3.14 ENERGY

Introduction

This chapter analyzes potential effects that the proposed action may have on energy demand. In accordance with the New York State Energy Conservation Construction Code, the project is expected to follow the applicable minimum standards for design and construction so as not to create adverse energy impacts.

Although significant adverse energy impacts are not anticipated as the result of the proposed action, the *CEQR Technical Manual* recommends that the amount of energy to be consumed during long-term operations be disclosed in environmental documentation for the project. Neither of the future action scenarios – the future condition without the proposed action or the future condition with the proposed action – is expected to have a significant effect on the availability or consumption of energy.

3.14.1 Existing Conditions

Consolidated Edison Company of New York (Con Edison), a regulated utility, provides electric, gas, and steam service in most of Manhattan and other areas of New York City. The electrical energy it distributes comes from various sources including non-renewable sources – coal, oil, natural gas, and nuclear fuel – and renewable sources such as solar, wind, hydropower, and biomass fuel (wood).

Currently, Con Edison has a service area of approximately 660 square miles and delivers electricity to more than three million customers. Annual electricity usage throughout its service area is estimated at nearly 55 billion kilowatt hours. In Manhattan, Con Edison serves approximately 1.6 million residents in a 23 square mile service area. In the New York City metro area, Con Edison delivers power through 57 area substations[1].

New York City's electricity is produced at generating facilities within the city, at facilities around the northeastern U.S., and at other locations such as Canada, e.g., HydroQuebec. High voltage electric power is placed on a transmission grid that provides power distribution across New York State. That power is accessed by substations within the city and ultimately by the individual consumer. Con Edison's electric plants provide approximately 1,700 MW of power (summer 2006 capacity)[2]. Peak summer demand, however, requires supplemental power from the entire transmission grid.

[1] Consolidated Edison website <www.coned.com/newsroom/energysystems_electric.asp>
[2] New York Independent System Operator, *2007 Load and Capacity Data Report*, 2007, <www.nyiso.com/public/services/planning/planning_data_reference_documents.jsp>

According to the New York Independent System Operator, the 2006 summer peak electricity demand for the Con Edison service area was 11,300 megawatts (MW), and the forecasted summer peak demand for 2007 was 11,780 MW.[3]

The current land uses on the proposed East 125th Street Development project site (Parcels A, B, & C) as listed in Table 3.14-1 on the following page require a relatively small amount of energy consumption. The current annual energy usage for the project site for gas and electric demand is approximately 6.2 billion BTUs.

Table 3.14-1: Energy Usage for Existing Land Uses within in the Project Site

Use	EXISTING		
	Consumption Rates BTUs/SF-DU/yr.	Size (SF/DUs)	Annual Energy Use (million BTUs)
Vacant land	0	51,115 sf	0
Commercial-Retail	55,800	21,328 sf	1,188
Parking Facilities	27,400	132,054 sf	3,616
Industrial	44,100	2,498 sf	110
Mixed Commercial/ Residential	55,800	2,813 sf	156
Transportation/Utility	27,400	8,341 sf	227
Residential (elec.)	17,250,000	4 DU*	69
Residential (gas)	52,000,000	4 DU*	208
Other	27,400	22,982 sf	627
Totals		**241,131 sf**	**6,201**

Notes:
Based on the following assumptions:
- Average Annual use per household: electric 5,052 kWh; gas 52 dekatherms (Con Edison Facts, 2005, <www.coned.com>).
- Industrial uses the Warehouse & Storage consumption rate from Table 3N-1 in the *CEQR Technical Manual*. Parking Facilities uses the Parking Garage rate. Transportation and Other use the Parking Garage rate. Other rates are listed in Table 3N-1.

* DCP's MapPluto database identifies four existing dwelling units on the project site on the upper floors of 225 East 125th Street. Field visits conducted between April and July 2007 by STV, Inc. indicate that these units are not occupied. However, the energy analysis considers the potential demand from four occupied units in this building for the purposes of a providing a conservative analysis.

3.14.2 Future Without the Proposed Action (No-Action Condition)

In the future without the proposed action, no other projects have been announced or planned for the project site or rezoning area. Therefore, energy consumption conditions at the site would remain the same as discussed under existing conditions. Con Edison would continue to provide energy to meet the demand.

Additional future development activities within a ½-mile radius of the project site are anticipated independently of the proposed action and have been discussed in earlier chapters. The 2012 future condition without the proposed action includes retail, office, community and

[3] Ibid 2.

religious facilities, manufacturing, and residential uses. The anticipated level of development and commensurate increase in population for this area would increase the demand for energy.

3.14.3 Future With the Proposed Action (Build Condition)

The future with the Proposed Action would require additional demands from the local energy provider. As detailed in Chapter 1, the proposed East 125th Street Development includes 1,000 units of low, moderate, and middle income housing; approximately 470,000 square feet of retail/entertainment space (including a 300,000-square foot anchor retail tenant, and approximately 120,000 square feet of specialty retail/entertainment space and 50,000 square feet of local retail); 300,000 square feet of commercial office space for media and production/post-production companies; 30,000 square feet of not-for-profit performing/media arts space; a 100,000-square foot hotel; and, a minimum of 12,500 square feet of public open space.

Table 14-2: Energy Demand for Future Land Use With the Proposed Action

Use	Consumption Rates BTUs/SF-DU/yr.	FUTURE Size (SF/DUs)	FUTURE Annual Energy Use (million BTUs)
Residential (elec.)	17,250,000	1,000 DU*	17,250
Residential (gas)	52,000,000	1,000 DU*	52,000
Commercial – Retail	55,800	470,000 sf	26,226
Commercial – Office	77,900	300,000 sf	23,370
Institutional/Performing Arts	65,300	30,000 sf	1,959
Hotel	145,500	100,000 sf	14,550
Public Open Space	0	12,500 sf	0
Totals			135,355

Notes:
Based on the following assumptions:
- Average Annual use per household: electric 5,052 kWh; gas 52 dekatherms (Con Edison Facts, 2005, <www.coned.com>).
- Consumption rates from Table 3N-1 in the *CEQR Technical Manual*.
- One kilowatt-hour (kWh) is equal to 3,413 BTUs.
- Energy for lighting in the public open space is assumed to be incidental.

* DCP's MapPluto database identifies four existing dwelling units on the project site on the upper floors of 225 East 125th Street. Field visits conducted between April and July 2007 by STV, Inc. indicate that these units are not occupied. However, the energy analysis considers the potential demand from four occupied units in this building for the purposes of a providing a conservative analysis.

For the build-out year, summer peak demand for all of New York City is forecasted at 12,645 MW and the entire New York Control Area (NYCA) at 35,566 MW. The total resource capacity that will be available to the NYCA for the summer of 2012 is forecasted at 40,500 MW. The difference is a surplus of approximately 15%.[4] The energy demand for the East 125th Street Development would be approximately 4.5 MW which accounts for 0.03% of the

[4] Ibid.

total forecasted electric demand for the city; therefore, energy consumption at this level would not be expected to have any significant adverse effect on energy systems.

The additional increment of development that would be possible as a result of the proposed rezoning of the separate United Moravian Church parcel that is to be rezoned only would not be expected to result in significant adverse impacts on energy resources. No development is proposed on that off-site parcel at this time.