noted that even if 100% of those projects were sited on New York agricultural lands, only about 0.16% of such lands would be converted to utility-scale solar (NYSPSC, 2016).

New York State Climate Leadership and Community Protection Act

On July 18, 2019, Governor Andrew Cuomo signed into law the Climate Leadership and Community Protection Act (CLCPA) (S6599, 2019). The CLCPA required that 70% percent of the electric generation secured by LSEs regulated by the Public Service Commission be produced by renewable energy systems by 2030, and that the statewide electrical demand system will be zero emissions by 2040. Th CLCPA is expected to incentivize the procurement of 6,000-MW of distributed photovoltaic (PV) solar generation by 2025.

Air Permitting

The New York State Department of Environmental Conservation (NYSDEC) Division of Air Resources (DAR) administers an air permitting program under New York State statutes and regulations (most notably, 6 NYCRR Part 201) and the CAA. Prior to commencing construction, a major stationary source (i.e., facility whose potential air pollution emissions exceeds certain thresholds) must obtain a Title V Facility Permit, which contains all air quality regulatory requirements applicable the facility. In addition, certain non-major stationary sources must obtain a State Facility Permit prior to commencing construction. Also, some categories of emission sources that do not require an air permit must nevertheless obtain a Facility Registration which requires that the owners notify the Department, provide information regarding facility operations, and satisfy certain regulatory requirements. Solar panels generate electricity without emitting air pollutants. Therefore, the Project will not require a Title V Facility Permit, State Facility Permit, or a Facility Registration.

(3) Local Regulatory Requirements

There are no applicable local regulatory requirements in the Town of Byron or Genesee County pertaining to air emissions.

17(b) Assessment of Existing Ambient Air Quality Levels and Trends

The CAA requires that the EPA set NAAQS for pollutants considered harmful to public health and the environment. NAAQS apply to criteria pollutants [i.e., particulate matter with a diameter ≤ 10 microns (PM_{10}), particulate matter with a diameter ≤ 2.5 microns ($PM_{2.5}$), nitrogen dioxide (NO_2), SO_2 , carbon monoxide (CO), ozone (O_3), and lead (Pb)]. Each NAAQS is expressed in terms of a pollutant concentration level and an associated averaging period.

NYSDEC DAR monitors criteria pollutant and air toxics concentrations at more than 50 sites across New York State. These sites are part of the federally-mandated National Air Monitoring Stations Network and the State and Local Air Monitoring Stations Network. Various private industrial facilities and utilities also monitor air pollution levels. The DAR publishes an annual summary of air quality data for the State. The most recent summary available is the New York State Air Quality Report for 2018 (NYSDEC, 2019). This report summarizes the ambient air quality levels and trends by NYSDEC region. The proposed Project would be located in NYSDEC Region 8¹. However, the closest site that is representative of the Project area is Middleport, located in NYSDEC Region 9. This particular site is identified as follows:

- Middleport in Niagara County (Site Number: 3120-02), which reports ambient air O_3 .

In 2018, the ambient air quality data collected at the Region 8 monitoring station were within the acceptable levels defined by the NAAQS for the monitored pollutants (NYSDEC, 2019).

No additional local air monitoring data is available to further define air quality in the immediate vicinity of the proposed Project.

¹ Chemung, Genesee, Livingston, Monroe, Ontario, Orleans, Schuyler, Seneca, Steuben, Wayne, and Yates Counties

17(c) Emissions by Combustion Sources at the Facility

The Project's solar arrays would generate electricity without combusting fuel. Therefore, a table indicating the rates and amount of emissions as specified by 16 NYCRR § 1001.17 (c) is not applicable to the Project and is not included in this Exhibit.

17(d) Assessment of the Potential Impacts to Ambient Air Quality That May Result from Pollutant Emissions from the Facility

(1) Construction Related Impacts

Temporary, local, and minor impacts to air quality could result from the operation of construction equipment and vehicles typical of construction projects. Impacts from fugitive dust created during site preparation and travel on newly created access roads could occur. Diesel generators may provide temporary electrical service to the construction trailers and during solar panel commissioning. Construction trailers would require only modest amount of electrical power for lighting, heating, cooling, computers, etc. Commissioning activities that require the use of generators typically occur for limited duration and during daylight hours. Additionally, engine exhaust emissions from construction vehicles will occur. Fugitive dust and exhaust emissions would be at low levels and for limited durations and would not significantly impact local air quality. Any impacts from fugitive dust emissions are anticipated to be short-term and localized and will be mitigated using dust control measures as described in Exhibit 12.

It is anticipated that none of these sources of temporary emissions would require an air permit or registration. The construction contractor will be instructed not to leave generators idling when they are not actively providing power. In addition, mufflers will be maintained. As a result, adverse impacts to air quality are not anticipated.

(2) Operation Related Impacts

Operation of the Project would not generate vented or fugitive air emissions. When operating, the Project would instead displace air emissions from fossil fuel-fired power plants as provided in Table 17-1. See Exhibit 8 for the analysis required by the Article 10 regulations.

Table 17-1. Excelsior Energy Center Displaced Emissions Summary

Year	CO ₂ (short tons)	NO _x (short tons)	SO ₂ (short tons)
2023	205,432	73	107

The expected displaced emissions can be compared to the emissions typical of passenger cars. EPA reports that an average motor vehicle in New York State emits 5.1 tons of CO₂e per vehicle year (EPA, 2018). Assuming that the average distance traveled per year is 11,500 miles, it is estimated that operation of the facility in 2023 would displace CO₂e emissions from the operation of approximately 40,300 passenger cars² respectively as shown in Table 17-2.

Table 17-2. Excelsior Energy Center Displaced Vehicles Summary

Year	CO ₂ (tons)	CO ₂ (tons/Vehicle-Year)*	CO ₂ Vehicle Offset [†]
2023	205,432	5.1	40,280

* tons of CO₂ per vehicle mile traveled.

† Number of passenger cars which are predicted to emit CO₂ equivalent to the emissions displaced by operation of the Facility, assuming average passenger car travels 11,500 miles per year.

17(e) Offsite Consequence Analysis for Ammonia Stored On-Site

Ammonia will not be stored or used on-site during Facility construction or operation.

² For example, (88,616 ton/year CO₂e x 2,000 lb/ton x 453.59 gram/lb) / (12,610 miles/car-year x 282.6 gram/mile) = 22,559 cars

References

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Town of Byron at: <https://www.byronny.com/> (Accessed: January 2020).