

## A. INTRODUCTION

The 2012 *City Environmental Quality Review (CEQR) Technical Manual* recommends a detailed analysis of energy impacts for projects that could significantly affect the transmission or generation of energy or that cause substantial new consumption of energy. Because the proposed project would not result in any of these conditions, a detailed assessment of energy impacts is not necessary. Nevertheless the *CEQR Technical Manual* recommends that a project's energy consumption be calculated and disclosed. Therefore, this chapter projects the amount of energy consumption required by the proposed project.

## PRINCIPAL CONCLUSIONS

The proposed project is projected to generate demand for 164,483 ~~171,124~~ million British Thermal Units (BTU) of energy per year. ~~This energy demand represents the~~ The total incremental increase in energy consumption between the future without the proposed project (the No-Action condition) and the future with the proposed project (the With- Action condition) would be 150,527 million BTUs per year. As explained in the *CEQR Technical Manual*, the incremental demand produced by most projects would not create a significant impact on energy capacity, and detailed assessments are only recommended for projects that may significantly affect the transmission or generation of energy. The proposed project would generate an incremental increase in energy demand that would be negligible when compared with the overall demand within Con Edison's New York City and Westchester County service area.

## B. EXISTING CONDITIONS

Within New York City, electricity is generated and delivered to most users by Consolidated Edison (Con Edison) as well as a number of independent power companies. Electrical energy in New York City is drawn from a variety of sources that originate both within and outside of the City. These include non-renewable sources, such as oil, natural gas, and coal fuel; and renewable sources, such as hydroelectricity and, to a much lesser extent, biomass fuels, solar power, and wind power. Electricity consumed in New York City is generated in various locations, including sites within New York City, locations across the Northeast, and places as far away as Canada.

Con Edison distributes power throughout New York City and Westchester County. Transmission substations receive electricity from the regional high voltage transmission system and reduce the voltage to a level that can be delivered to area substations. Area substations further reduce the voltage to a level that can be delivered to the distribution system, or the street "grid." Within the grid, voltage is further reduced for delivery to customers. Each substation serves one or more distinct geographic area(s), called networks, which are isolated from the rest of the local distribution system. If service is lost at a specific substation or substations, the network functions to isolate any problems from other parts in the service area. Substations are also designed to have sufficient capacity for the network to grow.

In 2011 (the latest year for which data are available), approximately 58 billion KWH, or 198 trillion BTUs were delivered in Con Edison's service area. In addition, Con Edison supplied approximately 129 trillion BTUs of natural gas and approximately 22 billion pounds of steam, which is equivalent to approximately 26 trillion BTUs.<sup>1</sup> Overall, approximately 353 trillion BTUs of energy are consumed within Con Edison's New York City and Westchester County service area annually.

### **C. THE FUTURE WITHOUT THE PROPOSED PROJECT**

In the No-Action condition, the existing project sites would continue to be occupied by approximately 509,337 gross square feet (gsf) of parking area. Since no emission intensity is provided in the current *CEQR Technical Manual*, the annual energy intensity of 27,400 BTU per gsf was assumed (provided in the 2001 *CEQR Technical Manual* Table 3N-1) for the parking area. Therefore, energy consumption in the No-Action condition would continue to be 13,956 million BTUs per year.

### **D. THE FUTURE WITH THE PROPOSED PROJECT**

The proposed project would result in the redevelopment of the project sites currently occupied by parking lots with approximately ~~625,100~~ 650,000 total gsf of commercial, theater space, and exhibition space that would consume energy, in addition to the Observation Wheel. For analysis purposes, the proposed project's commercial, theater space, and exhibition space uses are assumed to consume energy at the commercial building type rate (216,300 BTU/sf/year) as defined in Table 15-1 of the *CEQR Technical Manual*. For the parking area, the 27,400 BTU per gsf rate noted above was assumed. It is estimated that the Observation Wheel would consume 5,801 million BTUs per year. As described in Chapter 1, "Project Description," a waterborne transit landing may also be developed independent of the proposed North Site and South Site developments. The potential waterborne transit landing is anticipated to generate a negligible amount of energy, and therefore is not included in this analysis. Overall, the proposed project would generate an estimated total energy demand of ~~164,483~~ 171,124 million BTUs of energy per year (see **Table 13-1**).<sup>2</sup> However, sustainability measures and green technologies would be incorporated on both project sites. The North Site would be designed to achieve LEED Platinum certification, and the South Site would strive to achieve up to LEED Silver rating. Therefore, although these measures have not been included in the quantitative analysis, it is anticipated that the proposed project would generate less energy demand than noted above as a result of these initiatives. Con Edison or another power company would provide electricity, gas, or steam to heat, cool, and light the proposed project.

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<sup>1</sup> Consolidated Edison Annual Report, 2011.

<sup>2</sup> As discussed in Chapter 1, "Project Description," it is possible that the proposed sites could be developed with a No Catering Facility Scenario. This scenario includes the same program on the North Site as the proposed project. On the South Site, this scenario removes the 20,000-square-foot catering facility and 5,000 square feet of back of house space. This space would be replaced with 25,000 square feet of retail space. The No Catering Facility Scenario would have the same expected projected energy consumption as the proposed project.

**Table 13-1**

**Projected Future Energy Consumption of the Proposed Project**

Use	Size (sf)	Rate (BTUs/sf/year)	Energy Consumption (Million BTUs/Year)
Commercial	<del>615,000</del> 629,000	216,300	<del>133,025</del> 136,053
Parking	<del>856,700</del> 902,500	27,400	<del>23,474</del> 24,729
Theater Space and Exhibition Space	<del>10,100</del> 21,000	216,300	<del>2,185</del> 4,542
Observation Wheel <sup>1</sup>			5,801
<b>Total Energy Consumption</b>			<del>164,983</del> 171,124
<b>Note:</b>	1. Energy consumption for the Observation Wheel was provided by Applicant.		
<b>Sources:</b>	CEQR Technical Manual, Table 15-1 "Average Annual Whole-Building Energy Use in New York City," (the commercial building type rate was used for the proposed project); 2001 CEQR Technical Manual, Table 3N-1 (the parking garage rate was used for the parking use).		

The total increment in energy use between the No-Action and With-Action condition would be ~~150,527~~ 157,168 million BTUs per year. Compared with the approximately 353 trillion BTUs of energy consumed annually within Con Edison's New York City and Westchester County service area, this incremental increase would be considered a negligible change (approximately 0.04 percent of Con Edison's annual consumption).

In summary, the proposed project would not have any significant adverse impact on energy. \*