Chapter 16: Energy

A. INTRODUCTION

This chapter assesses the potential effects that the Proposed Actions would have on energy consumption within the study areas. The chapter provides estimates of energy consumption in the Future with and without the Proposed Actions, and an assessment of potential impacts on existing and planned energy services available within the study area. The energy assessment also considers the adequacy of the regional energy supply and transmission systems to meet the future energy demands of the Proposed Actions.

For the Proposed Actions, energy is required for lights, appliances, electronic devices, elevators, heating, cooling and ventilation, and to power other building mechanical equipment and systems. Energy is also needed for the new ventilation and lighting systems that would be necessary for the Long Island Rail Road (LIRR) to continue to operate within its existing yard below the proposed platform supporting the Western Rail Yard development. Chapter 25, "Alternatives," considers a Tri-Generation Energy Supply Alternative, which would provide on-site facilities to generate electricity, heat, and cooling as part of the Development Site Project.

PRINCIPAL CONCLUSIONS

Overall, the Proposed Actions would not have a significant adverse impact on energy supply and distribution systems. The Proposed Actions would result in increased energy demands of approximately 32 megawatts (MW) for electricity and 0.12 million cubic feet per hour (cfh) for natural gas. Because these increases are small relative to the capacity of these systems and the current and future projected levels of service needs within New York City, these demand increases would not have a significant adverse impact on either electricity or natural gas services; however, some improvements to the local utility infrastructure would be required to connect the Development Site to the local utility distribution networks for electricity and natural gas.

Con Edison is responsible for providing electric and gas services throughout Manhattan, including constructing and maintaining the local utility infrastructure necessary to service customer requirements. Con Edison plans for the expansion of local utility infrastructure as necessary to accommodate projected growth citywide and the local demand increases for development projects such as the Proposed Actions.

The New York Independent System Operator (NYISO), as the responsible body for overseeing the safe and reliable operation of the electric transmission system across the State of New York, performs an annual review of the electricity needs for the State, and monitors the system supply and distribution capabilities for adequacy to meet projected demand growth. NYISO in its *2009 Reliability Needs Assessment* for the period from 2009 through 2018 anticipates that the resources needed to meet the forecast electricity needs of New York will be adequate in 2018.

The Developer has committed to achieve higher energy efficiency for the proposed buildings on the Development Site, resulting in 14 percent less energy use than would be achieved by

complying with the current building code. The Developer has also committed to seek LEED Silver certification for all proposed buildings. For the Additional Housing Sites, the New York City Department of Housing Preservation and Development (HPD) would require energy reduction measures in compliance with the New York State Energy Research and Development Authority's (ERDA's) Green Affordable Housing Component and Enterprise Community Partners' Green Communities ("Green Communities") program. Therefore, the Proposed Actions would be consistent with and advance the energy reduction goals of PlaNYC.

B. METHODOLOGY

The *City Environmental Quality Review (CEQR) Technical Manual* indicates that because all new structures that require heating and cooling are subject to the New York State Energy Conservation Code, which reflects state and City energy policy, those actions that would result in new construction or substantial renovation of buildings would not create adverse energy impacts. A detailed energy assessment is not required except for actions that could significantly affect the transmission or generation of electricity or that generate substantial indirect consumption of energy.

In accordance with the *CEQR Technical Manual*, this assessment developed an estimate of the annual energy consumption that would be associated with the Proposed Actions, and compared this to projected energy usage in the Future without the Proposed Actions. The primary concern is the capability of the supply and distribution systems to accommodate the demands associated with the Proposed Actions. The effects of the Proposed Actions on the supply and distribution systems would be greatest during periods of peak load demand. For this reason peak demand rates for the Proposed Actions have been calculated using usage rates developed by Con Edison (*Energy Infrastructure Master Plans – Hudson Yards and Lower Manhattan*, prepared by Con Edison, September 27, 2006) to assess the capabilities of the utility infrastructure to absorb the impacts of peak demands generated by the Proposed Actions.

The existing electrical and gas distribution systems in the vicinity of the Development Site were identified in the *No. 7 Subway Extension—Hudson Yards Rezoning and Development Program FGEIS ("Hudson Yards FGEIS")* as insufficient to handle the projected demands that would be associated with the Hudson Yards area projected development. These energy infrastructure improvements identified in the *Hudson Yards FGEIS* were considered in assessing potential impacts resulting from the Proposed Actions.

As described in Chapter 2, "Framework for Analysis," the analysis of the Proposed Actions will be performed for the expected year of completion of the project—2019. In addition, an assessment of the Proposed Actions' potential environmental impact was undertaken for an interim (2017) year of development.

C. EXISTING CONDITIONS

ELECTRICITY

Electrical energy for New York City is created from non-renewable sources such as oil, gas, coal and nuclear, and renewable sources including hydroelectric, biomass fuels, solar, and wind. New York City's energy is produced within the City, across the Northeast, and from locations as far away as Canada. The generated electrical power can be transmitted long distances through high voltage transmission grids to tie into the New York supply network. Interconnected power grids

extending across New York State link with northeastern grids and beyond, allowing power to be imported from other regions of the country as demand requires.

The NYISO is the body responsible for overseeing the safe and reliable operation of the electric transmission system across the state, following the deregulation of the energy market in New York State. The NYISO prepares a "Load and Capacity Data" report every year which provides a 10-year forecast of the summer and winter peak demand, annual energy requirements, and the available generating capacity, including anticipated new generating sources. The NYISO also directs an ongoing Comprehensive Planning Process that addresses the Federal Energy Regulatory Commission (FERC) requirements for independent system operators and New York State's resource adequacy and transmission infrastructure needs.

The NYISO's Planning Process adheres to the reliability rules of the New York State Reliability Council (NYSRC), including the statewide installed reserve margin requirement. The statewide Installed Reserve Margin (IRM) requirement, which establishes a mandatory generation and demand response supply reserve in excess of projected peak-demand load requirements, is currently set by NYSRC at 16.5 percent. NYISO has identified that generation and demand-side resources across the entire state of New York, or the New York Control Area (NYCA) for 2009, which provide a capacity of 42,077 MW compared to a peak load forecast of 34,059 MW. This indicates that the supply will exceed demand by 2,398 MW over the minimum 16.5 percent IRM (source: *2009 Reliability Needs Assessment – Final Report*. NYISO, January 13, 2009). The NYISO projects a peak electrical demand load of 12,127 MW for Con Edison's New York service area for 2009.

The deregulation of the energy markets across New York State that occurred in the 1990s resulted in the sales by government-regulated utilities of much of their generation business to independently owned energy generators. Con Edison sold many of its power generating facilities with the exception of its steam and steam/electric plants located within New York City. Accordingly, Con Edison is now primarily a distributor of electrical energy. In Manhattan, Con Edison also distributes natural gas, and, within more localized areas south of West 96th Street, operates a district steam-supply system. Con Edison distributes electricity throughout New York City. Transmission substations receive electricity from the high voltage transmission grid and local generating stations and reduce the voltage to a level that can be delivered to area substations. Area substations reduce the operating voltage to a level that it can be safely distributed through the network of local overhead and underground distribution cables in the streets for delivery to customers. Each area substation serves one or more distinct geographic areas, called networks, which are isolated from the rest of the local distribution system. Con Edison currently has 35 networks and 25 area substations in Manhattan. The purpose of the networks is that if a substation goes out of service, the problem can be isolated to that particular network and would not spread to other parts of the City.

A limited number of underground conduits containing cables that are part of the local distribution network are located in Twelfth Avenue, West 30th Street, and West 33rd Street at the Development Site. Two 10-inch diameters conduits containing transmission cables also run across West 30th Street eastward from Twelfth Avenue. The existing Caemmerer Yard uses electric power for rail traction power, signal and communications systems, electrical requirement for nighttime yard lighting, and operation of buildings and maintenance operations within the yard.

The existing yard is supplied with power from connections to the Con Edison grid system from the Control Tower/Substation building located near the corner of Tenth Avenue and West 33rd Street within the Eastern Rail Yard. The size of the main service into the yard consists of 10-

15kV rated feeders. Three sets of these 15kV feeders service the LIRR site needs of the existing Caemmerer Yard; the remainder is used for DC traction power for rail operations. The rail yard is currently open to ambient conditions; as a result, there is no mechanical cooling or ventilation requirements within the rail yard excluding the various service buildings. Other facilities located on the Development Site consume minor amounts of electricity, primarily for exterior and interior lighting.

For the *Hudson Yards FGEIS*, Con Edison estimated that the existing summer peak demand in 2004 for electricity within the Hudson Yards rezoning area was approximately 34 MW.

The existing Con Edison distribution network supplies electricity to the local streets surrounding the Additional Housing Sites. Power consumption at the existing parking lot located on the Ninth Avenue site is limited to exterior lighting. The Tenth Avenue Site presently does not consume any electricity.

NATURAL GAS

Con Edison provides natural gas service to the boroughs of the Bronx and Manhattan. In addition to residential and commercial uses for space heating, hot water, and cooking, natural gas is also used for transportation and to generate electricity and steam in power plants.

Demand for gas peaks during the winter heating season. Con Edison uses a design criteria for the company's gas system based upon severe weather conditions that last occurred during the 1933-34 winter. Under these criteria, Con Edison projected that for the November 2008-March 2009 winter heating season, its requirements for firm gas customers would total 98,000 million dekatherms (mdths).

Natural gas is delivered by pipeline to Con Edison to the various supply points throughout its service territory via an estimated 4,314 miles of mains and more than 382,000 services. There is a limited existing gas distribution network in the local streets surrounding the Development Site. The major natural gas pipelines in the neighborhood run along Tenth Avenue, and consist of a 20-inch-diameter, high-pressure main and a parallel 20-inch distribution main. In West 30th Street, a 6-inch main is located between the 20-inch distribution main in Tenth Avenue and other local distribution mains at Eleventh and Twelfth Avenues. There are no existing gas mains in the Eleventh Avenue, West 33rd Street, or Twelfth Avenue frontages of the Development Site.

The existing Caemmerer Yard is supplied with natural gas from two services in Tenth Avenue. The existing New York City Department of Sanitation (DSNY) facility at the corner of West 30th Street and Twelfth Avenue at the southwest corner of the Development Site is connected to the West 30th Street gas main.

Gas service is available to both of the Additional Housing Sites from mains running along Ninth Avenue and Tenth Avenue and the intersecting cross streets.

STEAM

Con Edison generates and distributes steam in Manhattan south of West 96th Street, primarily to large office buildings, apartment buildings, and hospitals. Demand for steam peaks during the winter heating months although some users also use steam during summer months for cooling. There is limited steam distribution infrastructure west of Ninth Avenue in the vicinity of the Hudson Yards area, and none in the immediate vicinity of the Development Site and the Additional Housing Sites.

D. THE FUTURE WITHOUT THE PROPOSED ACTIONS

In the Future without the Proposed Actions, there would be no new construction at the Development Site and Additional Housing Sites, and existing energy consumption characteristics would remain unchanged at these sites.

Energy usage throughout New York State and within New York City is projected to increase over the next ten years, both as a result of new growth and development, and trends at workplaces and homes including the increased use of flat screen televisions, computers, and other new electronics and handheld devices.

The NYISO has estimated that statewide growth in peak load demand for electricity in 2018 will be controlled largely through peak load demand management programs. On this basis, the NYISO projects a total demand growth from 34,958 MW in 2009 to 35,658 MW in 2018. This increase in demand will be met by a moderate increase in the supply capacity, based on anticipated new generating capacity and plant retirements, from 42,077 MW in 2009 to 42,536 MW in 2018. The NYISO also estimates that during this same period, the summer peak electricity demand in Con Edison's New York City service area will increase from a forecast peak of 11,955 MW in 2008 to 13,085 MW in 2018 without reductions from emergency demand response (load shedding) programs. NYISO develops these projections based in part upon an econometric model which may not reflect the full affects of the current economic recession on the ten-year demand forecast. The forecast also considers measures by Con Edison and other agencies to address forecast growth in energy demands in New York City through a combination of energy planning, infrastructure improvements, development of new and renewable energy sources, conservation and peak demand management. Based on its projections, NYISO considers that adequate electrical and gas capacity will be available to meet forecast demand in New York City throughout the ten-year period.

Con Edison previously prepared a projection of future electrical demand requirements for Hudson Yards as part of the *Hudson Yards FGEIS*. The *Hudson Yards FGEIS* forecast an increased peak demand of 77 MW by the year 2010, including 10 MW for a multi-use facility on the Development Site and 19 MW for the Convention Center expansion, and an increased peak demand of 309 MW by the year 2025 when the full development associated with the Hudson Yards actions was projected to be in-place.

In order to meet these projected demands, Con Edison identified the need for certain electrical system infrastructure improvements, including a new transmission substation and two new area substations. The schedule for these improvements was to be timed to coincide with the pace of development within the Hudson Yards area. The transmission substation was forecast to be needed by 2012, the one area substation by 2013, and the second area substation by 2021.

However, based upon current information regarding implementation schedules for various development projects throughout the Hudson Yards area, Con Edison has revised the planned implementation dates for the transmission substation to be needed by 2020 and the first area substation to be needed by 2021 (see Appendix L, "Con Edison Correspondence"). No revised target date has been set for the second area substation, which the *Hudson Yards FGEIS* identified as needed by year 2021. Improvements to electrical distribution lines within local streets throughout the Hudson Yards area will also be required to support the various building projects associated with that development.

Con Edison projected that planned developments associated with the Hudson Yards actions would increase peak demand for natural gas by approximately 4 million cfh, which included an incremental peak demand increase of 150,000 cfh for an expanded Convention Center and 90,000 cfh for a multi-use facility on the Development Site. There would have to be upstream modifications and enhancements to the gas transmission and distribution system to meet the increased demand. Locally, new gas mains, service lines and control valves would be required to support the new customer services.

Con Edison is continuing to work to ensure that electric and gas system infrastructure improvements are in place on a timely basis as warranted to meet existing and new service demands, and that these improvements are coordinated with other infrastructure and street reconstructions that will occur within the Hudson Yard area, including streets around the Development Site.

Con Edison performed a study to assess the feasibility of extending its steam distribution system to service the Hudson Yards redevelopment area as a result of commitments made during the environmental review process of the Hudson Yards FGEIS. The study indicates that in order to provide sufficient steam at an adequate pressure for satisfactory service to customers, construction of new steam generating capacity and extensive street construction to extend steam distribution mains to the area would be required. This system expansion would not be cost effective, particularly since there would be almost no offsetting savings in the cost of necessary electrical and gas distribution infrastructure. For these reasons, no future expansion of the Con Edison steam distribution system to local streets in the vicinity of the Development Site is planned.

E. PROBABLE IMPACTS OF THE PROPOSED ACTIONS—2019

The Proposed Actions would result in increased energy demands at the Development Site and Additional Housing Sites from the proposed new commercial, residential, community facility, open space, and parking uses. In addition, construction of a platform over the rail yard would necessitate new lighting and ventilation and reconstruction of existing LIRR buildings on the site to maintain LIRR operations. The Proposed Actions would be constructed in accordance with the *New York State Energy Conservation Code*.

The annualized operational energy consumption for the Proposed Actions, in British Thermal Units (BTUs), has been estimated as outlined in the *CEQR Technical Manual*. In the absence of project specific energy consumption factors, CEQR rates were utilized to establish a baseline order of magnitude demand, which also provides a consistent basis for comparison with other New York City development projects. These rates predate the current *New York State Energy Conservation Code*, which the project would follow, and for this reason are considered to be conservative. The current *New York State Energy Conservation Code* mandates sizeable reductions in the energy consumption rates for various heating, ventilation, and air conditioning (HVAC) and other mechanical systems compared to earlier versions of the same code.

The order of magnitude estimate of energy consumption for the Development Site is summarized in Table 16-1 and the energy consumption for the Additional Housing Sites is summarized in Table 16-2. Estimated annualized energy consumption indicated for the Additional Housing Sites are minor compared to the requirements for the Development Site, and would require minimal modifications to the local electrical and gas supply networks in place at the two sites. The load demand requirements are minor compared to system supply capacities, and for this reason are not analyzed further.

Table 16-1
Development Site:
Annual Operational Energy Consumption (BTU/YR)

Use	Energy Demand Generation Rate (BTUs/SF/YR)[1]	Maximum Residential Scenario				Maximum Commercial Scenario	
		Office Option		Hotel Option			
		Size (GSF)	Total Demand (Mil. BTU/YR)	Size (GSF)	Total Demand (Mil. BTU/YR)	Size (GSF)	Total Demand (Mil. BTU/YR)
Residential	145,500	4,469,063	650,249	4,836,563	703,720	3,837,225	558,316
Office	77,900	1,495,000	116,461	0	0	2,185,000	170,212
Hotel	145,500	0	0	1,008,000	146,664	0	0
Retail	55,800	220,500	12,304	210,000	11,712	220,500	12,304
School	76,400	120,000	9,168	120,000	9,168	120,000	9,168
Parking Garages	27,400	320,000	8,768	320,000	8,768	320,000	8,768
Platform Over LIRR[2]	N/A	N/A	105,000	N/A	105,000	N/A	105,000
TOTAL ANNUAL CONSUMPTION		**-**	**901,949**	**-**	**985,038**	**-**	**863,768**

Notes:
N/A = not applicable
1. Energy consumption rates as per *CEQR Technical Manual*.
2. Based on one half of total electrical demand of 8 MW for entire rail yard from Hudson Rail Yard MEP Outline Report, by Syska Hennessy Group, Inc., November 7, 2008

Table 16-2
Additional Housing Sites:
Annual Operational Energy Consumption (BTU/YR)

Use	Energy Demand Generation Rate (BTUs/SF/YR)[1]	Ninth Avenue Site		Tenth Avenue Site	
		Size (GSF)	Total Demand (Mil. BTU/YR)	Size (GSF)	Total Demand (Mil. BTU/YR)
Residential	145,500	96,300	14,012	176,300	25,652
Office	77,900	30,000	2,337	0	0
Retail	55,800	6,750	377	10,800	603
Parking	27,400	6,000	164	0	0
TOTAL ANNUAL CONSUMPTION			**16,890**		**26,254**

Note: 1. Energy consumption rates as per *CEQR Technical Manual.*

As described in Chapter 2, "Framework for Analysis," there are three development options being considered for the Development Site as shown in Table 16-1, the Maximum Residential Scenario-Hotel Option would result in the largest annual energy demand. This demand quantity includes the consumption of all sources of energy at the Development Site, including electricity, natural gas, and possibly fuel oil for peak winter heating and emergency standby power generation.

The above-listed energy consumption rates do not reflect potential efficiencies that would be realized if the proposed developments included mechanisms that would reduce total energy consumption. For the Development Site, the Developer has committed to achieving higher energy efficiency for the proposed buildings, resulting in 14 percent less energy use than would be achieved by complying with the current building code. The Developer has also committed to seek LEED Silver certification for all proposed buildings. As a result, the design would presumably incorporate several energy efficiency and energy reduction mechanisms that would reduce total energy consumption and electrical demand on the Con Edison distribution grid. For the Additional Housing Sites, HPD would require compliance with ERDA's Green Communities program, a subset of ERDA's Multifamily Performance Program, which is designed to improve the energy efficiency, health, safety, and security of new, affordable, multi-family residential buildings.

Projects participating in the Green Communities are required to attain the Energy Star label for mid- and high-rise buildings, would receive incentives for the installation of green building features, and are required to attain LEED Silver certification. Because details of these mechanisms for the Development Site and Additional Housing Sites would be developed during design, this assessment is based on the conservative case of maximum consumption without potential energy efficiencies and energy reduction mechanisms.

From an energy supply perspective, the primary concern related to potential impacts of the Proposed Actions is how the projected demands would affect available energy distribution infrastructure and the systems capabilities to provide the projected energy demands, particularly during periods of peak system load. For this reason, the peak energy demands for the two primary energy sources, electricity and natural gas, have been estimated for the Proposed Actions using demand rates developed by Con Edison and used previously by Con Edison to assess the infrastructure requirements for the Hudson Yards FGEIS (source: Energy Infrastructure Master Plans – Hudson Yards and Lower Manhattan, Con Edison, September 27, 2005).

The peak demand rates for each energy source vary with each development scenario for the Development Site because of the differences in demand by energy type for the various land uses. The Maximum Commercial Scenario would create the greatest peak electrical demand because of the large demand factor associated with modern offices for computer equipment and the resultant HVAC loads. The greatest natural gas load is associated with residential and hotel uses, which would also be the largest energy consumer on an annualized basis (see Table 16-1). The peak demand load analysis is summarized in Table 16-3 for peak electrical demand, and Table 16-4 for peak natural gas demand, and assumes that the proposed development would be entirely supplied with energy from ConEd systems offsite, and that the primary energy sources would be electricity and natural gas. It is assumed that no district steam would be available to the project sites.

Table 16-3
Development Site: Peak Electrical Seasonal Demand Load

Use[1]	Size[1] (GSF)	Electricity	
		Demand Factor (kW/1,000 GSF)[2]	Total Demand (kW)
Residential	3,837,225	2.5	9,593
Office	2,185,000	7	15,295
Hotel	0	4	0
Retail	220,000	5	1,100
School	120,000	6	720
Parking Garages	320,000	0.9	288
Open Space	285,000	3	855
Platform Over LIRR[3]	N/A	N/A	4,000
Total Peak Load Demands			**31,851**

Notes:
N/A = not applicable
1. Assumes Maximum Commercial Scenario for the Development Site
2. Energy demand rates as per Fig. 3-1: Demand Factors, *Energy Infrastructure Master Plans - Hudson Yards and Lower Manhattan*, prepared by Con Edison, September 27, 2005
3. Based on one half of total electrical demand of 8 MW for entire rail yard from Hudson Rail Yard MEP Outline Report, by Syska Hennessy Group, Inc., November 7, 2008

Table 16-4
Development Site: Peak Natural Gas Seasonal Demand Load

Use[1]	Size[1] (GSF)	Natural Gas	
		Demand Factor (Dth/HR/1,000 GSF)[2]	Total Demand (Dth/HR)
Residential	4,836,563	0.02	96.73
Office	0	0.01	0
Hotel	1,008,000	0.02	20.16
Retail	210,000	0.01	2.1
School	120,000	0.01	1.2
Parking Garages	320,000	n/a	0
Open Space	280,000	n/a	0
Platform Over LIRR[3]	N/A	n/a	0
Total Peak Load Demands			**120.19**

Notes:
N/A = not applicable
1. Assumes Maximum Residential Scenario-Hotel Option for the Development Site
2. Energy demand rates as per Fig. 3-1: Demand Factors, *Energy Infrastructure Master Plans - Hudson Yards and Lower Manhattan*, prepared by Con Edison, September 27, 2005
3. One dekatherm (Dth) is approximately equivalent to 1,000 cubic feet (cf) of gas.

Peak demand for electricity is generally during the summer and reflects high air conditioning demand, while peak demand for natural gas occurs during the winter heating seasons. Accordingly, the peak demands for these two energy sources are non-coincident, and installation of onsite power generation powered by natural gas is considered as a result to be a viable method of reducing peak load demand on the Con Edison utility systems.

The forecast peak electrical energy demand of 31.8 MW for the Development Site is a small percentage of NYISO's growth forecast for peak energy demand in coming years. Over the past five years, the peak electric demand within the Con Edison service area has increased by approximately 275 MW annually. Con Edison's maximum peak demand load in August 2007 was 12,807 MW. The Proposed Actions would generate a demand that is approximately 0.25 percent of this peak demand and would add minimally to existing and citywide projected demand forecast.

The forecast peak electrical demand for the Development Site is comparable to the peak demand increase of 29 MW that was previously forecast in the *Hudson Yards FGEIS* for a multi-use facility that was proposed for the Development Site and the adjacent Convention Center expansion. The Development Site peak electrical demand is also a small fraction of the approximately 300 MW demand increase that is expected when full build-out of the Hudson Yards ultimately occurs. Con Edison has determined that the Proposed Actions would not change the timing for or the need for electrical infrastructure improvements within the area (see Appendix L, "Con Edison Correspondence") and that the Proposed Actions can be accommodated without any changes to its infrastructure needs. Accordingly, the Proposed Actions would not have any adverse impact on the electrical supply and distribution systems.

Areawide demand for natural gas would increase as a result of the various developments associated with Hudson Yards, as described for the Future without the Proposed Actions. The Proposed Actions would have minimal impact on the Con Edison natural gas supply system, provided that infrastructure improvements that were identified in the *Hudson Yards FGEIS* are implemented on a timely basis to meet the requirements of the Hudson Yards developments in adjacent areas that will occur in the Future without the Proposed Actions. The forecast demand of 120,000 cfh for the Development Site is small compared to the requirement of 4 million cfh

forecast for other developments in the area in the Future without the Proposed Actions. The multi-use facility that was previously proposed for the Development Site as part of the Hudson Yards actions had a comparable forecast peak demand of 90,000 cfh**.**

Provided that the local natural gas distribution necessary infrastructure improvements identified in the *Hudson Yards FGEIS* are implemented on a timely basis when required to meet increased demand within the area that will occur in the Future without the Proposed Actions, the Proposed Actions would also be accommodated, and accordingly, the Proposed Actions would not have any adverse impact on the gas supply and distribution systems.

The Proposed Actions would require new electrical and natural gas services into the Development Site. These service locations would be determined during the design phase for the project, and would require coordination with Con Edison to ensure that adequate infrastructure is installed by Con Edison in the local streets frontages consistent with point of entries into the sites.

Compared to the system supply capabilities of both the Con Edison electrical and natural gas distribution systems, the increase in demand that would be required for the Additional Housing Sites is considered negligible.

PlaNYC, the City's long-term sustainability plan, include a set of energy initiatives and strategies to guide development of a reliable, affordable, and environmentally sustainable energy network for New York City. As described above, the Developer has committed to achieving higher energy efficiency for the proposed buildings on the Development Site, resulting in 14 percent less energy use than would be achieved by complying with the current building code. The Developer has also committed to seek LEED Silver certification for all proposed buildings. For the Additional Housing Sites, HPD would require compliance with ERDA's Green Communities program and therefore, the proposed developments would be required to attain the Energy Star label for the buildings, receive incentives for the installation of green building features, and would be required to attain LEED Silver certification. Therefore, the Proposed Actions would be consistent with and advance the energy reduction goals of PlaNYC.

F. PROBABLE IMPACTS OF THE PROPOSED ACTIONS—2017

As described in Chapter 2, "Framework for Analysis," for analysis purposes, the interim year of development of the Proposed Actions is 2017. By 2017, construction on the Development Site is anticipated to be complete for the three buildings closest to Eleventh Avenue, the central open space area, and a plaza located at the northwest corner of the site. The platform over the existing rail yard would be constructed in stages sequenced to the construction of the mixed use development above. Total program floor area would comprise 1.49 million gsf of office space or a 1,200 room convention-style hotel in the north building, retail space of up to 162,750 gsf, and up to 1,558 residential units in the two southerly buildings. The interim development would also include the PS/IS school, and 850 accessory parking spaces.

As described above, Con Edison anticipates that in the Future without the Proposed Actions, a new transmission substation and one area substation may be required by 2020 and 2021, respectively, depending upon actual demand growth generated by the Hudson Yards rezoning and associated development projects within the local area. However, as noted above, for the project's full build-out in 2019, Con Edison has determined that the Proposed Actions can be accommodated without any changes in its infrastructure needs. Therefore, the Proposed Actions would not have any adverse impact on the electrical supply and in the interim 2017 Future with the Proposed Actions condition. ✷