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 93,004 million BTUs of energy per year. Because the existing pier structure would remain vacant in the future without the proposed project (the No Action condition), this energy demand represents the total incremental increase in energy consumption that would be generated by the proposed project. 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 to 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 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 the 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 areas, 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 city. Substations are also designed to have
sufficient capacity for the network to grow. Con Edison provides natural gas and steam utilities to the boroughs of the Bronx and Manhattan.

In 2010 approximately 59 billion KWH, or 201 trillion BTUs were delivered in Con Edison’s service area. In addition, Con Edison supplied approximately 115 trillion BTUs of natural gas and approximately 23 billion pounds of steam, which is equivalent to approximately 23 trillion BTUs. Overall, approximately 339 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

As previously mentioned, in the No Action condition, the existing pier structure will remain vacant and would not consume energy.

D. PROBABLE IMPACTS OF THE PROPOSED PROJECT

The proposed project would result in the redevelopment of the vacant building on Pier 57 with approximately 443,600 total gross square feet (gsf) of space that would consume energy, including approximately 428,000 gsf of commercial, educational, and cultural uses and approximately 15,600 gsf of parking. The proposed project would also include a marina and rooftop open space, but it is assumed that these uses would generate a negligible amount of energy demand because they would require electric lighting only for a few hours each day. Therefore these uses were not included in the estimate of energy consumption. For analysis purposes, all of the proposed project’s commercial, educational, and cultural uses are assumed to consume energy at the commercial building type rate (216,300 Btu/square feet/year) as defined in Table 15-1 of the CEQR Technical Manual. For the parking area, since no emission intensity is provided in the 2012 CEQR Technical Manual, the annual energy intensity of 27,400 British Thermal Units (Btu) per gsf was assumed (provided in the 2001 CEQR Technical Manual Table 3N-1). Overall, the proposed project would generate an estimated total energy demand of 93,004 million BTUs of energy per year (See Table 13-1). Con Edison or another power company would provide electricity, gas, or steam to heat, cool, and light the proposed project.

<table>
<thead>
<tr>
<th>Use</th>
<th>Size (sf)</th>
<th>Rate (BTUs/sf/year)</th>
<th>Energy Consumption (Million BTUs/Year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Commercial, Educational, and Cultural</td>
<td>428,000</td>
<td>216,300</td>
<td>92,576</td>
</tr>
<tr>
<td>Parking</td>
<td>15,600</td>
<td>27,400</td>
<td>428</td>
</tr>
<tr>
<td><strong>Total Energy Consumption</strong></td>
<td></td>
<td></td>
<td><strong>93,004</strong></td>
</tr>
</tbody>
</table>

Notes:  
1. Although the marina and rooftop open space would generate some energy demand for lighting, the amount would be negligible and these components were not included in the calculations.

Sources:

2012 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 commercial, educational, and cultural uses); 2001 CEQR Technical Manual, Table 3N-1 (the parking garage rate was used for the parking use).

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Because the existing pier structure would remain vacant in the No Action condition, the 93,004 BTUs of energy projected to be used by the proposed project represent the total increment over the future without the proposed project. Compared with the approximately 339 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. In addition, the proposed project would implement a number of sustainability measures, as discussed in more detail in Chapter 16, “Greenhouse Gas Emissions.” These measures would help to limit the project’s energy consumption below the conservative projections set forth in this chapter.

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