

A. INTRODUCTION

The FGEIS analysis concluded that no significant impacts would occur to New York City's energy supply as a result of the sale and redevelopment of the First Avenue parcels. The FGEIS also determined that the illustrative development programs analyzed under the As-of-Right and 12 FAR Rezoning Scenario would not result in any adverse impacts to telecommunications or any adverse impacts to the public from electromagnetic fields (EMF). This chapter updates the assessment in the FGEIS to reflect changes in background conditions and the specific development program now considered under the Proposed Actions.

This analysis finds that the Proposed Actions would not significantly affect the transmission or generation of energy, and there would be no potential for significant adverse impacts on energy systems and telecommunications. In addition, this chapter finds that the proposed development program would not result in any significant adverse impacts from EMF. The energy demands of the proposed development program would not differ substantially from the energy demands associated with the illustrative development programs analyzed in the FGEIS. The expected demand for energy would be slightly less than the maximum demand analyzed by the FGEIS.

B. SUMMARY OF FGEIS FINDINGS**ENERGY**

The FGEIS analyzed the anticipated energy demands resulting from potential redevelopment of the First Avenue parcels under an As-of-Right Scenario and a 12 FAR Rezoning Scenario. The 2007 Interim Build Year and the 2011 Final Build Year were analyzed for each development scenario. The analysis found that energy demand expected to result from the development programs would range from 0.04 to 0.38 percent of the Consolidated Edison (Con Edison) 2002 actual service area energy requirement. The analysis of potential impacts on localized energy delivery capacity assumed that the illustrative development programs would consume electricity, gas and steam to the maximum extent feasible, and determined that each of the three delivery systems could function at the projected demand without resulting in significant adverse impacts.

ELECTROMAGNETIC FIELDS

Due to the proximity of the 685 First Avenue parcel to a Con Edison substation on the same block, the FGEIS included a detailed analysis of EMF levels at various locations in the vicinity of 685 First Avenue, and the potential effects of EMF on the illustrative development programs. As presented in the FGEIS, field measurements indicated that EMF levels would remain below the International Radiation Protection Association/International Commission on Non-Ionizing Radiation (IRPA/ICNIR) guidelines, and that there would not be any significant adverse impacts associated with EMF under the illustrative development programs analyzed by the FGEIS.

Compared to the illustrative buildings analyzed in the FGEIS, the building footprint currently proposed for the 685 First Avenue parcel is located at a further distance from the Con Edison substation. Therefore, no further EMF analysis is necessary. In the future with the Proposed Actions, EMF levels would remain below IRPA/ICNIR guidelines, and there would not be any significant adverse impacts associated with EMF levels.

TELECOMMUNICATIONS

Telecommunications includes the transmission of data and voice messages through various types of wire or fiber connections and by wireless connections. These services currently exist on the Development Parcels. In New York City, the incumbent local exchange is Verizon. In addition to Verizon, dozens of Competitive Local Exchange Companies (CLEC) provide telecommunications (wire and wireless) to residences and businesses in the New York metropolitan area.

Overall demand for telecommunications in New York City is expected to increase in the future. However, the private companies that supply these services either have sufficient capacity or will increase their capacity to meet this demand. There are likely to be changes to and consolidations in the industry, resulting in fewer but larger companies. These companies are expected to be able to meet the future demand either by installing fiber within existing conduit systems or by reinforcing existing conduit systems with new conduits.

The FGEIS found that the interstate system was capable of accommodating the additional telecommunications demand generated by the illustrative development programs. The local in-city system was found to be adequate for the anticipated increase in demand, although it was found to be likely that the existing conduit system that runs below First Avenue from the central switching office on 30th Street between Second and Third Avenues would need to be reinforced with the addition of new conduits. The Empire City Subway Company, a private entity, regularly installs new conduits under streets in Manhattan, pursuant to permits issued by the New York City Department of Transportation, which imposes various conditions designed to minimize impacts to adjacent buildings, traffic, and noise.

The change in background conditions and the proposed development program do not present any new or different conditions that would alter the findings of the analysis in the FGEIS with respect to telecommunications. As with the illustrative development programs analyzed in the FGEIS, the increased demand for telecommunications services that would result from the development program under the Proposed Actions would not significantly impact the existing interstate or local systems. Therefore, no further analysis of telecommunications is needed.

DECOMMISSIONING OF WATERSIDE STATION

In addition to analyzing the anticipated energy demands generated by the development scenarios, the FGEIS analyzed the potential impact on the reliability of the steam and electric systems due to the decommissioning of the Waterside Station located on the 700 First Avenue (Waterside) Development Parcel. The decommissioning of the Waterside Station was included in Con Edison's overall planning for provision of service in the area, and was replaced by the East River Generating Station as part of the East River Repowering Project (ERRP), which commenced in 2001. The steam and electric output from the ERRP exceeds the output from the Waterside Station, and is far in excess of what is needed. Therefore, the FGEIS concluded that the decommissioning of Waterside Station did not have an adverse impact on the steam and electric systems. Given that the Waterside Station has been decommissioned and the First Avenue parcels are no longer owned by Con Edison, the potential effects of decommissioning

the Waterside Station are not considered in the SEIS, but rather the decommissioning is considered to be an existing condition.

C. EXISTING CONDITIONS

Con Edison, along with other smaller transmission companies, delivers electricity to New York City and almost all of Westchester County. The electricity is generated by a number of independent power companies. Annual electric sales total nearly 50 billion kilowatt hours (KWH) of electricity supplied to Con Edison's delivery area (New York City and Westchester County). This is equivalent to about 170.75 trillion British Thermal Units (BTU) and does not include the energy content in the natural gas and other energy sources used in New York City.

The existing energy use on the Development Parcels is minimal. Con Edison has decommissioned Waterside Station, and the facility is being demolished. The Waterside output has been replaced by an expansion of the East River Generating Station as part of the ERRP.

D. FUTURE WITHOUT THE PROPOSED ACTIONS

In the future without the Proposed Actions it is anticipated that all of the Development Parcels will remain vacant, with no demand for energy or telecommunications.

In June 2002, the New York State Energy Planning Board released the New York State Energy Plan and Final Environmental Impact Statement, which sets forth the State of New York's energy policies and objectives for the next five years. The plan is to promote competition in the energy industries, secure reliable and reasonably priced energy supplies, reduce environmental impacts associated with energy generation and consumption, reduce vehicular congestion, and preserve energy-related public benefits programs. These are continuations of the policies developed in the 1998 Energy Plan that are currently in operation. Therefore, no large-scale changes in energy generation and consumption policies are foreseen over the next few years.

A number of power plant and transmission projects are planned or currently underway. While not all of the projects will likely be constructed, it is anticipated that sufficient additional generating capacity will be built to meet New York City's projected future demand for energy¹.

E. PROBABLE IMPACTS OF THE PROPOSED ACTIONS

This section discloses the anticipated future demand for energy of the proposed development program for the 2014 build year. The energy assessment applies *CEQR Technical Manual* methodology, using square footage figures as outlined in Table 1-1 of Chapter 1, "Project Description."

¹ Sources include: *Proposed Sale of Con Edison First Avenue Properties to FSM East River Associates, LLC. Final Generic EIS*, Case No. 01-E-0377, January 2004, Chapter 11: Infrastructure, Solid Waste, and Energy; *Brooklyn Bridge Park Draft EIS*, July 2005, Chapter 13: Infrastructure; *Downtown Brooklyn Development Final EIS*, April 2004, Chapter 13: Energy.

First Avenue Properties Rezoning Final SEIS

As discussed in Chapter 1, “Project Description,” the proposed development program would introduce a total of 3,753,607 gross square feet (gsf) of residential use, 119,936 gsf of community facility use, 1,532,437 gsf of commercial office use, 71,167 gsf of retail use, and 640,030 gsf of below-grade space. Of the below-grade space, 315,105 gsf would be dedicated to parking, while the remaining space would be used for mechanical services. The program would also include publicly accessible open space, which is not included in the energy analysis because the demand for energy generated from this use would be minimal.

All buildings would comply with the New York State Energy Conservation Construction Code Act. This code governs performance requirements of heating, ventilation, and air conditioning systems, as well as the exterior building envelope. The code, promulgated on January 1, 1979, pursuant to Article 11 of the Energy Law of the State of New York, requires that new and recycled buildings (both public and private) be designed to ensure adequate thermal resistance to heat loss and infiltration. In addition, it provides requirements for the design and selection of mechanical, electrical, and illumination systems. In compliance with the code, the proposed project would incorporate all required energy conservation measures, including meeting the code’s requirements relating to energy efficiency and combined thermal transmittance.

Energy demand for the buildings consists of loads for heating, ventilation, air conditioning, lighting, and auxiliary equipment, such as elevators and pumps. The annual energy consumption is calculated applying factors from the Association of Energy Engineers, 1997. It is conservatively estimated that the proposed development program would generate a demand of approximately 733,241 million BTUs per year, which is approximately equivalent to 214,663,784 kilowatt hours (kWh) (see Table 14-1). This consumption is approximately 0.36 percent of the Con Edison service area energy requirement, based on the 2002 actual service area energy requirement of 58.2 million megawatt hours (MWH). The projected service area energy requirement for 2014 is greater than the actual for 2002; thus, this comparison is conservative. Consumption at this level would not result in a significant adverse impact on the energy supply systems.

**Table 14-1
Energy Usage for the Proposed Project**

Use	Size (gsf)	Usage Rate (BTUs/sf/year)	Usage Rate (kWh/sf/year)	Energy Usage (Million BTUs per year)	Equivalent kWh
Residential	3,753,607	145,500	42.6	546,150	159,903,658
Retail	71,167	55,800	16.4	3,971	1,167,139
Office	1,532,437	77,900	22.8	119,377	34,939,564
Community Facility	119,936	65,300	19.1	7,832	2,290,778
Parking	315,105	27,400	8.0	8,634	2,520,840
Below-Grade Mechanical/Services	324,925	145,500 ¹	42.6	47,277	13,841,805
Total	6,117,177	N/A	N/A	733,241	214,663,784

Notes:

¹The *CEQR Technical Manual* does not provide a usage rate for mechanical services. To provide a more conservative assessment, the residential usage rate was applied to the below-grade mechanical/services space.

Source: *City Environmental Quality Review (CEQR) Technical Manual (2001).*

Electricity, natural gas, and steam are available energy sources at the First Avenue parcels. Electricity could be used for lighting, and gas and steam could possibly be used to provide heating and cooling to the buildings on the parcels. However, unless specified as part of an (E) designation, East River Realty Company, LLC (ERRC) would make the choice of energy sources for individual buildings at the time of development, based on system capacity, energy source, cost, and compatibility with the development.

F. FUTURE CONDITIONS WITH THE UNDC PROJECT

In the FGEIS, the proposed UNDC project at East 41st Street and First Avenue was considered as part of the baseline condition in the Future Without the Proposed Actions section. However, because the UNDC project is complex and requires approvals from the New York State Legislature, the New York City Economic Development Corporation, and possibly other public agencies, including its own environmental review, it is uncertain whether the project will be completed by 2014 or, in fact, ever built. Therefore, the Future Without the Proposed Actions section in this SEIS does not include the UNDC project. If this project were to be completed by the 2014 build year, its development would not alter the conclusion that the Proposed Actions would not significantly affect the transmission or generation of energy, and there would be no potential for significant adverse impacts on energy systems.

The 990,000 square feet of UNDC office and conference space is estimated to consume about 77,000 million BTUs per year or about 22,572,000 kWh per year. This is based on a consumption rate of 77,900 BTU per square foot per year or 22.8 kWh per square foot per year. The estimated energy use of the UNDC building combined with the proposed development program would represent approximately 0.41 percent of the Con Edison service area energy requirement, based on the 2002 actual service area energy requirement of 58.2 million megawatt hours (MWH). This cumulative consumption would not have a significant adverse impact on New York City's energy generation and transmission systems.

G. CONCLUSIONS

The energy demand expected to result from the proposed development program would constitute approximately 0.36 percent of the Con Edison 2002 actual service area energy requirement. As compared with the maximum energy demand that was expected to result from the development programs analyzed in the FGEIS (0.38 percent of the Con Edison 2002 actual service area energy requirement) the development program under the Proposed Actions would result in a slightly lesser demand for energy.

While the proposed development program would increase the demand for telecommunications services over current demand at the Development Parcels, the interstate system could accommodate the demand.² *

² *Proposed Sale of Con Edison First Avenue Properties to FSM East River Associates, LLC. Final Generic EIS, Case No. 01-E-0377, January 2004, Chapter 11: Infrastructure, Solid Waste, and Energy.*