ASTORIA
GENERATING

GOWANUS GENERATING STATION
GOWANUS REPOWERING PROJECT

PRELIMINARY SCOPING STATEMENT

Astoria Generating Company, L.P.
Brooklyn, Kings County, New York

New York State Siting Board on Electric Generation Siting and the Environment
Case Number – 18-F-0758

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Acronyms and Abbreviations

ABS	American Bureau of Shipping
AGC or Applicant	Astoria Generating Company, L.P.
Application or Article 10 Application	Article 10, Section 164
Article 10	Article 10 of the Public Service Law
BMPs	best management practices
BOP	balance of plant
BQE	Brooklyn Queens Expressway
CD7	Community District 7
Certificate	certificate of environmental compatibility and public need
CFR	Code of Federal Regulations
CO	carbon monoxide
CO_2	carbon dioxide
COD	Certificate of Documentation
COFR	Certificate of Financial Responsibility
COI	Certificate of Inspection
ConEd	Consolidation Edison Company of New York, Inc.
DAR-10	NYSDEC Guidelines on Dispersion Modeling Procedures for Air Quality Impact Analysis
dBA	decibels
DCP	New York City Department of City Planning
DEC	New York State Department of Environmental Conservation
DOH	New York State Department of Health
DOS	New York State Department of State
DPS	New York State Department of Public Service

EJ Areas	Potential Environmental Justice Areas
Energy Plan	New York State Energy Plan
ECL	New York State Environmental Conservation Law
EPA	U.S. Environmental Protection Agency
EPC	Engineering, Procurement, and Construction
ERCs	Emission Reduction Credits
FAA	Federal Aviation Administration
FDNY	Fire Department of New York
FEMA	Federal Emergency Management Agency
FRP	Facility Response Plan
GEP	good engineering practice
GIS	Gas-Insulated Substation
GIS	Geospatial Information System
Gowanus facility	Gowanus Generating Station
GSU	generator step-up
H_2S	hydrogen sulfide
HP	horsepower
IBZ	Southwest Brooklyn Industrial Business Zone
ISO	International Standard Organization
kilovolt	kV
LDC	local distribution company
Leq	equivalent sound level
LPC	Landmarks Preservation Commission
M&R	metering and regulating
MLW	mean low water

MOSF	Major Oil Storage Facility
MW	Megawatt(s)
MWh	Megawatt hour(s)
NAAQS	National Ambient Air Quality Standards
Narrows facility	Narrows Generating Station
NO_2	nitrogen dioxide
NO_x	Nitrogen oxides
NPDES	National Pollution Discharge Elimination System
NRHP	National Register of Historic Places
NYCDEP	New York City Department of Environmental Protection
NYCDOT	New York City Department of Transportation
NYISO	New York Independent System Operator
NYPD	New York Police Department
NYS	New York State
OPRHP	New York State Office of Parks, Recreation and Historic Preservation
PIP	Public Involvement Program
PM	particulate matter
POE	Point of Entry
POI	Point(s) of Interconnection
power barges	barges with the generating units
Project	Gowanus Repowering Project
PSC	New York State Public Service Commission
psia	per square inch absolute
psig	per square inch guage
PSL	New York State Public Service Law

PSS	Preliminary Scoping Statement
PV	Photovoltaic
REV	Reforming the Energy Vision
RO	reverse osmosis
SBS	New York City Small Business Services
SCR	selective catalytic reduction
SGCN	Species of Greatest Conservation Need
SILs	Significant Impact Levels
Siting Board	New York State Board on Electric Generation Siting and the Environment
SLM	sound level meter
SMIA	Significant Maritime Industrial Areas
SNWA	Special Natural Waterfront Areas
SO_2	sulfur dioxide
SPCC	Spill Prevention Control and Countermeasure
SPDES	State Pollutant Discharge Elimination System
SPIP	South Pier Improvement Project
SWPPP	Stormwater Pollution Prevention Plan
USCG	U.S. Coast Guard
USLD	Ultra-Low Sulfur Diesel
VIA	visual impact assessment
VOCs	volatile organic compounds
VRP	Vessel Response Plan
WI	water injection
WRP	New York City Waterfront Revitalization Program

1. Introduction

This Preliminary Scoping Statement (PSS) is submitted to the New York State Board on Electric Generation Siting and the Environment (the Siting Board) and the New York State Department of Public Service (DPS) pursuant to Article 10 of the New York State Public Service Law (PSL or Article 10), Section 163, and regulations promulgated thereunder by 16 NYCRR §1005.1, on behalf of Astoria Generating Company, L.P. (AGC or the Applicant), in furtherance of AGC's anticipated application to the Siting Board for a certificate of environmental compatibility and public need pursuant to Article 10, Section 164 (Application or Article 10 Application). AGC operates two electric generating stations in Sunset Park, Community District 7, Borough of Brooklyn, Kings County, City of New York, namely the existing Gowanus Generating Station (Gowanus or Gowanus facility) and Narrows Generating Station (Narrows or Narrows facility) as presented in Figure 1 of this PSS. AGC is proposing to repower the older, less efficient electric generating units at the Gowanus facility and replace them with new, more efficient electric generating units, and then permanently retire the generating units at the Narrows facility (collectively, the Gowanus Repowering Project or the Project).

1.1 Organization of the PSS

This PSS provides as much information as reasonably available at this time regarding the Project as required by 16 NYCRR §1005.1, including a description of the proposed facility and its environmental setting and the proposed methodologies of the studies to be conducted for each Exhibit of the Article 10 Application and, where practical, identification of potential adverse impacts and proposed mitigation measures. Because the Project is still in the process of design, numerical values provided in this PSS regarding physical facility dimensions, power output, air emissions, fuel and water usage, and other design parameters are preliminary and approximate. These numerical values will be refined and will be confirmed during the preparation of other Federal, State, and local permit applications and for the submittal of the Article 10 Application.

This PSS has been organized in the form that it will appear in the Article 10 Application as outlined in 16 NYCRR § 1001 (Content of an Application), and all subsections of Section 4 of this PSS correspond directly to each Exhibit that will be included in the Article 10 Application, with the exception of Exhibit 1 (Project Description), which is included in Section 2.0 of this PSS. There are three Exhibits that are not applicable to the Project and, therefore, are not addressed in this PSS (Exhibit 6 Wind Power Facilities; Exhibit 30 Nuclear Facilities; and Exhibit 41 Applicant to Modify or Build Adjacent). There are certain

requirements within other Exhibits that also are not applicable to the Project, and those will be enumerated within the discussions of the Exhibits. Furthermore, since the major aspect of the Project relating to the Narrows facility includes its retirement, there is little discussion regarding Narrows in much of Section 4 Environmental Analysis because its retirement should not result in significant and adverse impacts (benefits may be specified).

Additional PSS requirements set forth in 16 NYCRR §1005(l)(2) are provided throughout. For reference and to ensure compliance with the PSS requirements, a cross-reference table is provided as Appendix B of this PSS, which cross-references the requirements of 16 NYCRR § 1005 (l) with the section of this PSS that provides the relevant information.

2. Project Description

2.1 Description of the Applicant & Applicant Information

The Applicant Astoria Generating Company, L.P. AGC, a wholly owned subsidiary of Eastern Generation, LLC, is a Delaware limited liability company. The company's certificate of formation is included as Appendix C to this PSS. Included in AGC's portfolio are three natural gas- and dual-fired generating facilities located within the New York Independent System Operator (NYISO) Zone J power market: the Astoria Generating Station (959 megawatts (MW)) located in Queens, New York; the Gowanus Generating Station (640 MW) located in Brooklyn, New York (Gowanus facility); and the Narrows Generating Station (320 MW), also located in Brooklyn, New York (Narrows facility). AGC acquired the three generating stations from Consolidated Edison of New York, Inc. (ConEd) in 1999 as part of the New York State Public Service Commission's electricity market restructuring.

2.1.1 Website

AGC established a website for the Project, www.repoweringbrooklyn.com. The website provides information regarding the Project and all applicable environmental and permitting review processes. The website will be updated continually throughout the Project process when new documents or other information become available.

2.1.2 Principal Officer and Project Contact Person

The relevant Principal Officer of AGC and the contact for the Project is Mr. John Paul Reese, Senior Vice President. His contact information is:

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2.2 Proposed Project

As stated above, the Gowanus Repowering Project includes (1) the repowering of the Gowanus facility by replacing the older, less efficient electric generating units with new, more efficient units, and (2) the permanent retirement of the generating units at the Narrows facility. As this Project is a true repowering, it is important to review the primary aspects of the existing facilities and then to outline the proposed changes that will make up the Project.

2.2.1 Current Facilities

The Gowanus facility, operating since 1971, is a 640 MW fuel oil and natural gas facility consisting of 32 simple cycle combustion turbine units situated equally across four floating barges moored to a pier located on the Gowanus Bay in the Gowanus/Sunset Park neighborhoods. The facility is one of the largest floating generating stations in the world. The Gowanus facility includes approximately 25 acres of primarily piers and submerged land.

The Narrows facility, of 1972 vintage, is a 320 MW fuel oil and natural gas facility consisting of 16 simple cycle combustion turbine units situated equally across two floating barges moored to a pier located on the Bay Ridge Channel in the Sunset Park neighborhood. The Narrows facility includes approximately 12 acres of primarily piers and submerged land. Both the Gowanus and Narrows facilities have very limited onshore land-based facilities.

Each existing unit at the Gowanus and Narrows facilities has a small enclosed stack with heights ranging from approximately 57 to 62 feet above the water level. Both facilities maintain, and are in compliance with, all required Federal, State, and City permits. A list of the current permits is attached to this PSS as Appendix D.

Both the Gowanus and Narrows facilities serve the NYISO Zone J (New York City) power market and are electrically connected within the Gowanus/Greenwood sub-load pocket at the 138 kilovolt (kV) level. This sub-load pocket encompasses much of Sunset Park and experiences constraints in providing electricity during peak electrical demand. The units are flexible from an operating perspective, can start with as little as 15 minutes notice, and are available year-round to offer system-peaking capacity. Both facilities have black-start capability (powered by conventional diesel engines), and the Gowanus facility was the first generating station to resume operations following the 2003 New York City blackout. In addition, the floating barges are able to withstand extraordinarily high tide and storm surges. Both the

Gowanus and Narrows facilities remained intact during Superstorm Sandy, demonstrating their resilience.

A total of 32 of the existing 48 units are equipped for dual-fuel firing of either pipeline natural gas or fuel oil. The fuel oil used at the Gowanus and Narrows facilities is Ultra Low Sulfur Diesel (ULSD). ULSD has been the liquid fuel used at the Gowanus facility exclusively since April 2010 and at the Narrows facility since January 2014. The USLD is stored at the Gowanus facility in a moored, double-hulled fuel barge, which was constructed in 2014 and is maintained in accordance with American Bureau of Shipping (ABS), U.S. Coast Guard (USCG), and DEC regulations[1]. The ULSD for the Narrows facility is stored in two fully-permitted tanks on AGC-owned property adjacent to the Narrows facility.

The current utility interconnects at the Gowanus facility include (1) existing natural gas pipelines,[2] (2) 138 kV electric feeder lines to the existing ConEd substations,[3] and (3) existing water supply and wastewater discharge pipelines. With regard to the current electrical interconnections, the feeder cables are partially aboveground on the piers and then continue below ground onshore to the POIs at the substations.

2.2.2 Proposed Repowering Project

The Gowanus Repowering Project will entail the replacement of the current 32 older generating units on four barges at the Gowanus facility with eight larger, more efficient, natural gas-powered units situated equally on two barges. The site plan of the current Gowanus facility and the preliminary conceptual site layout of the repowered Gowanus facility are presented in Figures 2 and 3 of this PSS, respectively.[4] The

[1] The fuel barge requires a Certificate of Inspection ("COI") under Coast Guard regulations (46 U.S.C. §3301; 46 CFR §§151-04-1 and 31.05-1) and is also lightly regulated by the DEC under its Major Oil Storage Facility ("MOSF") program under regulations found at 6 NYCRR Part 610. The DEC's MOSF license is primarily a registration certificate and, for vessels, is issued based on the results of Coast Guard inspections, as evidenced by the Major Petroleum Storage License Application—Section D for Vessels Only. The fuel barge is also in compliance with several other applicable Coast Guard regulations with (1) a Certificate of Documentation ("COD") under 46 CFR Part 67 (demonstrating ownership, registration, type of operation, etc.), (2) a Certificate of Financial Responsibility ("COFR") under 33 CFR part 138 (e.g., adequate insurance), (3) a Vessel Response Plan ("VRP") under 33 CFR Part 155, Subpart D (dealing with the potential for oil spills), and (4) a Vessel General Permit under the U.S. Environmental Protection Agency's ("EPA") National Pollution Discharge Elimination System ("NPDES permit"). The barges with the generating units (the "power barges") are required to have a COD and a COFR like the fuel barge and also (1) a Facility Operations Manual under 33 CFR Part 154, (2) a Facility Response Plan under 33 CFR Part 105 and (3) a Facility Security Plan under 33 CFR Part 105. There are small lubricant storage tanks located on the power barges to service the generation units. These tanks require Petroleum Bulk Storage permits from DEC under 6 NYCRR Part 613. The facility also has a Spill Prevention, Control and Countermeasure Plan required by the U.S. Environmental Protection Agency under the Section 311 of the Clean Water Act, 33 U.S.C. §1321, and 40 CFR Part 112.

[2] The Gowanus and Narrows facilities are currently connected to the National Grid New York natural gas distribution system and receive service under the "interruptible" natural gas tariff.

[3] For the Gowanus facility, the Points of Interconnection (POI) for each barge are at the ConEd Gowanus substation, located immediately adjacent to the Gowanus facility. For the Narrows facility, the POIs for each barge are at ConEd's Greenwood Substation, located next to Green-Wood Cemetery, northeast of Narrows. Both Gowanus and Narrows have 27kV lines coming into the plant to provide the facilities with onsite power.

[4] The configuration of the proposed repowered facility has not yet been finalized and will be presented in the Article 10 Application.

total MW rating of the Gowanus facility as repowered will be no greater than 590 MW, 50 MW less than the current facility's nameplate rating.[5] The decrease from four barges to two barges is expected to result in a reduction in the total shaded footprint of the water, which could have additional benefits for aquatic habitat.

Upon commencement of the repowered Gowanus facility, the Project will include the retirement of the Narrows generating units, resulting in an additional decrease of 320 MW of traditional generation in the Sunset Park area.[6] There will be no fossil-fueled electric generation at Narrows after that point, and a plan for disconnecting and removing the Narrows barges will be developed. The retirement of generating units at the Narrows facility opens up the possibility of using the interconnection infrastructure to support offshore wind resources or provide opportunities for energy storage (potentially on barges). AGC is exploring such opportunities outside but concurrent with the Article 10 process.[7]

Based upon the April 12, 2019, Draft 2019-2028 Comprehensive Reliability Plan, prepared by the NYISO, the Project is right-sized to maintain reliability based on an analysis of future energy needs for the Sunset Park area.[8]

The Project will continue to provide critical quick start capabilities and improve from a less than 15-minute start time to a less than 10-minute start time. Black start capabilities for this Project will be provided by storage batteries instead of the current conventional diesel-powered engines. The batteries also will provide power for station operation totaling approximately 3 MW. AGC is exploring the use of photovoltaic (PV) technology to assist in powering the battery facility.

AGC will be contracting under an Engineering, Procurement, and Construction (EPC) contract for the delivery of turnkey generating units/power barges. The power barges will be brought via water to the

[5] Manufacturers of new turbine technology do not provide actual nameplate ratings for their turbines. The MW ratings are provided in terms of International Standard Organization (ISO) conditions and winter and summer ratings. The ratings for the new repowered Gowanus facility have been refined since the Public Involvement Program Plan (PIP), in which 610 MW was presented at ISO conditions. The new units' output rating by the manufacturer is now 586.3 MW at ISO and winter conditions. The rating is less under summer conditions at 547.7 MW. The rating of the existing Gowanus and Narrows units are based on nameplate (Gold Book) ratings and may operate at higher capacities in winter and lower in summer.

[6] The Narrows retirement will be subject to regulatory requirements for notice to the New York State Public Service Commission and the NYISO prior to shut-down. *See Commission Order Adopting Notice Requirements for Generation Unit Retirements*, Case 05-E-0889 (December 20, 2005). This notice allows for reliability issues to be considered. AGC believes that a repowered Gowanus will provide the required reliability, allowing the retirement of the Narrows units.

[7] AGC is pursuing energy storage projects under a Request for Proposal from ConEd under the *Implementation Plan of Consolidated Edison Company of New York, Inc. and Orange and Rockland Utilities, Inc., for a Competitive Direct Procurement of Scheduling and Dispatch Rights from Qualified Energy Storage Systems*, submitted to the New York State Public Service Commission, February 11, 2019.

[8] The NYISO draft report found that, in 2025, the Greenwood/Fox Hills Transmission Load Area (including the Gowanus/Greenwood sub-load pocket) would have a capacity deficiency of 420 MW at the 138 kV level for up to 15 hours in a given day during summer conditions.

Gowanus facility location and installed by the EPC contractor using existing docking facilities, though upgraded spud beams and associated pier modifications may be required for proper mooring. If an evaluation of the existing spud beams finds the beams are to be replaced, upon a geotechnical investigation, a detailed design for new spud beams and a plan for their installation will be prepared. The power barges will require 12 feet of draft; however, no dredging will be required given the current water depth. In accordance with stack height requirements, the stacks on the two barges will have heights likely ranging from approximately 100 to 125 feet above the water level, with a diameter of approximately 12 feet.

Existing utility infrastructure will largely be used at the repowered Gowanus facility, which will minimize environmental impacts normally associated with the construction of new interconnects. For the natural gas interconnection, the repowered Gowanus facility will use the existing Point of Entry (POE) (16-inch diameter schedule 40 pipe) and the metering and regulating (M&R) station which are owned, maintained, and operated by National Grid. The piping downstream of the meter[9] is owned by AGC and will also remain in place for the repowered Gowanus facility, except that it is anticipated that there will be some upgrade of the aboveground gas piping along the piers to connect to the barges. Feeder cables (including take-off towers) from the barges to the Gowanus facility substation will also require certain maintenance upgrades due to age and to better service the new, efficient units. Paths and troughs for the existing feeder cables will be reused to the extent possible; the POIs will remain the same.

There will be an increase in water use, primarily for production and emissions control. As further discussed below, water will be demineralized and injected into the combustion cycle of the gas turbines to lower emissions. Whether an upgraded water line will be required will be evaluated in conjunction with the New York City Department of Environmental Protection (NYCDEP). If a new water line is required, the installation will be overseen by the NYCDEP. Regarding water line upgrades, existing locations will be used to the extent possible, and disturbance of any urban fill during installation will be of short duration and properly permitted and managed. Given the locations of such potential upgrades, it is not anticipated that there would be any public accessibility.

The new generating units will continue to be air-cooled and, as with the current Gowanus facility, the power barges will be equipped with oil/water separators for stormwater management.[10] ULSD, stored in

[9] The 16-inch line splits at the meter into smaller 12-inch lines.

[10] The existing Petroleum Bulk Storage permits for the oil/water separators, and the existing State Pollution Discharge Elimination System (SPDES) permit and best practices will be modified for the new repowered facility.

the existing fuel barge, will continue to be used primarily as a back-up fuel as required by the New York State Reliability Council for reliability and resiliency purposes (to be used no more than 720 hours per year). The repowered Gowanus facility will have a Selective Catalytic Reduction (SCR) system to dramatically reduce the emission of nitrogen oxides (NO_x) and an oxidation catalyst to reduce carbon monoxide (CO) and volatile organic compounds (VOCs). A 26,000-gallon urea storage tank (with 32% urea concentration) will be located on each of the two power barges as the reagent to support the SCR system. It is expected that urea will be delivered no more than once weekly via one approximately 7,500-gallon truck, depending upon the operation of the repowered Gowanus facility and ambient conditions. The urea vendor will be responsible for compliance with all applicable regulations of the New York City Department of Transportation (NYCDOT) and the Fire Department of New York (FDNY).

As discussed above, the more efficient units also will require demineralized water and, as such, a new 1.1 million-gallon demineralized water tank will be located on the South Pier, an earthen pier at the Gowanus facility that is currently used for storage, along with supporting auxiliary pump and electric skids. Up to six standard trailers also will be located on the South Pier, which will house the demineralization system. The trailers will likely be switched out once or twice a year depending on the unit operating profile. The entire demineralization system will be installed at or above the required flood elevation to meet resiliency requirements. Day tanks with a capacity of 15,000 gallons of demineralized water will be located on each of the two barges.

The repowered Gowanus facility will result in a significant decrease in emission rates (pounds per MWh produced) for all major pollutants: carbon dioxide (CO_2), NO_x, sulfur dioxide (SO_2), CO, VOCs, and particulate matter (PM2.5 and PM10). Even if Gowanus were to be operated more frequently than the current facility, the new, more efficient Project will displace substantial pollution from older, higher-emitting, in-City generating facilities, along with emissions reduction from the Narrows retirement, which is closer to Sunset Park residences. This increased efficiency, coupled with the displacement of older units, also will result in a significant decrease in natural gas use for electricity generation in New York City. Actual greenhouse gas and ozone producing emissions, regionally and locally, will be reduced dramatically.[11] Finally, as discussed above, the barge-mounted generating units and any new equipment installed or replaced on the piers will meet storm resiliency needs and help provide generation reliability during significant storm events.

[11] The Project also will comply with all Regional Greenhouse Gas Initiative requirements.

Any onsite installation or upgrade activities in Brooklyn associated with the Project will be performed by union and local workers to the extent possible, as has been AGC's consistent practice.

Because of the location of the repowered Gowanus facility and the retirement of the existing Narrows facility in an area with designated Potential Environmental Justice Areas, an environmental justice analysis will be performed in accordance with DEC regulations at 6 NYCRR Part 487, as further discussed in Section 4.28 of this PSS. The Project is the first one in New York City to be proposed for certification under Article 10.

2.3 Benefits and Need for Project

Even with New York State's laudable ongoing Reforming the Energy Vision (REV) policy and regulatory initiatives, the goal of generating 50% of the State's electricity from renewable energy sources by 2030[12] and possible future transmission and energy storage projects, traditional in-City energy generation will be required for reliability purposes well into the future. In order to maintain system reliability, the NYISO currently requires that at least 80% of New York City's electric generating capacity needs be met through in-City generation. To further the State's goal to reduce greenhouse gas emissions by 40% by 2030 and New York City's goal of reducing such emissions by 80% by 2050, such traditional generation should come from the most efficient and cleanest units possible, with qualities to increase resiliency and reliability. Additionally, much of the renewable generation envisioned to meet State and New York City goals is intermittent in nature and will require nimble, rapid response backup that can be called on to complement the new system needs. The efficient, rapid response, barge-mounted units of the Gowanus Repowering Project will position New York City electric generation for the future.[13]

The DEC has announced the development of new regulations for add-on pollution control systems for reducing NO_x emissions from older existing peaking units (6 NYCRR Part 227-3 proposed by DEC on February 27, 2019). Those rules are expected to go into effect by 2023-2025 and will apply to both the current Gowanus and Narrows facilities. Outside the Article 10 proceedings, AGC is preparing for the alternative of maintaining the current units in compliance with the upcoming regulations through the installation of either SCRs or water injection (WI) systems in parallel to the Project but believes that repowering the Gowanus facility and retiring the generating units at the Narrows facility will result in

[12] Governor Cuomo recently announced this goal should be increased to 70%.

[13] As discussed above, the Project is located in a sub-load pocket where the deliverability of electricity is constrained, and capacity will be deficient beginning in 2025. The Project will maintain reliability based on an analysis of future energy needs for the Sunset Park area.

greater energy efficiency and reliability, as well as greater or more comprehensive emissions reduction, and be better positioned for the future than the current Gowanus facility and Narrows facility units. The new, repowered units at the Gowanus facility will have substantially lower NO_x emission rates than will be required by the DEC for the existing units and will have lower emission rates for other pollutants as well, such as CO_2 (a greenhouse gas), SO_2 and particulate matter.[14] Controlling the existing units to meet the new NO_x emission limits would not reduce emissions of other pollutants. Therefore, the Project will provide an important advantage as it is expected that the older units will operate more over time in response to varying climate conditions and reliability pressures.

Specifically, the Project will replace older, less efficient generating units with new, more efficient units at the existing Gowanus facility, properly zoned as an M-3 heavy industrial area, with substantially lower emission rates. Additionally, the Project not only will result in the retirement of the generating units at the Narrows facility, significantly benefitting the Sunset Park community, but also may further displace other less efficient units on a Citywide and regional basis. Experience from 2000 to 2015 has shown that improvements in certain emissions within New York City resulted when substantial generation modernization occurred.[15] The Project will continue to improve the overall emissions profile in New York City. Additionally, since older, higher emitting units in New York City tend to operate more expensively, the displacement of those units by the new, more efficient Gowanus facility units will result in a reduced price in the wholesale electricity market.

In addition, of increasingly importance is resiliency of the Project. The storm surge from Superstorm Sandy left the Gowanus facility unharmed. The barges are uniquely positioned to operate through extraordinarily high tide and storm surges and to adapt to future water level rise. Continuing a new, more modern barge facility in the same location will add to electric generation reliability during a similar storm event, which is a major goal in both New York State and New York City resiliency plans. Securing future system resiliency is a major issue throughout the nation. The Federal Regulatory Energy Commission has begun a proceeding to investigate how to ensure and compensate for resiliency, defining resiliency as "the ability to withstand and reduce the magnitude and/or duration of disruptive events, which includes the capability to anticipate, absorb, adapt and/or rapidly recover from such an event." FERC Order, Grid Reliability and Resiliency Pricing, Docket No. AD18-7-000, 162 FERC ¶ 61,012

[14] NO_x emissions can result in the formation of ozone (smog). SO_2 and NO_x can result in the formation of fine particulate matter.

[15] For example, Astoria Energy I, a new baseload unit constructed in the Astoria section of New York City, commenced operations in 2006. Thereafter, the emissions profile in the City showed significant reductions in emissions.

(Issued January 8, 2018). The barges at the Gowanus facility, with their mobility and enhanced ability to remain operational under the most extreme tidal and storm conditions, serve an essential function in a resilient New York City. Furthermore, as New York City and New York State move toward greater reliance on renewable energy sources, should the Gowanus facility units no longer be needed for reliability, the barges may be easily removed without leaving behind abandoned infrastructure.

2.4 Project Study Area

In Siting Board rule 16 NYCRR §1000.2(ar), the study area for any project subject to review and approval under Article 10 is defined as "an area generally related to the nature of the technology and the setting of the proposed site. In highly urbanized areas, the study area may be limited to a one-mile radius from the property boundaries of the facility site." As discussed in Section 3 of this PSS regarding the existing environmental setting, the Project is clearly located within a highly urbanized area. In 6 NYCRR Part 487, rules promulgated by the DEC for the analysis of environmental justice issues associated with projects subject to review and approval under Article 10, the minimum required impact study area is a one-half mile radius around the proposed location of a facility. The impact study area may be increased "based on site-specific factors, including the nature, scope and magnitude of the environmental impacts, the projected range of those impacts on various environmental resources, and the geography of the area surrounding the location of the proposed facility." 6 NYCRR §487.4(b). Therefore, the study area may vary, depending on the Project's discerned impacts, but will include portions of the Brooklyn neighborhoods of Sunset Park, Gowanus, and Red Hook.

The study area as presented in the final Public Involvement Program (PIP) Plan, submitted to the DPS on February 11, 2019, was established at the 1-mile contour to encompass both the Gowanus and Narrows facilities at the request of the DPS for purposes of public notification. The study area is presented in Figure 4 of this PSS. Because the only component of the Project involving the Narrows facility is the permanent retirement of the fossil-fuel fired generating units, there are no expected significant adverse impacts associated with the shutdown. To the extent that any impacts (including beneficial ones) are identified with respect to the Narrows facility retirement, they will be discussed in the applicable sections in Section 4 of the PSS and the Article 10 Application. Therefore, the primary study area will be 1 mile from the Gowanus facility. As required in 6 NYCRR §487.4(b), the permit applications and accompanying environmental analyses in the Article 10 Application will further define the study area, as necessary.

3. Environmental Setting

This section of the PSS consists of a preliminary description of the Project's environmental setting and information pertaining to visual resources, cultural resources, geology/seismology and soils, wildlife, wetlands, noise and vibration, water resources, air resources, transportation, demographic and economic attributes of the community and land use. Information for this section is based on previous studies[16] and field observations in the vicinity of the Project and is compiled from published Federal and State mapping, reports, and technical studies. AGC will continue its analysis as required for the Article 10 Application and will conduct further studies, as necessary.

As discussed in Section 2.2.1 above, the Gowanus and Narrows facilities are located in the Gowanus/Sunset Park neighborhoods, Community District 7, Borough of Brooklyn, Kings County, New York. AGC has operated the facilities since 1971-2. Since then, no significant changes to the existing environmental setting and conditions at the Gowanus and Narrows facilities have occurred. The Gowanus facility includes approximately 25 acres of primarily piers and submerged land. The Narrows facility includes approximately 12 acres of primarily piers and submerged land. Both facilities have very limited onshore land. The Project, which consists of the repowered Gowanus facility units, will be installed and operated entirely within the bounds of the existing Gowanus facility. As described in Section 2.0, the only component of the Project that involves the Narrows facility is its retirement; therefore, this section focuses on existing land and water conditions within the vicinity of the Gowanus facility. The Article 10 Application will provide a more detailed and current environmental setting and existing conditions analysis of the Project site as required.

3.1 Visual Resources

The Project is zoned for industrial use and is bordered on the landward sides by large industrial facilities. The elevated Brooklyn Queens Expressway (BQE) is located to the south and east beyond these facilities. Due to the urban, heavily industrialized setting of the Gowanus facility, there is little vegetation in the immediate area. The Gowanus facility is located adjacent to the Gowanus Bay, outside and approximately 1 mile downstream of the National Register of Historic Places (NRHP) eligible area, the Gowanus Canal or Gowanus Creek. These waterbodies are heavily trafficked by large shipping and

[16] AGC had obtained permits to expand Gowanus in 2009-2010 as part of the South Pier Improvement Project (SPIP); however, the on-land expansion was never constructed due to the rapidly changing economic climate and resiliency concerns related to on-land construction. Gowanus' permits have been modified to delete reference to the SPIP. Several of the studies and evaluations discussed in this Section 3 use information from the Final Environmental Impact Study prepared for the SPIP.

transport vessels and smaller industrial support vessels. Across Gowanus Bay from the site is the NRHP-eligible Erie Basin, containing industrial and municipal facilities, as well as the Red Hook Recreational Area.

Vehicles traveling the BQE have intermittent views of the Gowanus facility between taller buildings and structures, such as the stacks of the New York Power Authority electric generating facilities, the cement silos of LafargeHolcim—Lafarge Building Materials, and other multi-story buildings. The close proximity of these large structures to travelers on the BQE is indicative of the heavily industrial nature of this area. Below the elevated BQE, located just east and south of the Gowanus facility, are multiple lanes of busy surface roads. These corridors demarcate the heavy industrial waterfront area from the more residential areas on the hillsides to the south and west of the BQE. The residential buildings are predominantly multi-family, three- to six-story attached houses. More recently constructed large apartment and mixed-use buildings are interspersed among the houses and heavily line 4th Avenue, along with substantial commercial uses. The elevated BQE limits access to the industrial waterfront and serves to screen residences on the lower hillside from the heavy industrial character of this section of the Brooklyn waterfront along Gowanus Bay. The hill crests along 7th Avenue, including much of the Prospect Park Historic District, the southeastern half of the Green-Wood Cemetery, and all of Prospect Park, are screened by intervening topography from views of the Brooklyn waterfront in the vicinity of the Gowanus facility. The 478-acre historic cemetery was founded in 1838, contains the highest point in Brooklyn, and offers panoramic views of the surrounding area. At its closest, the Gowanus facility is approximately 0.5-mile northwest of the cemetery entrance.

The Erie Basin is an industrial pier complex configured as an arc around a boat basin and situated across Gowanus Bay approximately 0.5 to 1.0 mile north of the Gowanus facility, in the Red Hook section of Brooklyn. The basin has been determined eligible for listing on the NRHP. The Gowanus facility is visible from southern portions of the Erie Basin (across the Gowanus Bay). The Red Hook Recreational Area abuts the Erie Basin to the east.

The Red Hook Recreational Area is located across Gowanus Bay from the Gowanus facility and offers ball fields and other outdoor recreational areas. A waterfront walkway and public parking were developed just east of the industrial Erie Basin, offering views of the water body and Brooklyn to the southeast. The Gowanus facility is visible among the existing structures along the Brooklyn waterfront area.

Visual resources and the anticipated studies are further discussed in Section 4.3 and 4.4 and will be fully analyzed in Exhibits 3 and 4 of the Article 10 Application.

3.2 Cultural Resources

In 2008, a Phase IA cultural resource evaluation was completed in accordance with Section 13.09 of the Office of Parks, Recreation and Historic Preservation (OPRHP) law and Section 106 of the National Historic Preservation Act (2008 Phase I) by John Milner Associates. Based on this previous study, there are no recorded Native American archeological sites within the 25 acres of the Gowanus facility or within the immediate surrounding area. The closest Native American archeological site is approximately 2,500 feet to the south near 37th Street and 3rd Avenue. There also are no sites listed, or determined eligible for listing, on the State and/or National Registers of Historic Places located on the Project site. However, there are 12 previously recorded archeological sites and 75 previously identified historic/architectural significant properties located within a 2-mile radius of the Project. Such existence can be assumed due to New York City's historic nature.

Cultural resources and the anticipated studies are further discussed in Section 4.20 and will be fully analyzed in Exhibit 20 of the Article 10 Application.

3.3 Geology, Seismology, and Soils

The bedrock in the greater Kings County area is comprised of crystalline metamorphic rocks (gneisses and schists). The majority of the bedrock underlying the Gowanus and Narrows facilities is Quaternary-age Glacial and Alluvial Deposits from the Cenozoic era (Isachsen and Fisher, 1970). Above the bedrock are glacially deposited soils, first a layer of glacial till followed by a layer of glacial drift (French & Parrello, 2008). The glacial soil is composed of a heterogeneous mixture of sand, gravel, silt, and clay. Above the glacial soil is a layer of marine tidal marsh deposits composed of compressible peat and soft organic silts and clays. Above the tidal marsh deposits, and approximately 5 feet below the ground surface, is a layer of surficial granular fill. The surficial granular fill is composed of coarse to fine sand interlaced with medium to fine gravel and silt as well as construction debris, such as wood, concrete, and brick. Otherwise, there are no unusual landforms or geologic formations at the Gowanus facility.

Since the existing and proposed repowered Gowanus units are located on water, no soil disturbances will occur. As discussed in the project description, any upgrades to existing electric feeder cables and water line should only result in minor disturbances of urban fill of short duration during installation. No

public access is anticipated to these areas. Further, the installation of the demineralization trailers and tank on the earthen South Pier also should not entail any significant soil disturbance. In general, Eastern New York State experiences relatively low levels of seismic or tsunami activity; however, Section 4.21 provides additional detail of the tectonic, seismic, and tsunami potential.

Geology, soils and seismology, and the anticipated studies are further discussed in Section 4.21 and will be fully analyzed in Exhibit 21 of the Article 10 Application.

3.4 Wildlife

The Project facilities have occupied Gowanus and Narrows since 1971 and 1972, respectively, and the land and water uses have not undergone any significant changes. As such, the existing wildlife habitat conditions have essentially remained the same.

The majority of on-pier and on-land portions of the Gowanus facility is covered with gravel with no open topsoil or significant vegetation. The Gowanus facility is located within and adjacent to the saline waters of Gowanus Bay and does not include fresh waters. Due to the extensive and historic industrial use of the area, there is a distinct lack of suitable habitat and prey. Common marine and estuarine species that may use the habitats in the vicinity of the Project include the American eel (*Anguilla rostrate*), Atlantic silverside (*Menidia menidia*), bay anchovy (*Anchoa mitchilli*), Atlantic menhaden (*Brevoortia tyrannus*), hogchoker (*Trinectes maculatus*), Atlantic tomcod (*Microgadus tomcod*), and grubby (*Myoxocephalus aenaeus*) (Woodhead, 1993; U.S. Fish & Wildlife Service [USFWS], 1997; Steinberg et al., 2004).

There are no significant or preferred natural habitat for birds at the Gowanus facility. However, the Project is located within the New York Metropolitan Area, which is a convergence zone for migrating waterfowl, shorebirds, and songbirds. Some species that are highly tolerant of human activities may be found at or near the Gowanus facility, such as the rock pigeon (*Columbia livia*), house sparrow (*Passer domesticus*), monk parakeets (*Myiopsitta monachus*), and gulls (*Larus* spp.), among others.

There also is no suitable natural terrestrial habitat at the Gowanus facility. Certain species of mammals that are tolerant of urban conditions, such as the raccoon, gray squirrel, striped skunk, and opossum, are occasionally observed on or in the vicinity of the Project.

Wildlife and the anticipated studies are further discussed in Section 4.23 (Terrestrial Ecology) and Section 4.23 (Aquatic Ecology), and will be fully analyzed in Exhibits 22 and 23 of the Article 10 Application.

3.5 Wetlands

According to the New York State Department of Environmental Conservation's (DEC) 1974 Tidal Wetlands Maps, the Project site is located in a tidal wetland–littoral zone. Littoral zones, as defined by 6 NYCRR Part 661, include all lands under tidal waters that are shallower than six feet deep at mean low water. According to the DEC Environmental Resource Mapper, no state-regulated freshwater wetlands exist within the Project site (DEC, 2008c). The Project waterfront perimeter is secured by timber and steel sheet-piled bulkheads and riprap. Adjacent waters are greater than six feet in depth at mean low water (MLW), with the exception of several areas immediately adjacent to the bulkhead or the riprap to the south. The depth of the water near the Gowanus Bay navigation channel is 28-30 feet. Additionally, the new Project barges will have a draft of 12 feet, without the need for dredging, so while some littoral zone may exist close to shore, the Gowanus facility is not primarily located in a littoral zone and will not subject to DEC tidal wetland regulations.

Wetlands and the anticipated studies are further discussed in Section 4.22.2 (Terrestrial Ecology and Wetlands) and will be fully analyzed in Exhibit 22 of the Article 10 Application.

3.6 Noise and Vibration

The Project is located in a heavy manufacturing zone district where the immediate surrounding uses are heavy industrial. The entrance to the Gowanus facility is located at 29th Street and 2nd Avenue, Brooklyn. The BQE is approximately 1,000 feet from the entrance of the Gowanus facility. The closest residentially zoned area is at 4th Avenue, approximately one-quarter mile east of the Gowanus facility entrance. Tech Environmental performed a noise study in 2008. The study was consistent with the DEC Noise Policy: Assessing and Mitigating Noise Impacts Program, DEP-00-1.

The baseline ambient sound levels ranged from 62.3 equivalent sound levels (Leq) (in decibels [dBA]) at the southern property line at the edge of the pier to 72.2 Leq (dBA) at the nearest residential receptor at 27th Street and 3rd Avenue. Baseline ambient sound levels at the Metropolitan Detention Center and another residential receptor at 27th Street and 5th Avenue were similar and totaled 65.2 and 67.4 Leq (dBA), respectively.

Maximum sound levels ranged from 85.5 to 96.5 dBA, intrusive sound levels (sound pressure level exceeded 10% of the time [L10]) ranged from 63.0 to 74.7 dBA, and background sound levels (sound pressure level exceeded 90% of the time [L90]) ranged from 55.2 to 67.7 dBA. Average sound levels (Leq) were between 62.3 and 72.2 dBA. These sound levels are typical for a busy urban area near a major highway with busy roadways and industrial activities.

Noise and vibration and the anticipated studies are further discussed in Section 4.19 and will be fully analyzed in Exhibit 19 of the Article 10 Application.

3.7 Water Resources

The Gowanus facility is located in the "Atlantic Ocean/Long Island" drainage basin adjacent to the saline waters of Gowanus Bay. There are no surface water bodies located within the Project.

According to the applicable Federal Emergency Management Agency (FEMA) Flood Map, the Gowanus facility is designated as Zone AE and Narrows is designed as Zone VE. Zone AE areas are defined as areas where base flood elevation levels have been determined and Zone VE areas are defined as those where base flood elevation levels have been determined and are coastal flood zones with a velocity, or wave hazard. Both the Gowanus and Narrows facilities also are defined as special flood hazard areas with a 1%-annual-chance of the base flood levels being equaled or exceeded.

This area of Kings County contains three major aquifers: the Upper Glacial Aquifer, the Lloyd Aquifer, and the Magothy Aquifer (NYSDEC, 2008d). The Lloyd Aquifer is the deepest aquifer, which is directly in contact with the bedrock and is considered to be pure and uncontaminated. At the Project, groundwater was encountered at depths ranging from approximately 4 to 7 feet below grade (French & Parrello, 2008). However, groundwater levels vary based on seasonal and tidal fluctuations and generally flow to the west or northwest toward Gowanus and Upper Bays.

The Gowanus and Narrows facilities' water is supplied by the New York City municipal drinking water system. Sanitary wastewater is currently discharged from the Gowanus facility through a gravity feed pipeline connection to an existing 4-inch line from the ejector pump vault to the sanitary sewer vault located at the Gowanus facility. From there, the sanitary wastewater discharges to Owl's Head Water Pollution Control Plant (WPCP) located at 6700 Shore Road in Brooklyn, New York. As discussed in the Project description, an increase in City water will be required at the repowered Gowanus facility primarily due to demineralization requirements for the new, more efficient Project.

Water resources and the anticipated studies are further discussed in Section 4.23 and will be fully analyzed in Exhibit 23 of the Article 10 Application.

3.8 Air Resources

The Gowanus and Narrows facilities are located along the Upper New York Bay in the Borough of Brooklyn, New York. The region has warm summers and cold winters typical of a continental climate. Mean monthly temperatures range from a low of 20°F in January and February to a low of 75°F in July. Typical daytime high temperatures range from 32°F during the winter to about 83°F in the summer. The annual average temperature is approximately 51°F.

Annual precipitation in the region is between 35 to 40 inches per year. Precipitation is evenly distributed throughout each month of the year but with more pronounced precipitation events during the spring and summer months. Heavy rainfall can occur during these periods.

Local wind patterns are influenced by the geography of the Hudson River Valley and the Atlantic Ocean. National Weather Service data for the La Guardia Airport station reflects predominant winds from the south and southeast, with a secondary feature from the west and northwest directions. Although these wind directions prevail due to the passage of large-scale weather systems, they are accentuated by the proximity of nearby water bodies.

40 CFR 50 establishes primary National Ambient Air Quality Standards (NAAQS) that define levels of air quality, with a margin of safety, required to protect public health. The U.S. Environmental Protection Agency (EPA) has established NAAQS for six criteria pollutants, SO_2, CO, ozone, Pb, NO_2, and particulate matter ($PM_{2.5}$ and PM_{10}). The federal air quality standard attainment status designations of areas in New York with respect to NAAQS are listed at 40 CFR 81.333. Brooklyn (Kings County) is an area that is in attainment, unclassifiable or maintenance for NAAQS for all criteria pollutants except for moderate non-attainment for 8-hour ozone. Note that $PM_{2.5}$ non-attainment status for Kings County was revoked in April 2014.

The air quality impact assessments and cumulative assessments discussed in Section 4.17 of this PSS will compare to the Significant Impact Levels (SILs) and NAAQS, respectively. Table 3.8-1 presents the current ambient air quality standards that will be used for the dispersion modeling analysis which will be discussed and analyzed in Exhibit 17 of the Article 10 Application.

Table 3.8-1. Averaging Periods, SILs, and NAAQS

Pollutant	Averaging Time	Class II Modeling Significance Levels (µg/m³)	NAAQS (µg/m³)
NO_2	1-Hour[1]	7.5	188
	Annual	1	100[5]
CO	1-Hour	2,000	40,000
	8-Hour	500	10,000
SO_2	1-Hour[3]	7.9	196
	3-Hour	25	1,300
	24-Hour	5	365
	Annual	1	80
PM_{10}	24-Hour	5	150[4]
$PM_{2.5}$	24-Hour[2]	1.2	35
	Annual	0.3	12

[1] NAAQS is 3-year average of the 98th percentile of the daily maximum 1-hour average.

[2] NAAQS is 3-year average of the 98th percentile of 24-hour concentrations.

[3] NAAQS is 3-year average of the 99th percentile of the daily maximum 1-hour average.

[4] Not to be exceeded more than once per year on average over 3 years

[5] Concentration not to be exceeded.

The Gowanus and Narrows facilities are both fully permitted to operate by the DEC and are in compliance with their respective air permits as presented in Appendix D.

3.9 Transportation

In addition to the roadway entrance in Brooklyn, the Gowanus facility has significant waterfront access that is used for barge delivery. The Gowanus facility is located within a heavy industrial area in an urban setting and is well-served by a network of interstate, Federal, and State highways, as well as located streets. The existing Gowanus facility does not require frequent truck traffic. The proposed Gowanus facility, installation, and operation will not require additional truck traffic, with the exception of a minimal increase for urea delivery for the pollution control system and the demineralization trailers, as discussed in the Project description.

Transportation and the anticipated studies are further discussed in Section 4.25 and will be fully analyzed in Exhibit 25 of the Article 10 Application.

3.10 Demographic and Economic Attributes of the Community

The Gowanus and Narrows facilities and all associated interconnections occur within Community District 7 (CD7) in Brooklyn, Kings County, New York. Based on current 2010 census data, as updated in 2015, and other data obtained from the DEC's Geospatial Information System (GIS) Tools for Environmental Justice website (www.dec.ny.gov/public/911.html), and in accordance with DEC regulations at 6 NYCRR §487.5, AGC has mapped Potential Environmental Justice Areas (EJ areas) within the study areas around Gowanus and Narrows as presented in Figure 5 of this PSS.[17] As shown in the figure, the Project is proximate to multiple EJ areas.

Section 4.28 will further explain the anticipated environment justice analysis and the consideration of potential environmental impacts resulting from the Project, including projected air pollution emissions and cumulative impact (in accordance with the requirements of 6 NYCRR §487.7 regarding cumulative impact analysis), to evaluate whether the Project will result in any adverse disproportionate impact on the proximate EJ areas.

Demographics and socioeconomics and the anticipated studies are further discussed in Sections 4.27 and 4.28 and will be fully analyzed in Exhibits 27 and 28 of the Article 10 Application.

3.11 Land Use

The Project is located within an M3 Heavy Manufacturing District, specifically within an M3-1 zoning district. M3 districts are designed to accommodate essential heavy industrial uses. The existing facility at the Project site is an electric power generating plant. Electric power generating plants are categorized as Use Group 18 and are permitted as-of-right in M3-1 zoning districts (See ZR Section 42-15(b)). The Project also is located within the Southwest Brooklyn Industrial Business Zone.

The M3-1 district covers the entire Sunset Park waterfront west of 3rd Avenue from Prospect Avenue to the north to 58th Street. The M3-1 district also covers the Red Hook waterfront located across Gowanus Bay, which is within the study area. East of the Project between 3rd Avenue and 4th Avenue, and certain portions between 4th Avenue and 5th Avenue, is an M1-2D zoning district. An M1-2D district is a transition district, which allows residential uses unlike typical M1 zoning districts (See ZR Section 42-02). Further west of the Project, beyond 4th Avenue, are predominantly R6B residential districts with

[17] The EJ map was subject to "ground truthing" as suggested by DEC guidance. This means that AGC representatives, to the best of their abilities, walked the area to ensure that non-conforming residences were not missed,

commercial overlay districts along portions of 4th Avenue, 5th Avenue, and 7th Avenue. R6 zoning districts are widely mapped in built-up, medium-density areas. Specifically, R6B districts are often traditional three- or four-story row houses, which preserve the scale and harmonious streetscape of neighborhoods. Along 4th Avenue from 24th Street to Atlantic Avenue is a greater density R8A zoning district with a C6-2 overlay. The R8A district allows for greater floor area and 120-foot maximum building height. This higher density district along 4th Avenue is the result of a 2011 rezoning that created an Enhanced Commercial District. EC-1 districts are meant to enhance vital emerging commercial districts, to encourage ground floor space within buildings occupied by commercial uses to enliven the pedestrian experience. (See ZR Section 132-00). The area immediately surrounding the Project is predominantly occupied with heavy industrial uses. The closest residential uses are located on 3rd Avenue, beyond 1,000 feet from the Project. The community character beyond the heavy manufacturing waterfront, but within the study area, is mixed-use in nature with light manufacturing, commercial, and residential uses occupying the blocks between 3rd avenue and 4th Avenue. Beyond 4th Avenue, medium-density residential and mixed-use residential-commercial buildings are the predominant uses.

The Narrows facility is located on the Bay Ridge Channel in the Sunset Park neighborhood with an entrance from 54th Street off of 1st Avenue. Similar to Gowanus, the Narrows facility is also located in an M3-1 zoning district allowing the existing Use Group 18 power generating facility to be permitted as-of-right. The M3-1 district extends east of Narrows to 2nd Avenue and north to Gowanus. South of Narrows, beginning at 57th Street is an M2 medium manufacturing district and extends to 66th Street where an R4 district immediately begins without a transition district. Directly east of Narrows from 54th Street to 58th Street at 1st Avenue is a mixed-use area (R6 residential district and C1-3 commercial overlay district) Avenue allowing residential (R6) within this area. East of Narrows between 2nd and 3rd Avenues from 54th Street to 66th Street is an array of residential and commercial districts creating a mixed-use area within these boundaries. NYU Langone- Brooklyn Hospital is located on the entire block bounded by 2nd Avenue 55th Street 1st Avenue and 56th Street. While Narrows is located within a heavy manufacturing M3 district, the immediate surrounding area is occupied with light manufacturing, community facilities, and residential uses.

4. Environmental Analysis

4.1 General Requirements – Exhibit 1

Information regarding the Applicant, website, contact person and principal officer is provided in Sections 2.1.1 and 2.1.2 of this PSS and will also be provided in the Article 10 Application.

4.2 Project Overview and Summary of Public Involvement – Exhibit 2

4.2.1 Description of the Proposed Facility

A concisely written description of the major components of the Project and its expected operation is provided in Section 2.2.2 (Proposed Repowering Project). The Project description assembles relevant and material facts on which the Applicant proposes the Siting Board makes its decision.

4.2.2 Summary of Public Involvement

On December 11, 2018, the Applicant submitted its draft PIP Plan. On January 11, 2019, the Applicant received comments on the Public Involvement Program (PIP) Plan from DPS, and on February 11, 2019, the Applicant responded to the DPS comments and submitted the final PIP Plan. The final PIP Plan is available on the DPS website, www.dps.ny.gov/SitingBoard/, and the Project website at www.repoweringbrooklyn.com.

The fundamental first step in designing a PIP Plan is determining who may be affected by the Project. AGC has identified affected agencies and municipal entities, utilities, adjacent landowners, community organizations, and other stakeholders. A master list of stakeholders and their mailing addresses (called the Notification List, which includes all known, potentially interested parties) was developed and will be updated as individuals or entities wish to be included on the list (see Appendix A of the PIP). A mailing was sent to everyone on the list to provide notice of and information about the Project and all applicable regulatory processes. Additional mailings will be sent to those on the list to inform them about upcoming meetings and project milestones.

In accordance with 16 NYCRR §1000.4(c), AGC's PIP Plan includes: (1) consultation with the affected agencies and other stakeholders; (2) activities to encourage stakeholders to participate in the permitting and review processes; (3) activities designed to educate the public as to the specific proposal and the review process; (4) a website to disseminate information to the public; and (5) notifications of major milestones. The PIP Plan will be ongoing throughout the entirety of the environmental and permitting

review process, to ensure Project information is being distributed and public outreach events encourage meaningful participation in the decision-making process. The PIP Plan also is designed to evolve in response to public concerns throughout the Project's design and review.

On March 5, 2019, AGC held two project announcement meetings at Our Lady of Perpetual Help, 526 59th Street, Brooklyn, NY, 11220. Presentations were provided via large poster board displays, which included (1) AGC's company profile, (2) the Project, (3) the Project schedule, (4) the environmental permitting and review processes (including the availability of funding for the community to participate in the process), (5) potential environmental impacts, (7) architectural design, and (8) environmental justice issues.

In accordance with Siting Board rules, certain public comment periods and meetings before a presiding examiner will occur prior to the adjudicatory hearing required by Article 10, Section 165. AGC will hold two other public information meetings that follow the same format as the Project announcement meeting, which will be held following the submission of this PSS and the Application. In addition, AGC will work with agencies, elected officials, and other stakeholders to ensure the information, resources, and studies it has prepared are satisfactory. AGC will participate in smaller stakeholder meetings as necessary.

AGC has issued (and will continue to) issue letter and/or email notifications to all known stakeholders on the Notification List about each major milestone and filing, as well as a notification at least 14 days prior to any public meeting. For public meetings, AGC also will publish a formal notice in the following newspapers:

- *New York Daily News* (Brooklyn edition)
- *AM New York* (free newspaper)
- *Brooklyn Eagle*
- *Brooklyn Home Reporter and Brooklyn Paper*
- *El Diario NY* (notice will be in Spanish)
- *Sing Tao Daily* (notice will be in Chinese)

In addition, flyers have been and will continue to be prepared in English, Spanish, Chinese, and Arabic, and distributed throughout the study area, including subway entrances, commercial businesses and

houses of worship. Lastly, AGC will use social media to place geo-targeted displays (532,000 ad views for the March 5, 2019, meetings) and Facebook ads covering a 1-mile radius around both the Gowanus and Narrows facilities, which are intended to reach approximately 140,000 people.

AGC has prepared (and will continue to) prepare educational materials as needed to inform the public about the Project and the environmental review and permitting process. These materials (e.g., fact sheets, brochures and progress reports) will be mailed to stakeholders via mail or email. Educational materials also will be distributed at public meetings, stakeholder engagements, the Project website (www.repoweringbrooklyn.com), and at the following repositories:

- Community Board 7: 4201 4th Avenue, Brooklyn, NY 11232 (718.854.0003)
- Sunset Park Public Library: 4201 4th Avenue, Brooklyn, NY 11232 (718.854.0003)
- Red Hook Public Library: 7 Wolcott Street, Brooklyn, NY 11231 (718.935.0203)
- Park Slope Public Library: 431 6th Avenue, Brooklyn, NY 11215 (718.832.1853)

AGC provides language accessibility as is required by 16 NYCRR §1000.4(d). Notifications and educational material, as well as the availability of translators at meetings, will be provided in Spanish, Chinese, Arabic, American Sign Language, and other languages as may become necessary.

4.2.3 Brief Analytical Analysis of Siting Criteria

Section 168 of Article 10 sets out standards and criteria for the Siting Board to grant a project a certificate of environmental compatibility and public need (Certificate) authorizing the construction of or, as in this case, repowering of a major electric generating facility. The Siting Board, in granting a Certificate, must make "explicit findings regarding the nature of the probable environmental impacts of the construction and operation of the facility, including the cumulative environmental impacts of the construction and operation of related facilities such as electric lines, gas lines, water supply lines, waste water or other sewage treatment facilities, communications and relay facilities, access roads, rail facilities, or steam lines, including impacts on: (a) ecology, air, ground and surface water, wildlife, and habitat; (b) public health and safety; (c) cultural, historic, and recreational resources, including aesthetics and scenic values; and (d) transportation, communication, utilities and other infrastructure." Because this Project requires an environmental justice impact analysis in accordance with DEC regulations found at 6 NYCRR Part 487, the Siting Board also must consider the cumulative impact of

emissions on the local community including whether the construction and operation of the facility results in a significant and adverse disproportionate environmental impact.

Specifically, the Siting Board may not grant a Certificate unless the board determines the following:

(a) The facility is a beneficial addition to or substitution for the electric generation capacity of the state.

(b) The construction and operation of the facility will serve the public interest.

(c) The adverse environmental effects of the construction and operation of the facility will be minimized or avoided to the maximum extent practicable.

(d) If the board finds the facility results in or contributes to a significant and adverse disproportionate environmental impact in the community where the facility would be located, the applicant will avoid, offset, or minimize the impacts caused by the facility on the community to the maximum extent practicable using verifiable measures.

(e) The facility is designed to operate in compliance with applicable state and local laws and regulations.[18]

In making its determination whether to grant a Certificate for this Project, the Siting Board also must consider:

(a) The state of available technology;

(b) The nature and economics of reasonable alternatives to the Project;

(c) Environmental impacts, if any, associated with the Project;

(d) The impact of construction and operation of related facilities, if any, with respect to electric lines, gas lines, water supply lines, waste water or other sewage treatment facilities, communications and relay facilities, access roads, rail facilities, or steam lines;

[18] The Siting Board may elect not to apply, in whole or in part, any local ordinance, law, resolution, or other action or any regulation issued thereunder, or any local standard or requirement, at the request of the Applicant. The Siting Board also may exempt the Applicant from compliance with certain other requirements based on the fact that such requirements may be unreasonably burdensome. At this time, AGC does not intend to request any relief from any local or other requirements.

(e) The consistency of the construction and operation of the facility with the energy policies and long-range energy planning objectives and strategies contained in the most recent state energy plan;

(f) The impact on community character and whether the facility would adversely affect Environmental Justice communities; and

(g) Such additional social, economic, visual or other aesthetic, environmental, and other considerations deemed pertinent by the Siting Board.

4.3 Location of Facilities – Exhibit 3

Descriptions of the locations for the existing and proposed facilities are provided in Sections 2.2.1 and 2.2.2 of this PSS, respectively.

4.3.1 Explanation and Overview of Maps

Figure 1 depicts the locations of the Gowanus and Narrows facilities on a recent aerial photograph with surrounding uses. The Gowanus facility is comprised of approximately 25 acres of primarily piers and submerged land. The Narrows site includes approximately 12 acres of primarily piers and submerged land. Both the Gowanus and Narrows facilities have limited onshore land. The Project will be located entirely within AGS-owned property.

Figure 2 is the site plan for the current Gowanus facility.

Figure 3 is the preliminary conceptual site plan for the repowered Gowanus facility.

Figure 4 depicts the study area for the Project showing a 1-mile radius around the Gowanus and Narrows facilities as discussed in Section 2.4 of this PSS.

Figure 5 depicts the Potential Environmental Justice Areas within the study areas presented in Figure 4.

Figure 6 is the Gowanus tax map in the Project vicinity.

Figure 7 is the Gowanus zoning map in the Project vicinity.

Figure 8 is the survey of the Gowanus facility.

Figure 9 is the survey of the Narrows facility.

Figure 10 is the USDA NRCS Soils Map.

Figure 11 is the FEMA Floodplain Map.

Figure 12 depicts the EJ Comparison Area, as further discussed in Section 4.28 of this PSS.

4.4 Land Use – Exhibit 4

4.4.1 Overview of Study Area and Maps

This section of the PSS addresses the information and analyses that will be presented in Exhibit 4 as required by NYCRR 1001.4. The technical aspects of the Project installation and operation relative to land use and zoning at the current facility will be addressed. A preliminary zoning analysis and an outline of the Project's consistency with local land use plans and policies that will be further studied in Exhibit 4 of the Article 10 Application are provided in the subsections below.

In addition, an evaluation of the Project's consistency with the requirements of local ordinances and local comprehensive plans, including developmental goals, coastal policies, and stipulations contained in the New York City Waterfront Revitalization Program and the community's 197-a Plan will be conducted. Land use and zoning designations in the Project area were determined through meetings with the New York City Department of City Planning (DCP), review of City codes, tax parcel maps, aerial photographs, U.S. Geological Survey (USGS) and New York State GIS file review, and field review, all of which will be supplemented during preparation of the Application.

The Article 10 Application will provide the following maps: (1) Project Site tax map, (2) zoning map, (3) land use map, (4) parks/recreation map, (5) utility transmission map, (6) proposed land use change map, if any, and (7) coastal area map. The Gowanus tax map and zoning map are submitted as Figures 6 and 7 of this PSS, respectively.

4.4.2 Zoning Analysis

The DCP is the City's primary land use agency and is charged with establishing zoning. The New York City Zoning Resolution (ZR) consists of 14 articles that establish the zoning districts for New York City and the regulations governing land use and development. The location and boundaries of zoning districts are established by the ZR and shown on the zoning maps, which are incorporated into the ZR.

The Project is located within an M3 Heavy Manufacturing District, specifically within an M3-1 zoning district. M3 districts are designed to accommodate the essential heavy industrial uses that involve more objectionable influences and hazards, and which, therefore, cannot reasonably be expected to conform to performance standards that are appropriate for most other types of industrial development. Within M3 districts, no residences or community facilities are permitted. (See ZR Section 41-13).

The existing and proposed use of the Project is an electric power generating plant. Electric power generating plants are categorized as Use Group 18 and are permitted as-of-right in M3-1 zoning districts (See ZR Section 42-15(b)). Since the pier on which the Project will be located is part of an existing use as a power plant, no special use permits are required under Article VI, Chapter 2, of the Zoning Resolution (Special Regulations Applying in Waterfront Areas). With the "as-of-right" designation, the Project will only need to obtain a primarily ministerial building permit from the New York City Department of Small Business Services (SBS), which is charged with issuing such permits in certain waterfront areas.

The M3-1 district covers the entire Sunset Park waterfront west of 3rd Avenue from Prospect Avenue to the north to 58th Street. The M3-1 district also covers the Red Hook waterfront located across Gowanus Bay, which is within the designated study area discussed in Section 2.4 of this PSS. East of the Project between 3rd and 4th Avenues, and certain portions between 4th and 5th Avenues, is a M1-2D zoning district. An M1-2D district is a transition district, which allows residential uses unlike typical M1 zoning districts. (See ZR Section 42-02). Further west of the Project, beyond 4th Avenue, are predominantly R6B residential districts with commercial overlay districts along portions of 4th Avenue, 5th Avenue and 7th Avenue. R6 zoning districts are widely mapped in built-up, medium-density areas. Specifically, R6B districts are often traditional three- or four-story row houses, which preserve the scale and harmonious streetscape of neighborhoods. Along 4th Avenue from 24th Street to Atlantic Avenue is a greater density R8A zoning district with a C6-2 overlay. The R8A district allows for greater floor area and 120-foot maximum building height. This higher density district along 4th Avenue is the result of a 2011 rezoning that created the Enhanced Commercial District. EC-1 districts meant to enhance vital emerging commercial districts, to ensure ground floor space within buildings occupied by commercial uses to enliven the pedestrian experience. (See ZR Section 132-00).

According to the DCP website and online application database, there are no proposed land use actions that would include the Project property boundaries. There are currently two major rezoning applications

within the study area: (1) the Gowanus Rezoning and (2) the Industry City Rezoning. Exhibit 4 of the Application will provide a further analysis of these rezoning actions and potential impacts.

Given the M3-1 zoning district designation, the area immediately surrounding the Project is predominantly occupied with heavy industrial uses. Sims recycling facility, Lafarge cement factory, South Brooklyn Marine Terminal, ConEd Gowanus substation, and the Metropolitan Detention Center are the major immediate surrounding uses. According to New York City's online land use data mapping tool, the closest residential uses are located on the west side of 3rd Avenue, beyond 1,000 feet from the Project. The community character beyond the heavy manufacturing waterfront but within the study area, is mixed-use in nature with light manufacturing, commercial, and residential uses occupying the blocks between 3rd and 4th Avenues. Beyond 4th Avenue, medium-density residential and mixed-use residential-commercial buildings are the predominate uses. The Application will provide a land use map and corresponding table specifying the acreage and percentage of each major land use occupancy within the study area using GIS mapping applications.

The N and R Metropolitan Transit Authority subway lines are located below 4th Avenue from Atlantic Avenue to 95th Street in Bay Ridge. The closest subway stop to the Project is at 25th Street and 4th Avenue. The D subway line also is located below 4th Avenue from Atlantic Avenue to 38th Street. The B37 Metropolitan Transit Authority bus line runs along 3rd Avenue, and the B63 bus line runs along 5th Avenue.

The Article 10 Application Exhibit 4 will a provide an analysis of the construction and operation of the Project and the potential impacts on surrounding land uses and community character.

4.4.3 Consistency with Locally Adopted Land Use Plans

The Project is located within the Southwest Brooklyn Industrial Business Zone (IBZ). The IBZ is governed by the NYC Economic Development Corporation. IBZs were designated to foster high-performing business districts by creating competitive advantages over locating in areas outside of New York City, to encourage industrial sector growth by creating real estate certainty. The IBZs are supported by tax credits for relocating within them, zone-specific planning efforts, and direct business assistance from the City's Industrial Business Service Providers and the SBS. The Southwest Brooklyn IBZ extends from 3rd Street in Gowanus to 63rd Street in Sunset Park west of 3rd Avenue. It also covers manufacturing

districts in Red Hook. Since the Project will be categorized as Use Group 18- electric power generating facility, which is a compliant manufacturing use, the Project is consistent with IBZ policy.

The Sunset Park 197-a Plan establishes a framework for revitalization of the Sunset Park waterfront. The 197-a Plan, named after a section of the New York City Charter, provides a framework or "blueprint" for development in a particular geographic area. The Application will provide a full analysis as to the Project's consistency with the Sunset Park 197-a Plan. Specifically, the Application will discuss the goals outlined in the 197-a Plan and how the Project aligns with them. The goals include: (1) to promote industrial redevelopment and job creation in Sunset Park while retaining existing industrial jobs, (2) to maximize waterfront access and open space opportunities in combination with industrial and waterfront redevelopment, (3) preserve existing industrial, commercial, and residential uses in the area, and (4) to preserve and celebrate Sunset Park's rich maritime and industrial heritage.

The New York City Waterfront Revitalization Program (WRP) establishes the City's policies for waterfront planning, preservation, and development projects to ensure consistency into the future. The WRP is authorized by New York State's Waterfront Revitalization of Coastal Areas and Inland Waterways Act, which was enacted in response to the Federal Coastal Zone Management Act and allows municipalities to participate in the State's Coastal Management Program by creating their own local Waterfront Revitalization Programs. The goal of this program is to maximize the benefits derived from economic development, environmental conservation, and public use of the waterfront, while minimizing any potential conflicts among these objectives.

As will be further discussed in Exhibit 4 of the Article 10 Application, the Project is located within the designated coastal zone and must be consistent with the policies set forth in the New York City WRP. The WRP designates six areas as Significant Maritime Industrial Areas (SMIA) and three areas as Special Natural Waterfront Areas (SNWA). The Project is located in a designated SMIA but not in or adjacent to a SNWA. The WRP identifies ten policies dealing with:

1. Residential and commercial redevelopment
2. Water-dependent and industrial uses, concerning SMIAs
3. Commercial and recreational boating
4. Coastal ecological systems concerning SNWAs
5. Water quality
6. Flooding and erosion

7. Solid waste and hazardous substances
8. Public access
9. Scenic resources
10. Historical and cultural resources

The policy on water-dependent and industrial uses is particularly relevant for the Project because the Project is located in a designated SMIA and consists of an existing waterfront energy facility. As stated in WRP Policy 2, "New York City's waterfront supports waterborne and airborne cargo and passenger transportation, industrial activity, and municipal and public utility services, including energy generation, storage and distribution facilities. These working waterfront uses have locational requirements that make portions of the coastal zone especially valuable as industrial areas." Furthermore, the WRP states, "if an activity maintains sufficient manufacturing zoning in SMIAs to permit heavy industrial uses essential to the City's economy and the operation of utilities, energy facilities and City services," then it is consistent with the City's goals for these areas. On this basis, it is anticipated that on completion of the WRP analysis, the Project will be consistent with the WRP and will not substantially hinder the achievement of any of the policies and, where practicable, will advance one or more of the policies.

As part of the WRP, DCP recently prepared guidance on specific flooding and resiliency issues (under WRP Policy 6 related to flooding and erosion). The project will be fully analyzed using such guidance. See DCP, *Climate Change Adaptation Guidance, Guidance on Policy 6.2 of the New York City Waterfront Revitalization Program*, November 2018.

Exhibit 4 of the Article 10 Application will include a full analysis of WRP consistency and completed WRP forms.

4.4.4 Potentially Impacted Community Facilities

The closest New York Police Department (NYPD) station to the Project is the 72nd Precinct station located at 830 4th Avenue, approximately 0.35 miles southwest of the Project. In addition to this nearby station, the NYPD also has facilities at the Brooklyn Army Terminal at 140 58th Street.

The closest FDNY station to the Project is Engine 228, located at 436 39th Street. This station is approximately 0.7 miles north to northeast of the Project. According to the Sunset Park 197-a Plan, a new firehouse is planned at the existing Engine 201 site, which would house Engine 201, Ladder 114, and Battalion 40. This planned firehouse has not yet been constructed.

Three existing sanitation facilities are located within the vicinity of the Project: City Department of Sanitation garage at 51st Street and 1st Avenue; Hamilton Avenue Marine Transfer Station at 16th Street and the Gowanus Canal, and Independent Environmental Services at 50th Street and 1st Avenue.

According to the Community Board 7 website, 89 public and private schools are located within a 2-mile radius of the Project (note, in accordance with Article 10, the Project study area for the Application is limited to 1 mile). The schools consist of elementary, middle and high schools. Many area educational facilities offer after-school and youth programming. In addition, a number of local community organizations and institutions offer adult educational opportunities, job training/job placement programs, and computer literacy classes. A total of seven libraries are found within a 2-mile radius of the Project. In addition to providing access to books, videos, and computers, the area libraries offer extended education classes (e.g., English as a second language) and professional development resources and play host to various cultural programs and children's activities.

The Red Hook Recreation Area, situated across Gowanus Bay, is large park that is located within the study area. This 58-acre park is located approximately 0.5 miles to the northwest of the Project and is comprised of athletic fields and playgrounds. Red Hook Recreation Area is under the jurisdiction of the NYC Department of Parks and Recreation.

One of the major area parks, Sunset Park, is bounded by 41st Street, 44th Street, 5th Avenue and 7th Avenue, and is located within the Project study area. It is a 24-acre park and includes a swimming pool, green fields, pedestrian walkways, a sand volleyball court, and a recreation center. Sunset Park is under the jurisdiction of the NYC Department of Parks and Recreation.

Bush Terminal Park is bounded by Marginal Street, 44th Street, 50th Street, and the water. It is located within the study area. Bush Terminal Park is a natural and recreational space in the industrial section of the waterfront. The park was once a port complex but was remediated and opened as a public park in 2014. Bush Terminal Park is under the jurisdiction of the NYC Department of Parks and Recreation.

The boundary of Prospect Park is located beyond the study area. Prospect Park, bounded by Prospect Park West, Parkside Avenue, Flatbush Avenue, Ocean Avenue, and Prospect Park SW, is a 526-acre park with a zoo, Audubon Center, ice rink, band shell, carousel, and athletic and recreational facilities. Prospect Park is under the jurisdiction of the NYC Department of Parks and Recreation.

Green-Wood Cemetery is located in Sunset Park and is bounded by 5th Avenue, 20th Street, McDonald Avenue, and 37th Street. It is partially located within the study area. Green-Wood Cemetery is a 478-acre urban cemetery founded in 1838. The cemetery gates were designated a NYC landmark in 1966, and the visitor's center, in 1982. The cemetery was granted National Historic Landmark status in 2006. The Fort Hamilton Parkway Gate and the cemetery's chapel were designated as NYC landmarks in 2016.

There are three hospitals/emergency rooms within a 2-mile radius of the Project. NYU Langone Hospital-Brooklyn is located at 150 55th Street, and New York-Presbyterian Brooklyn Methodist Hospital is located at 506 6th Street, both of which are located just beyond the study area. The Maimonides Medical Center, located at 4802 10th Avenue, is located approximately 1.75 miles from the Project. Smaller, ambulatory health care facilities as well as mental health and substance abuse services also operate in Community District 7.

4.4.5 Potential Environmental Impacts on Residential and Community Uses

The construction and operation of the Project is not anticipated to have any adverse impact on any of the residential dwellings or community facilities described in Section 4.4.2 and 4.4.4. The activities at the Project will be similar in nature to the existing facility and will not create any significant demands for additional community facilities or services or require significant adjustments to current practices. Local police, fire, USCG, and emergency response personnel are familiar with the existing facility, and any additional training specifically related to the Project will be conducted. The Application will analyze the potential impacts the Project may have on these uses.

As discussed above, the Project may be undertaken as-of-right under the Zoning Resolution. The Project will be in compliance with all zoning and building codes and local ordinances. Moreover, the Project will be constructed and operated to ensure consistency with local comprehensive plans.

4.4.6 Qualitative Analysis of Compatibility of Proposed Facility and Interconnection

The Application will provide a qualitative analysis of the Project's compatibility and interconnection with local land use and zoning.

4.4.7 Current Aerial Photographs

The Application will provide current aerial photographs with a detailed explanation as to how the photographs characterize the land use and zoning within the study area.

4.4.8 Proposed Avoidance, Minimization, and Mitigation Measures

The Project will be in full compliance with all local ordinances and consistent with future land use and local comprehensive plans. Therefore, it is anticipated that mitigation measures with respect to Land Use and Zoning will not be necessary. To the extent practicable, green design measures (including potentially PV technology) for the Project will be discussed in the Article 10 Application.

4.5 Electric System Effects – Exhibit 5

This section of the PSS addresses the information and analyses that will be presented in Exhibit 5 as required by 16 NYCRR 1001.5.

4.5.1 Existing Facility

The existing Gowanus facility is composed of four barges, each housing eight GE Frame 5N gas turbines, for a total of 32 gas turbines, and balance of plant (BOP) equipment.

The four Gowanus facility power barges (numbers 1-4) are connected to the adjacent ConEd Gowanus Substation via underground feeder cables (cable numbers 42421, 42422, 42423, and 42424, respectively). These feeder cables connect to common 138kV buses inside the Gowanus Substation. The output from these common bus connections is then transmitted to the Greenwood Substation via Con Ed-owned underground feeder cables (cable numbers 42G13 and 42G24).

The existing Narrows facility is composed of two power barges, each housing eight GE Frame 5N gas turbines, for a total of 16 gas turbines, and related interconnection and other equipment. The Narrows facility power barges (numbers 1 and 2) are connected directly to the Greenwood Substation via underground 138kV feeders 23161 and 23162, respectively.

Following the completion of the repowering and subject to applicable regulatory requirements, the Narrows gas turbine barges will be retired, and the Project will consist of only two new power barges at the Gowanus facility, each housing four Siemens STG-A65 gas turbines, for a total of eight new gas turbines.

The new gas turbines on the barges will be interconnected to the same existing points of interconnection (POI) at the ConEd Gowanus Substation as are currently used by the facility.

New Barge 1 units will interconnect using the existing Barge 1 and 3 interconnections, and feeders 42421 and 42423, respectively. While the existing underground cables will likely be upgraded with new 1500 KCMIL XLPE cables, the same POIs will be retained to the extent possible with the exception of the proposed South Pier feeder route as presented in Figure 3 of this PSS. Additionally, new 138 kV breakers will be installed on the power barge for each feeder between the new gas turbines and the POI using a new gas-insulated substation (GIS). The first block of gas turbines, units 1 and 2, will mimic the existing equipment on Barge 1. The second block of gas turbines, units 3 and 4, will mimic the existing equipment on Barge 3. Gas turbines 1 and 2 will connect through the GIS following a common generator step-up (GSU) transformer, transition to the shore via new open-wire dead-end structures, and then transition to reconductored feeder 42421. Gas turbines 3 and 4 will connect through the GIS following a common GSU transformer, transition to the shore via new open-wire dead-end structures, and then transition to reconductored feeder 42423. The new gas turbines 1 and 2 and gas turbines 3 and 4 at the facility will serve the same functions as the existing equipment on Barge 1 and Barge 3, respectively.

Similarly, new units on Barge 2 will continue to interconnect using the existing Barge 2 and 4 interconnections and feeders 42422 and 42424, respectively. As with the new equipment on Barge 1, while the existing underground cables may be upgraded with new 1500 KCMIL XLPE cables, the same POIs also will be retained at the ConEd Gowanus Substation. Additionally, new 138kV breakers will be installed on each barge for the feeders between the new gas turbines and the POI using new GISs. The first block of gas turbines 5 and 6 will mimic the existing equipment on Barge 2. The second block of gas turbines 7 and 8 will mimic the existing equipment on Barge 4. Gas turbines 5 and 6 will connect through the GIS following a common GSU transformer, transition to the shore via new open-wire dead-end structures, and then transition to a reconductored feeder 42422. Similarly, gas turbines 7 and 8 will connect through the GIS following a common GSU transformer, transition to the shore via new open-wire dead-end structures, and then transition to reconductored feeder 42424. The new gas turbines 5 and 6 and gas turbines 7 and 8 at the facility will serve the same function as existing equipment on Barge 2 and Barge 4, respectively.

4.5.2 Proposed Content of Article 10 Application

Exhibit 5 of the Article 10 Application will include a system reliability impact study, evaluation of impacts, analysis of alternatives, and facility management/maintenance plans as required under 16 NYCRR 1001.5, as follows:

(a) A system reliability impact study, performed in accordance with the open access transmission tariff of the NYISO, as approved by the Federal Energy Regulatory Commission, that shows expected flows on the system under normal, peak and emergency conditions and effects on stability of the interconnected system, including the necessary technical analyses (thermal, voltage, short circuit and stability) to evaluate the impact of the interconnection. The study shall include the new electric interconnection between the facility and the point of interconnection, as well as any other system upgrades required.

(b) An evaluation of the potential significant impacts of the facility and its interconnection to transmission system reliability at a level of detail that reflects the magnitude of the impacts.

(c) A discussion of the benefits and detriments of the facility on ancillary services and the electric transmission system, including impacts associated with reinforcements and new construction necessary as a result of the facility.

(d) An analysis of any reasonable alternatives that would mitigate adverse reliability impacts and maintain voltage, stability, thermal limitations, and short circuit capability at adequate levels.

(e) An estimate of the increase or decrease in the total transfer capacity across each affected interface, and if a forecasted reduction in transfer capability across affected interfaces violates reliability requirements, an evaluation of reasonable corrective measures that could be employed to mitigate or eliminate such reduction.

(f) A description of criteria, plans, and protocols for generation and ancillary facilities design, construction, commissioning, and operation, including as appropriate to generation technology:

(1) engineering codes, standards, guidelines and practices that apply;

(2) generation facility type certification;

(3) procedures and controls for facility inspection, testing and commissioning; and

(4) maintenance and management plans, procedures and criteria.

(g) If there is a thermal component to the facility, the Applicant is to provide heat balance diagrams at various load levels and generation configurations demonstrating that the facility is utilizing the best use of heat from the facility.

(h) The facility is currently serviced by an interconnection to ConEd substations and no new interconnection facilities are proposed; therefore, a description and analysis of new interconnection facilities is not required for the Article 10 Application.

(i) Facility maintenance and management plans, procedures and criteria, specifically addressing the following topics, as relevant:

(1) turbine maintenance, safety inspections, and tower integrity; and

(2) electric transmission, gathering and interconnect line inspections, maintenance, and repairs, including:

(i) vegetation clearance requirements;

(ii) vegetation management plans and procedures;

(iii) inspection and maintenance schedules;

(iv) notification and public relations for work in public right-of-way; and

(v) minimization of interference with electric and communications distribution systems.

(j) The only overhead portion of the project will include a short feeder line from the barges to the shore with the remainder of the feeder line to the interconnection being underground. Given this, vegetation management practices for substation and substation yards, and for danger trees (trees that due to location and condition are a particular threat to fall on and damage electrical equipment) around stations, specifications for clearances, inspection and treatment schedules, and environmental controls to avoid off-site effects should not apply to this Project and will not be included in the Article 10 Application.

(k) Sharing above ground facilities with other utilities (communications, cable, phone, cell phone relays, and similar facilities) is not proposed as part of the Project; therefore, proposals for such facilities,

and criteria and procedures for review of such proposals will not be included in the Article 10 Application.

(l) A status report on equipment availability and expected delivery dates for major components including heat recovery steam generators, towers, turbines, transformers, and related major equipment, as applicable for the Project.

(m) A description of the repowered facility's black-start capabilities.

(n) After consultation with DPS, NYISO, and the local transmission owners to identify applicable requirements, an identification and demonstration of the degree of compliance with all relevant applicable reliability criteria of the Northeast Power Coordinating Council Inc., New York State Reliability Council, and the local interconnecting transmission utility, including any criteria regarding black-start and fuel switching capabilities.

4.6 Wind Power Facilities – Exhibit 6

This section is not applicable to the Project.

4.7 Natural Gas Power Facilities – Exhibit 7

This section of the PSS addresses the information that will be presented in Exhibit 7 as required by 16 NYCRR 1001.7.

4.7.1 Existing Facility

The Gowanus and Narrows facilities are currently connected to the National Grid New York natural gas distribution system and receive service under the “interruptible” natural gas tariff. The repowered Gowanus facility will use the existing POE and M&R station—owned, maintained, and operated by National Grid.

POE piping consists of 16-inch diameter schedule 40 pipe, which then runs through a coalescent filter, after which it is decreased to 12-inch diameter piping and separates into 3-meter runs, before combining to a single outlet consisting of 12-inch diameter piping to the existing power barges. Piping is currently connected from the POE to service existing combustion turbines. The piping connected downstream from the M&R station is owned and operated by AGC and will remain in place for the

repowered Gowanus facility, with the expected upgrade of some aboveground piping along the pier to the new barges.

Working from the M&R equipment toward the combustion turbines, a 12-inch gas header runs north from the M&R equipment to a tee and then branches into two 12-inch pipelines routed to the existing barges. The new compressor outlet pressure will be 950 pounds per square inch absolute (psis); suction pressure is rated for 250 psia absolute. The existing facility does not have a gas compression system.

The estimated natural gas consumption for the repowered Gowanus facility includes the following:

- Maximum estimated hourly = 60,571 therms
- Maximum estimated daily = 1,453,716 therms
- Maximum estimated monthly = 43,611,480 therms

The repowered Gowanus facility will require approximately 300 pounds per square inch gauge (psig) at the POE. The minimum allowable pressure at the POE will be 250 psig. New gas compressors will be installed for each new unit. The new compressors will be installed downstream of the POE for each new unit on the new power barges. A total of five new gas compressors will be installed on each new power barge for a total of 10 new compressors. The compressors are rated for 1750 horsepower (HP) each in a 5 x 25 percent configuration per barge, meaning one compressor will support each unit, and a fifth compressor will be available to support any unit on the barge as a spare in the event of a compressor outage.

4.7.2 Proposed Content of Article 10 Application

Exhibit 7 of the Article 10 Application will include a detailed discussion of the natural gas facilities and the following for the repowered Gowanus facility as required under 16 NYCRR 1001.7:

(1) An estimate of the monthly and hourly gas usage by the facility.

(2) Statement of the gas pressure required for the gas turbine and how the pressure will be regulated or increased.

4.8 Electric System Production Modeling – Exhibit 8

This section of the PSS addresses the information and analyses that will be presented in Exhibit 8 as required by 16 NYCRR 1001.8.

As described in the project description and in 4.5 (Electrical System Effects), a repowered Gowanus will continue to serve the NYISO Zone J (New York City) power market and will remain electrically connected within the Gowanus/Greenwood sub-load pocket at the 138-kV level. This sub-load pocket encompasses much of Sunset Park and experiences constraints in providing electricity during peak electrical demand.

4.8.1 Proposed Content of Article 10 Application

Prior to preparing this Exhibit 10, the Applicant shall consult with DPS and DEC to develop an acceptable input data set, including modeling for the Applicant's proposed facility and inputs for the emissions analysis, to be used in the simulation analyses. In accordance with 16 NYCRR 1001.8, the following will be included as part of the Article 10 Application:

(a) The following analyses that shall be developed using GEMAPS, PROMOD, or a similar computer-based modeling tool:

(1) estimated statewide levels of SO_2, NO_x and CO_2 emissions, both with and without the proposed facility.

(2) estimated minimum, maximum, and average annual spot prices representative of all NYISO zones within the New York control area, both with and without the proposed facility.

(3) an estimated capacity factor for the facility.

(4) estimated annual and monthly on peak, shoulder, and off-peak MW output capability factors for the facility.

(5) estimated average annual and monthly production output for the facility in megawatt hours (MWhs).

(6) an estimated production curve for the facility during an average year.

(7) an estimated production duration curve for the facility during an average year.

(8) estimated effects of the proposed facility on the energy dispatch of existing must-run resources, defined for this purpose as existing wind, hydroelectric, and nuclear facilities, as well as co-generation facilities to the extent they are obligated to output their available energy because of their steam hosts.

(b) Digital copies of all inputs used in the simulations required in subdivision (a) of this section.

4.9 Alternatives – Exhibit 9

This section of the PSS addresses the information and analyses that will be presented in Exhibit 9 as required by 16 NYCRR 1001.9.

4.9.1 Project Alternatives

There are two alternatives for this Project:

1. Alternative 1 (preferred alternative as discussed in Section 2.2.2 of this PSS): Repowering the Gowanus facility and retiring the current generating units at the Narrows facility, which will result in greater energy efficiency and reliability, as well as emissions reduction and be better positioned for the future than the current Gowanus and Narrows facilities' units

2. Alternative 2: Maintaining the current Gowanus and Narrows units in compliance with the upcoming DEC regulations (newly proposed 6 NYCRR Part 227-3) for simple cycle units by retrofitting the existing units with either SCR equipment or WI equipment to reduce NO_x emissions.

   The installation of the SCR equipment would involve replacing the existing exhaust stacks with stacks that have a new section capable of housing the SCR catalyst. Associated auxiliary equipment would be located on the barges along with the installation of piping and electrical cabling as required. As discussed with respect to the Alternative 1 in Section 2.2.2, a new urea storage tank would be constructed on the pier with forwarding skids and required piping in addition to a small truck unloading station for urea deliveries.

   The installation of the WI equipment would involve each power unit being retrofitted with new fuel nozzles, combustion can covers and combustion liners to support the injection of water directly into the combustion process to reduce thermal NO_x formation. New piping and tubing would be installed on the piers, barges and power units as required along with heat tracing where applicable. As is

required in Alternative 1 (see Section 2.2.2 of this PSS), a new demineralized water storage tank would be constructed on the piers with forwarding skids and piping to the existing barges in addition to a trailered demineralized water treatment processing plant located near the tank.

Because the Project is the repowering of the existing Gowanus facility, and given reliability needs, alternate locations will not be identified and evaluated as part of the Article 10 Application.

Additionally, as discussed in Section 2.3 of this PSS, and considered in Alternative 2 above, since DEC has developed new regulations for add-on pollution control systems for reducing NO_x emissions from older existing peaking units, which will go into effect in the years 2023 to 2025, a no-action/no-build alternative will not be evaluated as part of the Article 10 Application for the Project.

4.9.2 Proposed Content of Article 10 Application

Exhibit 9 of the Article 10 Application will identify and evaluate project alternatives as required under 16 NYCRR 1001.9 and will include the following:

(a) Because the Project is an existing facility, the requirement for the identification and evaluation of reasonable and available alternate location sites is not applicable and will not be included in the Article 10 Application.

(b) Because the Project is an existing facility, an evaluation of the comparative advantages and disadvantages of the proposed and alternative locations is not applicable and will not be included in the Article 10 Application.

(c) A description and evaluation of the two reasonable alternatives to the proposed facility at the primary proposed location will include consideration of:

(1) General arrangement and design.

(2) Technology, including alternative power block technologies, air emissions control systems, stack configurations (single flue vs. combined flues), and cooling technologies.

(3) Scale or magnitude.

(4) Wind power facilities are not applicable to the Project and will not be included in the description and evaluation of the two reasonable alternatives identified as part of Article 10 Application.

(5) Timing of the proposed in-service date for the facility in relation to other planned additions, withdrawals, or other capacity, transmission, or demand reduction changes to the electric system.

(d) Because the Project is an existing facility and the alternatives analysis will not include the identification of alternative locations, as discussed above, a statement of the reasons why the primary proposed location is best suited among alternative locations will not be required for the Article 10 Application.

(e) A statement of the comparative advantages and disadvantages of the alternatives and the reasons why the primary proposed design technology, scale or magnitude, and timing are best suited, among the alternatives, to promote public health and welfare, including the recreational, cultural, and other concurrent uses the site may serve.

(f) Because of the new DEC regulations, as discussed above, a no-action alternative is not applicable and, therefore, a description and evaluation of the no-action/no-build alternative at the primary proposed location with a statement of the reasons why the proposed facility is better-suited to promote public health and welfare, including the recreational, cultural, and other concurrent uses, will not be required for this Exhibit 9 of the Article 10 Application.

(g) An identification and description of reasonable energy supply source alternatives including, but not limited to, alternatives to the proposed facility consisting of renewable generation, distributed generation, transmission, and demand-reducing alternatives, except that the Applicant will limit its identification and description to alternatives that are feasible considering the objectives and capabilities of the Applicant.

(h) For each source and demand-reducing alternative identified above, an evaluation of the comparative advantages and disadvantages of the proposed facility and the alternatives at a level of detail sufficient to permit a comparative assessment of the alternatives discussed considering:

(1) Engineering feasibility.

(2) Reliability and electric system effects.

(3) Environmental impacts, including an assessment of climate change impacts (whether proposed energy use contributes to global temperature increase).

(4) Economic considerations.

(5) EJ considerations.

(6) Security, public safety, and emergency planning considerations.

(7) Public health considerations.

(8) The objectives and capabilities of the Applicant.

(i) A statement of the reasons why the proposed facility is best suited, among the alternative sources and measures, to promote public health and welfare, including the recreational, cultural, and other concurrent uses.

4.10 Consistency with Energy Planning Objectives – Exhibit 10

This section of the PSS addresses the information and analyses that will be presented in Exhibit 10 as required by 16 NYCRR 1001.10.

4.10.1 State Energy Planning

The New York State Energy Law, Section 6-102, established the New York State Planning Board to develop a New York State Energy Plan (Energy Plan) designed to achieve the goals of improving the reliability of energy systems in New York State; insulating consumers from volatility in market prices; reducing the overall cost of energy in the State; and minimizing public health and environmental impacts, in particular, environmental impacts related to climate change. The Energy Plan is required to identify policies and programs designed to maximize cost-effective energy efficiency and conservation activities to meet projected demand growth. See New York State Energy Law, Section 6-104, for plan requirements.

The first relevant Energy Plan was developed in 2002, with subsequent plans in 2009 and 2015. The current Energy Plan is the 2015 Energy Plan, found at https://energyplan.ny.gov/Plans/2015.aspx, and is "a comprehensive roadmap to build a clean, resilient, and affordable energy system for all New Yorkers." It is intended to advance the Reforming the Energy Vision (REV) policy and regulatory

initiatives, first introduced in a proceeding instituted by the New York State Public Service Commission (PSC) on April 25, 2014, entitled *Proceeding on Motion of the Commission in Regard to Reforming the Energy Vision* (Case 14-M-0101). The goals established in the 2015 Energy Plan included the following clean energy goals:

- 40% reduction in greenhouse gases from 1990 levels by 2030, with an 80% reduction by 2050 (New York City has adopted the goal of 80% reduction in greenhouse gases by 2050)
- 50% of the generation of electricity in New York State from renewable energy sources by 2030 (Governor Cuomo recently announced this 50% goal should be increased to 70%)
- 600 trillion Btu increase in statewide energy efficiency from 2012 levels by 2030

What has flowed from REV are various innovative financing and other incentive programs developed by the PSC, the New York State Energy Research and Development Authority, the New York Power Authority, and the utilities, to encourage the proliferation of energy efficiency, demand side response, and renewable energy programs. Recently, as demonstrated in Section 2.2.2 (footnote 7), a push is being made to incentive the development of battery storage projects.

As discussed in Section 2.3, to maintain system reliability, the NYISO currently requires at least 80% of New York City's electric generating capacity needs be met through in-City generation. So, while the retirement of the Narrows units clearly furthers the goal of less reliance of fossil fuels for energy, some traditional generation will continue to be necessary as the City and State move toward greater reliance on renewable energy sources, particularly in the constrained area of Sunset Park. In order to further the State's and the City's enumerated clean energy and climate goals, any required traditional generation should come from the most efficient and cleanest units possible, with qualities to increase resiliency and reliability. Much of the renewable generation envisioned to meet State and City goals is intermittent in nature and will require nimble rapid response backup that can be called on to complement the new system needs, even with development of storage projects. The efficient, rapid response, barge-mounted units of the Gowanus Repowering Project will position New York City electric generation for the future.

It should be noted the State Legislature is now considering enactment of S2992 and A3876, the Climate and Community Protection Act. The bill is designed to codify the State's clean energy goals from the Energy Plan and may go beyond as amendments being considered include requirements for net zero greenhouse emissions from electricity production by 2040 and economy-wide by 2050. It is not clear

how net zero emissions or carbon-neutrality will be measured. New York City passed its Carbon Mobilization Act, a bundle of 10 local laws governing, among other things, greenhouse gas emissions reductions from buildings, electric school bus conversions, and incentives for renewable energy and storage. New York City laws also codify the "40 by 30" and "80 by 50" goals.[19]

While it may be uncertain where the State legislation will end up in terms of requirements for mitigating climate impacts, there will still likely be an important role for cleaner and efficient natural gas fired facilities, especially one such as the floating barge-mounted repowered Gowanus facility, for reliability and resiliency and to support renewable energy and storage projects. The Article 10 Application will provide an analysis and describe in detail how the Project is consistent with the State Energy Plan and other announced and evolving initiatives. And as described in Section 2.3, should the Gowanus facility units no longer be needed for reliability, the barges may be easily removed without leaving vast abandoned infrastructure in the community.

4.10.2 Proposed Content of Article 10 Application

Exhibit 10 of the Article 10 Application will provide the following for the repowered Gowanus facility as required under 16 NYCRR 1001.10:

(a) A statement demonstrating the degree of consistency of the construction and operation of the Project with the energy policies and long-range energy planning objectives and strategies contained in the most recent state energy plan, including consideration of the information required by subdivisions (b) through (i) below.

(b) A description of the impact the proposed facility would have on reliability in the State.

(c) A description of the impact the proposed facility would have on fuel diversity in the State.

(d) A description of the impact the proposed facility would have on regional requirements for capacity.

(e) A description of the impact the proposed facility would have on electric transmission constraints.

(f) A description of the impact the proposed facility would have on fuel delivery constraints.

[19] Both the State and New York City have plans to study the effects of retiring some or all of the electric peakers, including those at Gowanus and Narrows.

(g) A description of the impact the proposed facility would have in relation to any other energy policy or long-range energy planning objective or strategy contained in the most recent state energy plan.

(h) An analysis of the comparative advantages and disadvantages of the reasonable and available alternatives, as identified in Section 4.9 of this PSS, to the Project; and

(i) A statement of the reasons why the Project is best-suited, among the alternatives identified, to promote public health and welfare, including minimizing the public health and environmental impacts related to climate change.

4.11 Preliminary Design Drawings – Exhibit 11

This section of the PSS addresses the information and analyses that will be presented in Exhibit 11 as required by 16 NYCRR 1001.11.

4.11.1 Proposed Design

The proposed repowering project conceptual engineering is in the early stages of development for both the power barges and BOP equipment to be located on piers and onshore at the Project site. The preliminary conceptual design, as shown in Figure 3 of this PSS, is based on certain assumptions and further design and engineering is required in order to finalize the design and layouts. An EPC agreement has been recently signed to initiate the conceptual design and engineering phase for the power barges. Additionally, an engineer has been contracted to start the initial conceptual design and engineering for the BOP equipment and systems. The conceptual design and engineering will be further developed for the Article 10 Application and may continue through the Article 10 process, with detailed design and engineering to be completed upon Siting Board approval of the Project. As required by the DPS under 16 NYCRR 1002.3, AGC will comply with the Site Engineering and Environment Plan (SEEP) requirements for design, construction and environmental compliance.

4.11.2 Proposed Content of Article 10 Application

Exhibit 11 of the Article 10 Application will include preliminary design drawings as required under 16 NYCRR 1001.11 and will be prepared by a professional engineer, architect, or landscape architect, as appropriate, licensed and registered in New York State. All such drawings may be labeled “preliminary” or “not for construction purposes” to indicate their preliminary status. All such drawings will be drawn

to scale, or to an exaggerated scale, as appropriate. All such drawings are to be drawn using computer graphics or computer-aided design software; hand-drawn sketches and drawings may not be used.

Exhibit 11 will specifically include:

(a) A site plan showing all buildings, structures, driveways, parking areas, emergency access lanes, sidewalks, access ways, and other improvements at the Project site, depicting the proposed site in relation to adjoining properties, and depicting the layout of onsite facilities and ancillary features. Additional drawings shall be included depicting the layout of relevant offsite facilities and ancillary features.

(b) A construction operations plan indicating all materials lay-down areas, construction preparation areas, major excavation and soil storage areas, and construction equipment and worker parking areas.

(c) Grading and erosion control plans indicating soil types, depth to bedrock, general areas of cut and fill, retaining walls, initial and proposed contours, and permanent stormwater retention areas.

(d) Because the current Gowanus facility does not include landscaping onshore or on the piers/barges, and no changes are expected in related operations, a landscaping plan indicating areas of trees to be retained, removed, or restored; berms, walls, fences and other landscaping improvements; and areas for snow removal storage will not be included in the Article 10 Application.

(e) A lighting plan showing type and location of exterior lighting fixtures and indicating measures to be taken to prevent unnecessary light trespass beyond the facility property line (no changes from existing operation are anticipated).

(f) Architectural drawings, including building and structure arrangements and exterior elevations for all buildings and structures, indicating the length, width, height, material of construction, color, and finish of all existing and proposed buildings, structures, and fixed equipment.

(g) Typical design detail drawings of all underground facilities indicating proposed depth and level of cover and all overhead facilities indicating height above grade, including descriptions and specifications of all major components including piping, conductors, cooling towers, exhaust stacks, wind turbine towers and blades, and other structures (both existing and proposed changes).

(h) For interconnection facilities, the plans and drawings required by subdivisions (a) through (g) of this section for the proposed interconnection facilities and a profile of the centerline of the interconnection facilities at exaggerated vertical scale (both existing and proposed changes).

(i) A list of engineering codes, standards, guidelines, and practices the Applicant intends to conform with when planning, designing, constructing, operating, and maintaining the repowered facility, electric collection system, substation, transmission line, interconnection, and associated buildings and structures (both existing and proposed changes).

4.12 Construction – Exhibit 12

This section of the PSS addresses the information and analyses that will be presented in Exhibit 12 as required by 16 NYCRR 1001.12.

4.12.1 Potential Construction Impacts

As set forth in the Project description in Section 2.2.2 of this PSS, because the Project is a true repowering, there will be minimal construction required as compared to constructing a new facility. The offsite assembly of the two power barges will be turnkey and floated to the piers at the Gowanus facility. Installation of the barges may entail replacement of the spud beams and some pier modifications to ensure safe mooring, erection of a demineralization tank and supporting auxiliary equipment on the South Pier, upgrade of feeder cables (including take-off towers) to the adjacent substation, installation of urea tank and associated truck unloading station, and potential installation of a new City water line. The installation and upgrades will entail minor and temporary increases in traffic, if any, and the installation and upgrades will not be in areas where public access is allowed. Therefore, it is anticipated the installation and upgrade activities on the piers or onshore will be very limited and not result in any significant adverse impacts.

There will be no construction impacts associated with the retirement of Narrows as the barge-mounted units will be disconnected and removed on water.

4.12.2 Proposed Content of Article 10 Application

Exhibit 12 of the Application will contain:

(a) A preliminary Quality Assurance and Control plan, including staffing positions and qualifications necessary, demonstrating how the Applicant will monitor and assure conformance of facility installation with all applicable design, engineering, and installation standards and criteria.

(b) A statement from a responsible company official that:

(1) Applicant and its contractors will conform to the requirements for protection of underground facilities contained in Public Service Law §119-b, as implemented by 16 NYCRR Part 753.

(2) Applicant will comply with any applicable pole numbering and marking requirements, as implemented by 16 NYCRR Part 217.

(c) Preliminary plans and descriptions indicating design, location, and construction controls to avoid interference with existing utility transmission and distribution systems, indicating locations and typical separations of proposed facilities from existing electric, gas, and communications infrastructure and measures to minimize interferences, if any, where avoidances cannot be reasonably achieved.

(d) Specification of commitments for addressing public complaints and procedures for dispute resolution during facility construction and operation.

4.13 Real Property – Exhibit 13

This section of the PSS addresses the information and analyses that will be presented in Exhibit 13 as required by 16 NYCRR 1001.13.

4.13.1 Existing Conditions

As discussed in Section 2.2.1, the existing Gowanus facility includes approximately 25 acres of primarily piers and submerged land and Narrows facility includes approximately 12 acres of primarily piers and submerged land. Both the Gowanus and Narrows facilities have very limited onshore land. The Gowanus and Narrows site surveys are presented in Figures 8 and 9 of this PSS, respectively. As this is a true repowering and the Project will be within the boundaries of AGC-owned property, much of the requirements of Exhibit 13 will not apply.

4.13.2 Proposed Content of Article 10 Application

Exhibit 13 of the Application will include:

(a) Surveys which show property boundaries with a tax map sheet, block, and lot of numbers; the owner of record of all parcels included in the site and for all adjacent properties; easements, grants, and related encumbrances on the site parcels; public and private roads on or adjoining or planned for use as access to the site; zoning and related designations applicable to the site and adjoining properties. There will be references as necessary to Exhibit 4 regarding Land Use.

(b) A description of existing interconnection agreements and locations, as well as a description of any upgrade required. There will be references as necessary to Exhibits 34 and 36 regarding electric and gas interconnections, respectively.

4.14 Cost of Facilities – Exhibit 14

This section of the PSS addresses the information and analyses that will be presented in Exhibit 14 as required by 16 NYCRR 1001.14.

4.14.1 Proposed Content of Article 10 Application

Exhibit 14 of the Application requires the submission of (a) a detailed estimate of the total capital costs of the Project and its major components, and (b) a brief statement of the source of the information used as the basis for the estimates. Since the bulk of the project is turnkey, the costs are likely to be broken down into two main categories: the power barges and BOP. The costs will likely be submitted as confidential information in accordance with DPS filing requirements and redacted as necessary.

4.15 Public Health and Safety – Exhibit 15

This section of the PSS addresses the information and analyses that will be presented in Exhibit 15 as required by 16 NYCRR 1001.15. The technical aspects of the Project relative to public health and safety will be addressed. A description of health and safety procedures that will be prepared and implemented during the construction and operation of the Project will be presented in Exhibit 15 of the Article 10 Application.

4.15.1 Existing Facilities

The existing Gowanus and Narrows facilities are active, operating electric generating facilities that have health and safety plans and procedures in place to ensure the safety of its employees as well as visitors to the facility. For the Gowanus facility, the existing health and safety plans for operations will be updated to reflect technical details of the new repowered generating units. Health and safety plans will

be developed to cover the installation of the new power barges and the necessary fuel, electric and water interconnections, demineralized water tank, and trailers. As Narrows is retiring, there is no need to provide such plans for the Narrows facility in the Application.

4.15.2 Potential Impacts

Adverse health and safety impacts from the installation and upgrading operation of the Project, if any, will be avoided or minimized through the use and implementation of health and safety plans and related training for employees, construction and maintenance contractors, and visitors to the facility. Impacts that could occur would be physical injury due to exposure to hazards such as slips, trips, and falls; improper lifting; falling equipment or tools; and contact with live electric circuits or leaking fuel.

4.15.3 Proposed Content of Article 10 Application

Exhibit 15 of the Article 10 Application will include an evaluation that identifies, describes, and discusses all potential significant adverse impacts that may result from the construction and operation of the facility, the interconnections, and related facilities, on public health and safety at a level of detail that reflects the potential severity of the impacts and the reasonable likelihood of their occurrence. The following topics will be included:

(a) The anticipated gaseous, liquid, and solid wastes to be produced at the facility during construction and under representative operating conditions of the facility, including their source, anticipated volumes, composition, and temperature, and such meteorological, hydrological, and other information needed to support such estimates and any studies, identifying the author and date, used in the analysis.

(b) The anticipated volumes of such wastes to be released to the environment during construction and under any operating condition of the facility.

(c) The treatment processes to eliminate or minimize wastes to be released to the environment.

(d) The manner of collection, handling, storage, transport, and disposal for wastes retained and not released at the site, or to be disposed of.

(e) As the Project is not a wind power facility, impacts due to blade throw, tower collapse, audible frequency noise, low-frequency noise, ice throw, and shadow flicker will not be considered.

(f) Maps of the study area and analysis showing relation of the proposed facility site to the following, as applicable: public water supply resources; community emergency response resources and facilities including police, fire and emergency medical response facilities and plans; emergency communications facilities; hospitals and emergency medical facilities; designated evacuation routes; existing known hazard risks including flood hazard zones, storm surge zones, areas of coastal erosion hazard, landslide hazard areas, areas of geologic, geomorphic or hydrologic hazard; dams, bridges, and related infrastructure; explosive or flammable materials transportation or storage facilities; contaminated sites; and other local risk factors.

(g) All significant impacts on the environment, public health, and safety associated with the information and resources required to be identified above, including all reasonably related short-term and long-term effects.

(h) Any adverse impact, if any, on the environment, public health, and safety that cannot be avoided should the proposed facility be constructed and operated, and measures for monitoring and measuring such impacts.

(i) Any irreversible and irretrievable commitment of resources, if any, that would be involved in the construction and operation of the facility.

(j) Any measures proposed by the Applicant to minimize such impacts.

(k) Any measures proposed by the Applicant to mitigate or offset such impacts.

(l) Any monitoring of such impacts proposed by the Applicant.

References to Exhibit 18 of the Application regarding safety and security may be included in Exhibit 15, as applicable.

4.16 Pollution Control Facilities – Exhibit 16

This section of the PSS addresses the information and analyses that will be presented in Exhibit 16 as required by 16 NYCRR 1001.16. The technical aspects of the Project installation and operation relative to pollution control facilities will be addressed.

4.16.1 Existing Facilities

The existing Gowanus and Narrows facilities have no air pollution control facilities. They do have oil-water separators on each of the existing four power barges that remove oil from stormwater that collects on the barges.

4.16.2 Potential Impacts

As stated in Section 2.2.2 of this PSS, the new power barges also will use oil-water separators to treat stormwater that collects on the barges. The oil-water separators will be designed, installed, and operated to prevent oil from the facility being discharged into the environment.

The proposed gas turbines will use highly efficient combustion technology that will minimize emissions of air pollutants during operation. Beyond this, the new power barges also will contain SCR technology that will further reduce emissions of NO_x below the proposed DEC NO_x emission limits, as discussed in Section 2.3. A 26,000-gallon urea storage tank (with 32% urea concentration) will be located on each of the two power barges as the reagent to support the SCR system. It is expected that urea will be delivered no more than once weekly via one 7,500-gallon truck, depending upon the operation of the repowered Gowanus facility and ambient conditions. Additionally, the new power barges will contain oxidation catalysts to reduce CO and VOC emissions.

4.16.3 Proposed Content of Article 10 Application

Exhibit 16 of the Article 10 Application as required under 16 NYCRR 1001.16 will include the following:

(1) Copies of completed applications for permits to be issued by the DEC pursuant to State authority or pursuant to federally delegated or approved authority, in accordance with the Clean Water Act, the Clean Air Act, and the Resource Conservation and Recovery Act, and permits pursuant to Environmental Conservation Law (ECL), § 15-1503, title 9 of article 27, and articles 17 and 19.

(2) The Application will include calculations, background data, and research information that will enable the DEC to evaluate the facility's pollution control technologies and to reach a determination to issue, subject to appropriate conditions and limitations, permits for such technologies.

(3) The Application will include calculations, background data, and research information that will enable the Siting Board to evaluate the facility's pollution control technologies and to make the findings and determinations required by Article 10, § 168, as discussed in Section 4.2.3 of this PSS.

(4) As described in Section 2.2.2, the proposed combustion turbines will generate electricity using pipeline natural gas and ULSD. Thus, no fuel waste byproducts are expected to be produced as a result of construction and operation of the facility and its interconnections and related facilities. There will be no ash produced from the project because the proposed new units will not combust or gasify coal, wood, biomass, municipal solid waste, or similar fuels.

After the Siting Board certifies the Project under Article 10 and following commercial operation of the certified Project, any renewal applications for permits to be issued by DEC thereafter will be submitted, as required, to DEC for approval. It is not anticipated that renewal applications need to be submitted to the Siting Board after the Article 10 certification is issued.

4.17 Air Emissions – Exhibit 17

This section of the PSS addresses the information and analyses that will be presented in Exhibit 17 as required by 16 NYCRR 1001.17.

4.17.1 Existing Facility

The Project is subject to the New York Article 10 regulations as well as DEC's permit modification process. The Gowanus and Narrows facilities have current Title V facility operating permits that regulate emissions of air pollutants from the facilities. Both facilities are in compliance with all applicable air regulations as provided below. The Title V permit for Gowanus will be modified to allow the installation and operation of the new units. It is anticipated that the repowering of Gowanus, even operated at a higher capacity than the current units, along with the retirement of the Narrows units, will result in significant actual reductions of all criteria pollutants and CO_2, with perhaps the exception of fine particulate matter,[20] all of which will be analyzed as further discussed below.

4.17.2 Proposed Content of Article 10 Application

The Article 10 Application will contain the following information and results of analyses.

(a) A demonstration, including appropriate calculations, supporting data, and research citations, of the facility's compliance with applicable Federal, State, and local regulatory requirements regarding air emissions listed in Tables 4.17-1 and 4.17-2.

[20] It is anticipated that all pollutants, including $PM_{2.5}$, will comply with national ambient air quality and all applicable standards. Assuming even a small increase in actual PM_2 emissions, the Applicant will evaluate mitigation measures, if required, to the maximum extent practicable.

Table 4.17-1. DEC Regulations Applicable to the Project

Applicable DEC Regulations	Description
Part 200	**General Provisions**
Part 201	**Permits and Registrations**
Subpart 201-1	General Provisions
Subpart 201-3	Permit Exempt and Trivial Activities
Subpart 201-6	Title V Facility Permits
Subpart 201-7	Federally Enforceable Emission Caps
Part 202	**Emissions Verification**
Subpart 202-1	Emissions Testing, Sampling and Analytical Determinations
Subpart 202-2	Emission Statements
Part 207	**Control Measures for Air Pollution Episode**
Part 211	**General Prohibitions**
Part 215	**Open Fires**
Part 222	**Distributed Generation Sources**
Part 225	**Fuel Composition and Use**
Subpart 225-1	Fuel Composition and Use - Sulfur Limitations
Part 227	**Stationary Combustion Installations**
Part 229	**Petroleum and Volatile Organic Liquid Storage and Transfer**
Part 231	**New Source Review for New and Modified Facilities**
Subpart 231-3	General Provisions
Subpart 231-6	Modifications to Existing Major Facilities in Nonattainment Areas and Attainment Areas of the State within the Ozone Transport Region
Subpart 231-8	Modifications to Existing Major Facilities in Attainment Areas (Prevention of Significant Deterioration)
Subpart 231-10	Emission Reduction Credits (ERCs)
Subpart 231-11	Permit and Reasonably Possibility Requirements
Subpart 231-12	Ambient Air Quality Impact Analysis
Subpart 231-13	Tables and Emission Thresholds
Part 242	**CO2 Budget Trading Program**
Subpart 242-1	CO2 Budget Trading Program General Provisions
Subpart 242-2	Authorized Account Representative for CO2 Budget Sources
Subpart 242-3	Permits
Subpart 242-4	Compliance Certification
Subpart 242-5	CO2 Allowance Allocations
Subpart 242-6	CO2 Allowance Tracking System
Subpart 242-7	CO2 Allowance Transfers

Table 4.17-1. DEC Regulations Applicable to the Project

Applicable DEC Regulations	Description
Subpart 242-8	Monitoring and Reporting
Subpart 242-10	CO2 Emissions Offset Projects
Part 243	**Transport Rule NO_x Ozone Season Trading Program**
Part 244	**Transport Rule NO_x Annual Trading Program**
Part 245	**Transport Rule SO_2 Group 1 Trading Program**
Part 251	**CO2 Performance Standards for Major Electric Generating Facilities**
Part 256	**Air Quality Classifications and Standards**
Part 257	**Air Quality Standards**
Subpart 257-1	Air Quality Standards - General
Subpart 257-2	Air Quality Standards - Sulfur Dioxide (SO_2)
Subpart 257-3	Air Quality Standards - Particulates
Subpart 257-4	Air Quality Standards - Carbon Monoxides (CO)
Subpart 257-5	Air Quality Standards - Photochemical Oxidants
Subpart 257-6	Ambient Air Quality Standards - Hydrocarbons (Non-Methane)
Subpart 257-7	Air Quality Standards - Nitrogen Dioxide (NO_2)
Subpart 257-8	Ambient Air Quality Standards - Fluorides
Subpart 257-9	Ambient Air Quality Standards - Beryllium
Subpart 257-10	Ambient Air Quality Standards - Hydrogen Sulfide (H_2S)
ECL 19-0301	State Powers and Duties

Table 4.17-2. Federal Regulations Applicable to the Project

Applicable Federal Regulation	Description
40 CFR 60 Subpart KKKK	Standards of Performance for Stationary Combustion Turbines
40 CFR 60 Subpart TTTT	Standards of Performance for Greenhouse Gas Emissions for Electric Generating Units
40 CFR 63 Subpart YYYY	National Emission Standards for Hazardous Air Pollutants for Stationary Combustion Turbines
40 CFR 68	Accidental Release Provisions
40 CFR 82, Subpart F	Recycling and Emissions Reductions (refrigerant regs)

(b) Section 3.8 of this PSS contains a summary of existing ambient air quality in the region surrounding the facility. The Application will update this summary and include an assessment of existing ambient air quality levels and air quality trends for pollutants in the region surrounding the facility, including air quality levels and trends taken from regional air quality summaries and air quality trend reports.

(c) For emissions of the following substances by combustion sources at the facility, a table indicating the rate and amount of emissions with the name of the substance in the first column, the hourly emission rate in the second column, and the annual potential to emit in the third column:

(1) sulfur dioxide (SO_2)

(2) nitrogen oxides (NO_x)

(3) carbon dioxide (CO_2)

(4) carbon monoxide (CO)

(5) particulate matter ($PM_{2.5}$, PM_{10}, total PM)

(6) volatile organic compounds (VOCs)

(7) elemental lead

(8) mercury

(9) a set of non-criteria (that is, toxic) pollutants to be emitted from the proposed facility as determined in consultation with the New York State Department of Health (DOH) and DEC.

(d) AGC will meet with DEC and DOH to discuss and confirm the details of assessment of the potential impacts to ambient air quality that may result from pollutant emissions from the facility. The details of the air quality impact analysis will be documented in an air quality modeling protocol that will be reviewed by DEC and DOH.

As part of the proposed Title V permit modification, an air quality impact analysis including “Class II” (near-field) dispersion modeling is required for the new sources. The air quality impact modeling protocol will describe the techniques that are proposed for completing the air quality modeling analyses, which will be required to demonstrate the Project will comply with requirements related to ambient air impacts, such as compliance with national and State ambient air quality standards. The proposed modeling procedures are intended to be consistent with guidance provided by EPA in the “Guideline on Air Quality Models,” which appears in the Code of Federal Regulations (CFR) at Appendix

W of 40 CFR Part 51) and by DEC in "NYSDEC Guidelines on Dispersion Modeling Procedures for Air Quality Impact Analysis" (DAR-10) as applicable.

The following provides a preliminary outline of the air modeling protocol that will be subject to discussion and review with DEC and DOH.

1.0 Introduction and Project Background

- 1.1 General Overview
- 1.2 Goals of the Air Quality Modeling Analysis
- 1.3 Applicable Regulations and Requirements
- 1.4 Project Overview

2.0 Regional Topography and Climatology

- 2.1 Topography
- 2.2 Climatology

3.0 Facility Layout

- 3.1 Facility Layout: Location of Sources, Buildings, Fence Line

4.0 Emission Inventory and Emissions-Related Parameters for GGS

- 4.1 Facility Processes and Emission Controls
  - 4.1.1 Simple Cycle CTGs
- 4.2 Source Data and Emissions
  - 4.2.1 Maximum Emission Rates
  - 4.2.2 Primary and Secondary $PM_{2.5}$
  - 4.2.3 CTG Load Analysis
  - 4.2.4 Stack Parameters

5.0 Air Quality Modeling Methodology

- 5.1 Model Selection
- 5.2 Model Setup and Application
  - 5.2.1 Land Use Analysis
  - 5.2.2 Selection of Dispersion Coefficients
  - 5.2.3 Averaging Periods
  - 5.2.4 NO_2 Modeling with Ozone Limiting Methods
- 5.3 Good Engineering Practice (GEP) Stack Height Analysis
- 5.4 Treatment of Terrain
- 5.5 Receptor network
  - 5.5.1 Description of Receptor Grids
- 5.6 Meteorological Data
  - 5.6.1 Selection of the Meteorological Database
  - 5.6.2 Meteorological Data Representativeness
  - 5.6.3 Meteorological Data Processing

6.0 Background Air Quality

- 6.1 Background Concentration to Account for Sources Not in the Model
  - 6.1.1 Additional Air Quality Monitoring Requirements

7.0 Near-field Air Quality Impact Analysis

- 7.1 Load Analysis
- 7.2 Preliminary Analysis

7.3 NAAQS
7.4 Model Runs
8.0 Presentation of Results
9.0 Data Access
10.0 References

Upon receipt and resolution of DEC and DOH comments to the protocol, AGC will perform a near-field modeling analysis. The near-field modeling will consist of a preliminary analysis and, if necessary, a full-impact analysis for the Project site. If the preliminary analysis indicates the Project will produce a significant impact from any criteria pollutant, a full-impact analysis will be required that includes background concentrations and emitting on-site sources. The full-impact analysis will determine the total impact on air quality as compared to the national ambient air quality standards (NAAQS) including:

a. An estimation of the maximum potential air concentrations (short-term and long-term) of appropriate pollutants including startup and shutdown conditions.

b. A comparison of the maximum predicted air concentrations to ambient air quality standards and guidelines and ambient background concentrations for non-criteria pollutants for both short-term and long-term exposures for any appropriate pollutant.

c. Where warranted, cumulative source impact analyses for any appropriate pollutant in accordance with air permitting requirements and 6 NYCRR Part 487.

(e) As discussed in Sections 2.2.2 and 4.16 (Pollution Control), the Project will use urea as the source of reactant in the pollution control equipment. Thus, no ammonia will be stored onsite. As such, an offsite consequence analysis for ammonia, including an analysis of an accidental release scenario for ammonia, will not be required.

4.18 Safety and Security – Exhibit 18

This section of the PSS addresses the information, plans, and protocols for site security and safety that will be provided in Exhibit 18 as required by 16 NYCRR 1001.18.

4.18.1 Existing Safety and Security Plans

As detailed in Section 2 of this PSS, the Project consists of a true repowering of the Gowanus facility. Currently, Gowanus and Narrows are active power generating stations that operate under a myriad of safety and security plans, including:

a) Site Security Plans for Operation. Gowanus and Narrows currently have in place Facility Security Plans under 33 CFR 105, which include access controls, security lighting, and surveillance. The security lighting is also for workplace safety. Set back requirements are not applicable because the generating units are on barges on the waterfront with no access available to the public.

(b) Cyber Security Plans. AGC currently uses a program formulated around the North American Electric Reliability Corporation's (NERC) Critical Infrastructure Protection (CIP) standard and the Center for Internet Security's (CIS) Critical Security Controls. All facility cyber security systems are audited by JDEC Solutions, an independent auditor. AGC's Information Technology (IT) team is responsible for implementing and maintaining the cyber security program. The IT team consists of five members with the Director of IT leading the team and one dedicated cyber security analyst responsible for compliance with the program.

The following security policies and processes are incorporated within the cyber security program:

- Acceptable Use Policy
- Network Access Policy
- Bring Your Own Device Policy
- Firewall Policy
- Guest Network Access Policy
- Incident Response Policy
- Remote Access Policy
- Password Policy
- NERC Firewall Policy
- NERC Network Access Policy

AGC has engaged with various Secure Intelligence Providers that review and alert on suspicious activity within the AGC network on a 24/7/365 basis. The Intelligence Providers have active threat

intelligence feeds from entities such as the National Cyber & Communications Integration Center (NCCIC) and the Multi-State Information Sharing and Analysis Center. As alerts are generated, the IT team responds and remediates any potential threats. In addition, AGC employs a variety of security tools to further fortify cyber defense:

- Firewalls
- Web filters
- Intrusion prevention systems
- E-mail filters
- Country blocking appliances
- Vulnerability scanners
- Mobile device management
- Security information and event monitoring appliances
- Two-factor authentication solutions
- Active directory monitoring and alerting
- Hard drive encryption for laptops
- Secure file sharing

Cyber security measures also are implemented on the Operational Technology (OT) level to protect the enterprise. OT consists of any and all devices that control and operate power-generating assets. Various security tools are implemented to monitor and thwart cyber threats at all plant locations. Secure communications with vendors such as GE, Siemens, and Emerson provide remote troubleshooting of the various OT systems. Quarterly software updating, and patching are coordinated with OT vendors to ensure vulnerabilities are mitigated.

(c) Emergency Reponses Plans. As operating power plants, Gowanus and Narrows have a Facility Response Plan under 33 CFR 105 and 40 CFR 112, as well as a Spill Prevention Control and Countermeasure Plan ("SPCC" Plan) required by DEC and EPA under 6 NYCRR 612-614 and 40 CFR 112.

(d) Fire emergency and toxic release plans. These plans detail the process for responding to a fire or hazardous substance threat.

It is anticipated the existing plans for the repowered Gowanus facility will require only modification. The existing plans for the Narrows facility should not require any modification since the facility is proposed to cease power generation as part of this Project. Some of these plans contain sensitive information about the operation of a power facility; therefore, significant portions of the security plans may be deemed confidential in the Article 10 Application and redacted as necessary. For example, the facilities maintain Facility Security Plans overseen by the USCG under its authority in 33 CFR part 105. The USCG has found the Facility Security Plan to be "Sensitive Security Information" that must be protected under 49 CFR 1520.

4.18.2 Proposed Content of Article 10 Application

Exhibit 18 of the Article 10 Application will provide information on the required site safety and security plans for the Project, provided the information is not deemed confidential as discussed in Section 4.18.1.

(a) A site security plan for construction. Installation of the new power barges and replacement/upgrading of infrastructure related to the Project will be limited in scope and duration as discussed in Section 4.12 of this PSS. The power barges are being assembled off-site (turnkey) and delivered to Gowanus by water. There will be certain upgrades of natural gas pipe, feeder cables and the public water interconnection; however, most of the work will either be on AGC property (the piers and onshore) or restricted property, with no access by the public. The installation of the water demineralization system will entail some infrastructure installation on the South Pier and minimal truck deliveries. A plan for implementing any security needs warranted by the Project installation and upgrades, as well as the disconnection and removal of the Narrows units, will be provided in the Article 10 Application.

(b) A site security plan for operation and a cyber security plan. As discussed above, these plans are already in effect and will be modified as necessary to adjust to the Project. Narrows will cease

operation so discussion of a site security plan provided in the Article 10 Application will focus on the Gowanus facility.

(c) Emergency response plans. As discussed above, the Gowanus facility operates under various emergency response plans that will be modified as necessary. As previously discussed in this PSS, the Narrows facility will be retired as part of this Project so the Article 10 Application will provide information on the emergency response plans at the repowered Gowanus facility. The SPCC Plan and the Facility Security Plan for the Gowanus facility will be updated as necessary for the Project.

(d) Fire emergency and toxic release plans. As discussed above, the Gowanus facility operates under fire emergency and toxic release plans that will be modified as necessary. As previously discussed in this PSS, the Narrows generating units will cease operation as part of this Project, so the Article 10 Application will focus on information on the fire emergency and toxic release plans for the repowered Gowanus facility. These emergency plans will include, to the extent possible, a description of the onsite equipment and systems to prevent or handle a fire emergency or a release of hazardous substances and all contingency plans to address a fire or hazardous substance emergency. This information may be classified as confidential in the Article 10 Application.

In addition to the information above, Exhibit 18 of the Article 10 Application also will include the following information and/or documentation:

1. A statement that the Applicant has provided, if possible, copies of the security plan for construction, security plan for operation, and the emergency response plans discussed above to the New York State Division of Homeland Security and Emergency Services and the New York City Office of Emergency Management for review and comment. AGC will consult with State and City agencies to determine whether such plans will be reviewed while maintaining confidentiality.

2. A statement that the Applicant has provided a copy of the emergency plans for review and comment by “local emergency first responders” serving the area of the Project and a summary of any responses received. It is not certain whether entities such as the FDNY, NYPD, and EMS will actually agree to review such plans because they are approved by other agencies (USCG and EPA); however, AGC will consult with first responders while maintaining confidentiality.

4.19 Noise and Vibration – Exhibit 19

This section of the PSS addresses the information and analyses that will be presented in Exhibit 19 of the Article 10 Application in accordance with 16 NYCRR 1001.19. The technical aspects of the Project installation and operation relative to noise and vibration conditions at the facility will be addressed.

4.19.1 Existing Facilities

The Gowanus and Narrows facilities are operating generating stations that produce electricity from the combustion of fuel. As discussed in Section 3.6, the existing Gowanus and Narrows facilities, as well as the Project, are or to be located in a heavy manufacturing-zone district where the immediate surrounding uses are heavily industrial. The entrance to the Gowanus facility is located at 29th Street and 2nd Avenue, Brooklyn. The BQE, a heavily traveled elevated highway, is approximately 1,000 feet from the entrance of facility.

4.19.2 Potential Impacts

Given the heavily industrialized nature of the area surrounding the Gowanus facility, noise impacts from installation and operation are not anticipated. Sound mitigation will be included in the Project design to ensure noise generated by the operation of the Project will not exceed applicable standards or guidelines. The new power barges are expected to be quieter than the existing barges, due to more stringent sound attenuation requirements and design.

Given that the Narrows units will be shut down, no noise and vibration analysis will be necessary for the Narrows facility.

4.19.3 Proposed Content of Article 10 Application

Exhibit 19 of the Article 10 Application will discuss ambient sound levels at the site, conduct an impact analysis of sounds produced by the construction and operation of the repowered Gowanus facility, and propose impact avoidance/mitigation measures as required under 16 NYCRR 1001.19.[21]

The Application will contain a study of the noise impacts of the construction and operation of the facility, related facilities, and ancillary equipment. The name of the preparer of the study and associated

[21] AGC understands that DPS may have a series of recommendations with respect to the Noise and Vibration study which have been shared with other Article 10 applicants. Given the nature of the repowering and discussion regarding limited impacts anticipated from the Project, not all of DPS's recommendation may be applicable. AGC's noise expert will meet with DPS to review what AGC and the agency believe should be part of proper noise study for the Project.

qualifications to perform such analyses will be stated. If the results of the study are certified in any manner by a member of a relevant professional society, the details of such certification shall be stated. If any noise assessment methodology standards are applied in the preparation of the study, an identification and description of such standards shall be stated.

Exhibit 19 will include a determination of compliance with applicable noise regulations and guidelines, and the modeled impacts for the Project will be compared to established, agency-endorsed threshold noise levels. Currently, it is understood that four noise standards may be applicable to the Project. These include the New York State Noise Guidelines (DEP-00-1), City Noise Ordinance (Section 24-232 and 24-218), City Zoning Resolution (Section 42-213 and 214), and the City Environmental Quality Review Manual (Chapter 3R).

To demonstrate compliance with these noise standards, the noise study will include:

(a) A map of the study area showing the location of sensitive sound receptors in relation to the facility, related facilities, and ancillary equipment (including any related substations). The sensitive sound receptors shown shall including residences, outdoor public facilities and areas, hospitals, schools, and other noise-sensitive receptors.

(b) An evaluation of ambient pre-construction baseline noise conditions as discussed in Section 3.6, which include A-weighted/dBA sound levels and prominent discrete (pure) tones at representative potentially impacted noise receptors, using actual measurement data during day and night as a function of time and frequency that have been collected using a suitable and suitably calibrated sound level meter (SLM) and octave band frequency spectrum analyzer or similar equipment

(c) An evaluation of future noise levels during construction of the facility (expected to be minimal) and related facilities including predicted A-weighted/dBA sound levels at potentially impacted and representative noise receptors, using computer noise modeling.

(d) An estimate of the noise level to be produced by operation of the facility, related facilities, and ancillary equipment assuming wind-induced background noise or stable atmospheric conditions, as appropriate, and not assuming any attenuation of sound that transiently occurs due to weather or temperature.

(e) An evaluation of future noise levels during operation of the facility, related facilities, and ancillary equipment including predicted A- weighted/dBA sound levels, prominent discrete (pure) tones, and amplitude modulated sound, at potentially impacted and representative noise receptors, using computer noise modeling and an analysis of whether the facility will produce significant levels of low frequency noise or infrasound.

(f) A statement in tabular form of the A-weighted/dBA sound levels indicated by measurements and computer noise modeling at the representative external property boundary lines of the facility and related facilities and ancillary equipment sites and at the representative nearest and average noise receptors, for the following scenarios:

(1) Daytime ambient noise level – a single value of sound level equivalent to the level of sound exceeded for 90% of the time during daytime hours (7 a.m. to 10 p.m.) in a year (L_{90})

(2) Summer nighttime ambient noise level – a single value of sound level equivalent to the level of sound exceeded for 90% of the time during nighttime hours (10 p.m. to 7 a.m.) during the summer (L_{90})

(3) Winter nighttime ambient noise level – a single value of sound level equivalent to the level of sound exceeded for 90% of the time during the nighttime hours (10 p.m. to 7 a.m.) during the winter (L_{90})

(4) Worst case future noise level during the daytime period – the daytime ambient noise level (L_{90}), plus the noise level from the proposed new sources modeled as a single value of sound level equivalent to the level of sound exceeded for 10% of the time by such sources under normal operating conditions by such sources in a year (L_{10})

(5) Worst case future noise level during the summer nighttime period – the summer nighttime ambient noise level (L_{90}), plus the noise level from the proposed new sources modeled as a single value of sound level equivalent to the level of sound exceeded for 10% of the time by such sources under normal operating conditions by such sources in a year (L_{10})

(6) Worst case future noise level during the winter nighttime period – the winter nighttime ambient noise level (L_{90}), plus the noise level from the proposed new sources modeled as a single value

of sound level equivalent to the level of sound exceeded for 10% of the time by such sources under normal operating conditions by such sources in a year (L_{10})

(7) Daytime ambient average noise level – a single value of sound level equivalent to the energy-average ambient sound levels (Leq) during daytime hours (7 a.m. to 10 p.m.)

(8) Typical facility noise levels – the noise level from the proposed new sources modeled as a single value of sound level equivalent to the level of the sound exceeded 50% of the time by such sources under normal operating conditions by such sources in a year (L_{50})

(9) Typical future noise level during the daytime period – the energy- average ambient sound level during daytime hours (Leq), plus the noise level from the proposed new sources modeled as a single value of sound level equivalent to the level of the sound exceeded 50% of the time by such sources under normal operating conditions by such sources in a year (L_{50})

(g) A description of the noise standards which may be applicable to the facility (see above) and noise design goals for the facility at representative potentially impacted noise receptors, including residences, outdoor public facilities and areas, hospitals, schools, other noise-sensitive receptors, and at representative external property boundary lines of the facility and related facilities and ancillary equipment sites.

(h) A tabular comparison of the following noise standards listed in (g) above, and noise design goals for the facility, and the degree of compliance indicated by computer noise modeling at the representative external property boundary lines of the facility and related facilities and ancillary equipment sites, and at the representative nearest and average noise receptors.

(i) An identification and evaluation of reasonable noise abatement measures for construction activities, in any, including a description of a complaint-handling procedure that shall be provided during the construction period.

(j) An identification and evaluation of reasonable noise abatement measures for the final design and operation of the facility, including the use of alternative technologies, alternative designs, and alternative facility arrangements.

(k) An evaluation of the following potential community noise impacts, if any: hearing damage (as addressed by applicable occupational safety and health administration standards); indoor and outdoor speech interference; interference in the use of outdoor public facilities and areas; community complaint potential; the potential for structural damage; and the potential for interference with technological, industrial or medical activities that are sensitive to vibration or infrasound.

(l) A description of post-construction noise evaluation studies that shall be performed to establish conformance with operational noise design goals.

(m) An identification of practicable post-construction operational controls and other mitigation measures that will be available to address reasonable complaints, including a description of a complaint-handling procedure that shall be provided during periods of operation.

(n) The computer noise modeling values used for the major noise-producing components of the facility shall fairly match the unique operational noise characteristics of the particular equipment models and configurations proposed for the facility. The software input parameters, assumptions, and associated data used for the computer modeling shall be provided.

4.20 Cultural Resources – Exhibit 20

This section of the PSS addresses the information and analyses that will be presented in Exhibit 20 as required by 16 NYCRR 1001.20. The technical aspects of the Project installation and operation relative to cultural resources (archaeological and historical) at the current facility will be addressed. A preliminary overview of these resources as documented in publicly available documents, former site-specific studies, applicable regulations, potential mitigation measures, and required studies for presentation and analysis in Exhibit 20 of the Article 10 Application is provided in the subsections below.

As indicated in Section 3.3 of this PSS, a Phase 1A investigation was previously conducted to identify previously recorded archeological or historic sites (cultural resources) within a 2-mile radius of the Project. The Phase 1A study included background research on the environmental setting and area history, and a records review to identify previously recorded cultural resources from the following sources:

- State and National Registry of Historic Places (NRHP)

- Inventory of City Landmarks published by the New York City Landmarks Preservation Commission (LPC)
- State Preservation Historical Information Network Exchange online database and Building-Structure Inventory maintained by the OPRHP.
- Consolidated archeological site files of the OPRHP and the New York State Museum
- Brooklyn Collection at Brooklyn Public Library, Grand Army Plaza
- Business Library at Brooklyn Heights Branch of the Brooklyn Public Library
- Brooklyn Historical Society
- Hagley Library (Wilmington, Delaware)
- Previous cultural resources survey reports and historic property evaluations

As Narrows will be retiring, the focus of Exhibit 20 of the Application will be on the Gowanus facility.

4.20.1 Archaeological Resources

Based on the previous Phase 1A investigation, there were no structures or properties located at the Gowanus facility that were listed or determined eligible for listing on the State and/or NRHP. There were 12 previously recorded archeological sites identified within a two-mile radius of the facility.

4.20.2 Historical Resources

75 previously identified historic and/or architectural significant properties and/or historic districts are located within 2 miles of the Gowanus facility as indicated in the previous Phase 1A. These sites include properties that are listed on the State or NRHP; properties that have been previously determined eligible for listing on the NRHP; and/or properties that are designated Landmarks by the LPC.

4.20.3 Potential Impacts

The Project is described in Section 2.0 of this PSS and involves the removal of four power barges at the Gowanus facility and replacing them with two new power barges. Onshore facilities will be upgraded to accommodate the new power barges and will include upgrading the water intake pipe (public water supply) and the interconnection feeders from the power barges to the adjacent ConEd Gowanus Substation. These upgrades will involve shallow trenching in a similar location to the existing infrastructure which is currently paved. Blasting and other intrusive activities or major ground

disturbance are not proposed as part of the Project. There could be some minimal pile-driving to the extent the spud beams are replaced and the demineralized water tank on the South Pier requires it.

Given nature of the proposed Project installation and because no archaeological resources have previously been identified at the Gowanus facility, significant adverse impacts to archaeological resources are not anticipated due to installation or operation of the Project.

The existing stacks at the facility will be increased by approximately 40-60 feet as part of the Project design; however, given the highly developed, urban nature of the area surrounding the Gowanus facility (including large apartment buildings and industrial areas), significant adverse impacts to historical resources also are not anticipated.

As outlined in Section 4.20.4 below and in coordination with the OPRHP, a supplemental Phase 1A literature review will be completed, at a minimum, to update the previous studies conducted at the Gowanus facility and surrounding area and further investigate potential effects to cultural resources.

A visual impact assessment (VIA) will be conducted, as outlined in Section 4.24 of this PSS, to determine the extent and assess the significance of facility visibility. The components of the VIA shall include identification of visually sensitive resources (including archaeological/historical resources), viewshed mapping, confirmatory visual assessment fieldwork, visual simulations (photographic overlays), cumulative visual impact analysis, and proposed visual impact mitigation.

Given that the Narrows units will be shut down, no cultural resources investigation or analysis will be necessary for the Narrows facility.

4.20.4 Proposed Content of Article 10 Application

Exhibit 20 of the Article 10 Application will identify existing cultural resources at the site, conduct an impact analysis, and propose impact avoidance/mitigation measures as required under 16 NYCRR 1001.20. The impact analysis will be conducted by an expert qualified under 36 C.F.R. 61 and include:

(a) A study of the impacts of the construction and operation of the facility, interconnections and related facilities on archeological resources, including:

(1) a summary of the nature of the probable impact on any archeological/cultural resources identified addressing how those impacts shall be avoided or minimized

(2) a supplemental phase 1A archeological/cultural resources study for the area of potential effect (APE) for the facility site and any areas to be used for interconnections or related facilities, including a description of the methodology used for such study – this will include a literature review to update the previous Phase 1A investigations conducted at the Gowanus facility and surrounding area

(3) Based on previous studies conducted at the site, a Phase 1B study is not anticipated to be required and is not proposed to be included in the Article 10 Application

(4) Based on previous studies conducted at the site, a Phase 2 study is not anticipated to be required and is not proposed to be included in the Article 10 Application

(5) Because a Phase 2 is not anticipated to be required, a statement demonstrating that all archaeological materials recovered during the facility cultural resources investigation shall be cleaned, catalogued, inventoried, and curated according to New York Archaeological Council standards will not be provided in the Article 10 Application

(6) an unanticipated discovery plan that shall identify the actions to be taken in the unexpected event that resources of cultural, historical, or archaeological importance are encountered during the excavation process. This plan shall include a provision for work stoppage upon the discovery of possible archaeological or human remains. In addition, the plan shall specify the degree to which the methodology used to assess any discoveries follows the most recent Standards for Cultural Resource Investigations and Curation of Archaeological Collections in New York State. Such an assessment, if warranted, shall be conducted by a professional archaeologist, qualified according to the standards of the New York State Archaeological Council.

(b) A study of the impacts of the construction and operation of the facility and the interconnections and related facilities on historic resources, including the results of field inspections and consultation with local historic preservation groups to identify sites or structures listed or eligible for listing on the State or National Register of Historic Places within the viewshed of the facility and within the study area, including an analysis of potential impact on any standing structures that appear to be at least 50 years old and potentially eligible for listing in the State or National Register of Historic Places.

4.21 Geology, Seismology and Soils – Exhibit 21

This section of the PSS addresses the information and analyses that will be presented in Exhibit 21 as required by 16 NYCRR 1001.21. The technical aspects of the Project installation relative to geological conditions at the current facility will be addressed. A preliminary overview of the regional geology and seismic potential as documented in publicly available documents, applicable regulations, potential mitigation measures, and required studies for presentation and analysis in Exhibit 21 of the Article 10 Application is provided in the subsections below.

4.21.1 Soils, Topography and Geology

As detailed in Section 3.3 of this PSS, the USDA NRCS maps Urban Land (UrA) soil type and water (W), with a topography that is nearly level but gently slopes from east to west toward Gowanus Bay as presented in Figure 10 of this PSS. The bedrock underlying the site is Quaternary-age Glacial and Alluvial deposits from the Cenozoic era and surficial geology includes marine soils in this area. Test borings at the site completed in 2008 by French and Parello indicate the presence of artificial fill material consisting of fine sand intermixed with medium to fine gravel and various amounts of silt and construction debris including wood, concrete, and brick to a depth of 5 to 8 feet below the surface. Beyond this layer an approximate 35 to 50-foot thick marine tidal marsh deposits consisting of organic silts was encountered; likely the historic tidal marshes along the shore. Groundwater would generally occur at a depth of 5 to 8 feet below the surface since the Project site occurs adjacent to the Gowanus Bay, which is at sea level.

4.21.2 Tectonic, Seismic and Tsunami Potential

To understand the tectonic setting, the USGS Earthquake Hazards Program was consulted. The USGS Earthquake Hazards Program is a database that contains information on faults and associated folds in the United States. The USGS Earthquake Hazards Program does not identify any faults within the vicinity of the Project Area or within the State of New York or adjacent states. Because of this, the project area should be considered to be located in a stable tectonic area.

The 2014 New York State Standard Multi-Hazard Mitigation Plan includes a Statewide Map of Probabilistic Earthquake Model. This map identifies the geographic area affected, the probability of an earthquake for a given level of severity (2% chance in 50 years), and the strength of ground movement (severity) expressed in terms of the percent of acceleration force of gravity. According to this model, the project site is located in a region that has a ground acceleration of 13-16% with a 2% probability of

occurring within 50 years. Moderate shaking and light damage are generally associated with an earthquake of this magnitude.

The 2014 New York State Standard Multi-Hazard Mitigation Plan also includes information regarding tsunami potential within the State. All low-lying coastal area within the State of New York have the potential to be struck by a tsunami; however, there is no recorded historical occurrences impacting the State. Most tsunamis in the Atlantic Ocean basin result from earth quakes or other seismic activity; however, the most serious result from landslides. Overall, seismic activity is low in the Atlantic Ocean basin and paleo-tsunami deposits have not been found in New York, indicating a very low rate of hazard.

4.21.3 Potential Impacts

The Project is described in Section 2.0 of this PSS and involves the removal of four barges at the Gowanus facility and replacing them with two new power barges. Onshore facilities will be upgraded to accommodate the new power barges and would include potentially upgrading the water intake pipe (public water supply) (see Section 4.38), and the electric interconnection feeder (see Sections 4.5 and 4.34) from the power barges to the adjacent ConEd Gowanus Substation. These upgrades will involve shallow trenching in a similar location to the existing infrastructure which is currently paved. Minor boring may be necessary on the earthen South Pier to install a structure for the short above-grade feeder lines. Blasting and other intrusive activities/structures are not proposed but there could be some minimal pile-driving to the extent the spud beams are replaced and the demineralized water tank on the South Pier need some piling. Wherever the upgrades are anticipated, significant adverse impacts to the existing fill material is expected to be negligible and significant adverse impacts to the natural geology and native sub soils below are not anticipated. After upgrades have been made, the trenched areas will be stabilized and repaved with no change in topographic grades anticipated. Additionally, it is anticipated that the trenching would result in a balanced cut/fill as the trench will be backfilled with the same fill material excavated. Operation of the site is not expected to result in any impact to the soils or geology of the area.

As indicated throughout this PSS, there will be no public access to any work associated with the installation of the repowered Gowanus facility.

4.21.4 Proposed Content of Article 10 Application

Exhibit 21 of the Article 10 Application will identify and/or map existing geology, seismology and soils at the site, conduct an impact analysis, and propose impact avoidance/mitigation measures as required under 16 NYCRR 1001.21. In addition, the results of the geotechnical study performed in 2008 will be presented and analyzed as part of the Article 10 Application.

(1) Map delineating existing slopes (0-3 percent, 3-8 percent, 8-15 percent, 15-25 percent, 25-35 percent, 35 percent and over, as applicable) on and within the drainage area potentially influenced by the facility site and interconnections; The map will include and label surface water features in and around the Facility Site (streams, rivers, lakes, reservoirs). If required, a preliminary Stormwater Pollution Prevention Plan (SWPPP), as identified in 1001.23(c)(1), will describe how and where stormwater from the site discharges and will reference the associated tributaries and other waterbodies that appear on the mapping.

(2) A proposed site plan showing existing and proposed contours at two-foot intervals.

(3) Although not anticipated, a preliminary cut/fill calculation will be provided based on 2-foot contours of the site.

(4) A preliminary calculation will be provided of the amount of fill, gravel, or asphalt that will be required for the Project.

(5) Although not anticipated, a preliminary calculation and description of the cut or spoil material to be removed from the Project site.

(6) A description of excavation techniques to be used for the trenching.

(7) A delineation and description of temporary cut or fill storage areas needed, as applicable.

(8) Because construction involving foundations in not proposed, a description of the characteristics and suitability of the material excavated and of the deposits found at foundation level including factors such as soil corrosivity, bedrock competence and subsurface hydrologic characteristics will not be included in the Article 10 Application.

(9) Blasting is not proposed as part of the project. As a result, the Article 10 Application will not include a blasting plan.

(10) Because blasting is not proposed as part of this project an assessment of potential impacts resulting from blasting will not be included in the Article 10 Application.

(11) Mitigation measures for blasting will not be included in the Article 10 Application because blasting is not proposed as part of this Project.

(12) A description of the regional geology, tectonic setting, and seismology of the site.

(13) An analysis of the expected impacts of construction and operation of the facility with respect to regional geology, if such can be determined.

(14) Although impacts are not anticipated, an analysis of the impacts of typical seismic activity experienced in the vicinity of the Project based on current seismic hazards maps, on the location and operation of the site identifying potential receptors in the event of failure and if the site is proposed to be located near a young fault or a fault that has had displacement in Holocene time, and demonstration of a suitable setback from such fault.

(15) Map delineating soil types at the site.

(16) A description of the characteristics and suitability for construction purposes of each soil type identified at the site including soil structure, texture, percentage of organic material and recharge infiltration capacity of each soil type. This is expected to be the same as number (8) above because the entire Project site is classified as urban land (fill material). Should de-watering be anticipated during construction, a discussion will be included. The facility does not currently have any below grade facilities that require continuous de-watering, and none are proposed. As a result, this will not be included in the Article 10 Application.

(17) A map will be provided showing the type of bedrock geology mapped within the region; however, trenching is the only excavation proposed and will be to a depth sufficient to upgrade the existing water/sewer pipelines and interconnection electrical cable (<5 feet). As a result, analyses delineation the depth to bedrock and underlying bedrock types will not be included. Geotechnical

borings were conducted in 2008 which provided the information necessary. It is anticipated that this study will be satisfactory to analyze potential Project impacts.

(18) Building and equipment foundations are not proposed; therefore, an evaluation to determine suitable building and equipment foundations including preliminary engineering assessments will not be included with the Article 10 Application.

(19) As indicated above, the site appears to have minimal vulnerability associated with seismic events based on review of publicly available information. Additionally, there is a relatively low risk of a tsunami event due to the lack of historical data; however, the site is located along the shore in Brooklyn, New York on the Gowanus Bay. If a tsunami event were to occur, the site has the potential to be impacted. As a result, an evaluation of the vulnerability of the site operation resulting from a tsunami event will be included in the Article 10 Application.

4.22 Terrestrial Ecology and Wetlands – Exhibit 22

This section of the PSS addresses the information and analyses that will be presented in Exhibit 22 as required by 16 NYCRR 1001.22. The technical aspects of the Project relative to the terrestrial ecology and wetlands at the current facility will be addressed. A preliminary overview of the terrestrial ecology (vegetation and wildlife) and wetlands as documented by public sources and on-site observations, applicable regulations, potential mitigation measures, and required studies for presentation and analysis in Exhibit 22 of the Article 10 Application is provided in the subsections below.

4.22.1 Terrestrial Ecology

As detailed in Section 3.3 of this PSS the project site is located on an existing pier and developed, industrialized waterfront consisting of compacted fill, secured at the waterfront by timber and steel sheet piling and rip-rap. Gravel and pavement currently cover most of the project area with no open soil or significant vegetation. The only vegetation occurs along the driveway and outside of the administrative/auxiliary buildings as landscaped trees and shrubs.

The project site does not provide any significant or preferred wildlife habitat, including avian, mammal or reptile/amphibian species; however, smaller bird species and mammals adapted to the urban environment such as rock dove, house sparrow, gulls, raccoon, gray squirrel, striped skunk, opossum and are observed on the project site or in the vicinity but infrequently and temporarily. Prospect Park,

Brooklyn Botanic Garden and Green-Wood Cemetery serve as wintering and breeding ground for a number of wildlife species, particularly avian species.

4.22.2 Wetlands

Gowanus Bay in the vicinity of the Project site is designated as a littoral zone tidal wetland per DEC Tidal Wetlands Maps No. 582-500(1) and 584-500(1). According to the Tidal Wetlands Act (6 NYCRR Part 661), the littoral zone designation applies to areas which are covered by less than six feet of water at mean low water. The Project waterfront perimeter is secured by timber and steel sheet-piled bulkheads and rip-rap and local knowledge indicates that adjacent waters are generally greater than six feet in depth at mean low water (MLW) with the exception of several areas immediately adjacent to the bulkhead or the rip-rap shore to the south. Although the exact depth of the water at mean low tide is varies in the Project area, the existing barges require a minimum of 9 feet of draft and the new barges will require a 12-foot draft. No dredging is required. Therefore, based on site specific data, the area of Gowanus Bay where the bulk of the Project will be located does not qualify as a littoral zone.

4.22.3 Potential Impacts

The Project is described in Section 2.0 of this PSS and involves the removal of four barges at the Gowanus facility and replacing them with two new power barges. Onshore facilities will be upgraded to accommodate the new power barges and will include the potential upgrade of the water intake pipe (public water supply), and the electric interconnection feeder from the power barges to the adjacent ConEd Gowanus Substation. These upgrades will occur entirely on the developed land of the Gowanus facility with no access available to the public; therefore, significant adverse impacts resulting from installation or operation of the Project on terrestrial habitat and wetlands are not anticipated.

4.22.4 Proposed Content of Article 10 Application

Exhibit 22 of the Article 10 Application will identify and/or map terrestrial ecosystems and wetlands at the Project site, provide an impact analysis, and propose impact avoidance/mitigation measures as required under 16 NYCRR 1001.22 as specified below, to the extent required:

a) Identify and describe the type of plant communities present on the facility site, the interconnections, and adjacent properties based upon field observations and data collection consistent with the nature of the site and access availability to adjacent properties.

b) An analysis of the temporary and permanent impact of the construction and operation of the facility and the interconnections on the vegetation identified, including a mapped depiction of the vegetation areas showing the areas to be removed or disturbed, and including a plan to identify the presence of invasive species and to prevent the introduction and/or spread of invasive species.

c) An identification and evaluation of reasonable avoidance measures or, where impacts are unavoidable, mitigation measures, including the use of alternative technologies, regarding vegetation impacts identified.

d) As described above and Section 3, the existing Gowanus facility occurs in a heavily industrial urban area with little to no vegetation or wildlife habitat either on the facility or in close proximity. As a result, a brief characterization of the Gowanus facility with regard to the vegetation, wildlife (including mammals, birds, amphibians, terrestrial invertebrates, and reptiles) and wildlife habitats, that occur in, on, or in the vicinity, based on the existing condition of the site will be presented in the Article 10 Application.

   Due to the urban nature of the Project area and lack of natural habitat, a reconnaissance or multi-season surveys and data collection appropriate to the nature of the site, supplemented by available data from the New York Natural Heritage Program, New York State (NYS) Amphibian and Reptile Atlas Project, the NYS Breeding Bird Atlas and range maps, Breeding Bird Survey Routes, Christmas Bird Counts and other similar reference sources, including an identification and depiction of any Significant Coastal Fish and Wildlife Habitat Areas designated by the New York State Department of State (DOS)/DEC and any unusual habitats or significant natural communities that could support State or federally listed endangered or threatened species or species of special concern will not be provided because the site operating as a power generating facility with no vegetation or wildlife habitat present onsite or adjacent properties. As a result, these studies and surveys are not proposed and will not be included in the Article 10 Application.

e) List of the species of mammals, birds, amphibians, terrestrial invertebrates, and reptiles reasonably likely to occur on, or in the vicinity of the facility site and areas to be disturbed for interconnections based on site observations and supplemented by publicly available sources.

f) Maximum air quality impacts as a result of the Project would occur close in to the Gowanus facility during operation. Additionally, the surrounding areas are highly urbanized. As a result, there would

be no air emission impact on vegetation, wildlife, wildlife habitats and wildlife travel corridors. The replacement of interconnections (water, electric, gas, etc.) would occur entirely within the Gowanus facility which does not have any significant habitat, vegetation or wildlife species. Given this, an analysis of the impact of the construction and operation, including air emissions, of the facility and interconnections on vegetation, wildlife, wildlife habitats, and wildlife travel corridors, including a detailed assessment of direct and indirect impacts and identification and evaluation of the expected environmental impacts of the facility on declining species, Species of Greatest Conservation Need (SGCN), and species protected by State and Federal law and the habitats of such species would not apply and will not be included in the Article 10 Application. To ensure that listed SGCN, threatened or endangered species are not present and will not be impacted, consultation with the appropriate agencies will be conducted and correspondence will be provided in the Article 10 Application.

Based on ECL, § 3-0301(2)(r), information that identifies the locations of habitats of such species or any other species or unique combination of species of flora or fauna where the destruction of such habitat or the removal of such species therefrom would impair their ability to survive, shall not be disclosed to the public, as appropriate, and shall only be disclosed to the parties to a proceeding pursuant to an appropriate protective order.

g) Identify and evaluate reasonable avoidance measures or, where impacts are unavoidable, mitigation measures, including the use of alternative technologies, regarding impacts to vegetation, wildlife and wildlife habitat.

h) The proposed Project is not a wind-powered facility, so the following are not proposed to be included in this Exhibit 22 of the Article 10 Application:

   a. an identification and evaluation of the expected environmental impacts of the facility on avian and bat species and the habitats that support them based on information gathered during pre-construction studies conducted at the proposed site and other nearby sites, analysis of known or predicted species and species migration corridors present on site, and including a description of the extent, methodology and results of all such pre-construction studies;

   b. an identification and description of a period of post-construction operations monitoring for potential direct and indirect impacts to avian and bat species and habitats, including a

description of the extent, methodology and timing of such post-construction operations monitoring; and

c. a plan to avoid or, where unavoidable, minimize and mitigate any such impacts during construction and operation of the facility based on existing information, the results of pre- and post-construction monitoring, and any known post-construction impacts that may occur.

i) Map delineated wetland boundaries based on on-site identification of all Federal, State and locally regulated wetlands present on the facility site and within 500 feet of areas to be disturbed by construction, including the interconnections; and predicted presence and extent of wetlands on the remainder of site properties and adjacent properties within 500 feet of areas to be disturbed by construction. For adjacent properties without accessibility, initial surveys may be based on remote-sensing data, interpretation of published wetlands and soils mapping and aerial photography.

j) A description of the characteristics of all Federal, State and locally regulated wetlands delineated as above, including the Cowardin classification, and a description of the vegetation, soils, and hydrology data collected for each of wetland sites identified, based on actual on-site wetland observations.

k) A qualitative and descriptive wetland functional assessment, including seasonal variations, for all wetlands delineated as above for groundwater recharge/discharge, flood flow alteration, fish and shellfish habitat, sediment/toxicant retention, nutrient removal, sediment/shoreline stabilization, wildlife habitat, recreation, uniqueness/heritage, visual quality/aesthetics, and protected species habitat because there are no wetlands within the project site area.

l) An analysis of all off-site wetlands that may be hydrologically or ecologically influenced by development of the facility site and the wetlands identified above, observed in the field where accessible to determine their general characteristics and relationship, if any, to wetlands delineated as above.

m) An identification of all temporary and permanent impacts on the wetlands or their regulated adjacent areas.

n) An identification and evaluation of reasonable avoidance measures or, where impacts are unavoidable mitigation measures to be employed regarding the wetlands and adjacent areas

impacts, including the use of alternative technologies and control of potential phosphorus and nitrogen sources from the facility. Where appropriate, mitigation shall include plans for compensatory mitigation. Such plans shall contain sections on grading, planting, and monitoring for success.

o) An identification of State and Federal endangered or threatened species on the facility site or that could be subject to impacts from facility construction, operation, or maintenance, including incidental takings, and an endangered or threatened species mitigation plan.

p) An invasive species prevention and management plan indicating the presence of invasive species and measures that will be implemented to minimize the introduction of new invasive species and spread of existing invasive species during soil disturbance, vegetation management, transport of materials, and landscaping/revegetation.

q) An analysis of the temporary and permanent impacts of the construction and operation of the facility and the interconnections on agricultural resources, including the acres of agricultural land temporarily impacted, the number of acres of agricultural land that will be permanently converted to nonagricultural use, and mitigation measures to minimize the impact to agricultural resources.

4.23 Water Resources and Aquatic Ecology – Exhibit 23

This section of the PSS addresses the information and analyses that will be presented in Exhibit 23 as required by 16 NYCRR 1001.23. The technical aspects of the Project relative to the water resources and aquatic ecology at the current facility will be addressed. A preliminary overview of the water resources and aquatic ecology as documented by public sources and on-site observations, applicable regulations, potential mitigation measures, and required studies for presentation and analysis in Exhibit 23 of the Article 10 Application is provided in the subsections below.

4.23.1 Water Resources

As detailed in Section 3.3 of this PSS, the Project is located on an existing pier on the industrialized Gowanus Bay waterfront consisting primarily of compacted fill, secured at the waterfront by timber and steel sheet piling and rip-rap. As described in Section 4.21 of this PSS, the fill material is approximately 5 to 8 feet thick over top the historic march soils which are at sea level.

Groundwater

A geotechnical evaluation was performed at the Gowanus facility by French & Parrello Associates, P.A. in November and December 2007. Based on observations from the soil borings completed as part of their evaluation, groundwater was encountered at depths ranging from approximately four to seven feet below grade which varies based on the season and tidal fluctuations. According to a USGS Map published in 1997 illustrating the water table configuration of Kings and Queens Counties, Long Island, New York, in March 1997, groundwater at the site generally flows in a west or northwest direction towards the Gowanus Bay.

According to the DEC, this area of Kings County contains three aquifers; the Upper Glacial Aquifer, the Lloyd Aquifer, and the Magothy Aquifer. These aquifers formed due to the presence of thick surficial sand and gravel deposits overlying bedrock. The Upper Glacial Aquifer is closest to the ground surface in Brooklyn. The Lloyd is a restricted use and protected aquifer and is only available for use by communities that have no other option for a water supply. The Magothy Aquifer is the most widely used aquifer for municipal water supplies on the Long Island landmass. The Lloyd aquifer is the deepest aquifer, directly in contact with the underlying bedrock and is considered to be pure and uncontaminated. In Brooklyn and southern Queens Counties (which includes the site), the upper glacial aquifer is underlain by Gardiners Clay (serving as a confining layer) and the Jameco Gravel Aquifer (NYC Department of Design & Construction, 2002).

Surface water

The site is located in the “Atlantic Ocean/Long Island” drainage basin and is included in the Northern Long Island Watershed (USGS Hydrologic Units 02030201). There are no surface water bodies (i.e., rivers, streams, lakes, ponds, etc.) located within site except the saline waters of the Gowanus Bay section of the Upper New York Bay to the north, south, and west. There are no private or public water supply wells or intakes within the proximity of the project site. Because the site is on the saline tidal waters of the Gowanus Bay, there are no water intakes downstream.

DCP maps the site within the coastal zone as originally mapped and adopted in 1982. These boundaries define the geographic area of the WRP which is discussed further in Section 4.43 of this PSS.

Stormwater

The existing onshore drainage system for Gowanus and Narrows collects and conveys stormwater runoff to outfalls. Additionally, each of the barges has an oil/water separator to treat storm and other water before being discharged. These outfalls and oil/water separator systems are authorized under the existing SPDES permit. It is anticipated that the existing onshore system will not require modification for the Project because there will not be any changes in impervious surface or runoff quantity or quality. After installation of the demineralization system on the South Pier (and any other work on the South Pier which may be required), a new stormwater management system may be installed for the South Pier. The new power barges will continue to treat water through an oil/water separator as before. It is therefore anticipated that the existing SPDES permit will be modified for the repowered Gowanus facility.

Chemical and Petroleum Bulk Storage

The existing facilities maintain both chemical and petroleum bulk storage tanks, which include fuel oil tanks (including the fuel oil barge), station transformers, lubricating oil tanks and waste oil tanks. The Federal SPCC rule provides requirements for spill prevention, preparedness, and response to prevent discharges to navigable waters and adjoining shorelines. The rule requires covered facilities to prepare, amend, and implement SPCC Plans. Accordingly, AGC has developed and implemented a SPCC Plan as well as a Facility Response Plan (FRP) for the existing generating facilities. The existing tanks are also properly registered with Kings County and the DEC. In addition, the existing fuel barge at the Gowanus facility is currently permitted as a Major Oil Storage Facility (MOSF) by the DEC. Upon retirement, Narrows will no longer have the requirements discussed above (except for the existing fuel tanks no longer to be used to provide backup fuel to the Narrows units). It is anticipated that the repowered Gowanus facility will only require slightly modified permits, if at all.

4.23.2 Aquatic Resources

Gowanus is located in the “Atlantic Ocean/Long Island” drainage basin adjacent to the saline waters of Gowanus Bay. There are no other surface water bodies located within the Project facility.

According to Federal Emergency Management Agency (FEMA) Flood Map presented in Figure 11 of this PSS, the Gowanus facility is designated as Zone AE, which is defined as areas where base flood elevation

levels have been determined. The Gowanus facility also is located in a special flood hazard area with a 1%-annual-chance of the base flood levels being equaled or exceeded.

Due to the extensive and historic industrial use of the area, there is a notable lack of suitable aquatic habitat for the spawning, foraging/hunting and nursey grounds. Because of the waters adjacent to the site are tidal, there is always the potential for marine species to occur as transient or anadromous species to occur. Common marine and estuarine species that may utilize the waters in the vicinity of the Project include the American eel (Anguilla rostrate), Atlantic silverside (Menidia menidia), bay anchovy (Anchoa mitchilli), Atlantic menhaden (Brevoortia tyrannus), hogchoker (Trinectes maculatus), Atlantic tomcod (Microgadus tomcod), and grubby (Myoxocephalus aenaeus) (Woodhead, 1993; U.S. Fish & Wildlife Service [USFWS], 1997; Steinberg et al., 2004).

4.23.3 Potential Impacts

The Project is described in Section 2.0 of this PSS and involves the removal of four barges at the Gowanus facility and replacing them with two new power barges. As discussed, certain offshore and onshore facilities may need to be upgraded to accommodate the new power barges and could include potential upgrade of the water interconnection (public water supply) and the electric interconnection feeder from the power barges to the adjacent ConEd Gowanus Substation. These upgrades will occur entirely on developed land; therefore, significant adverse impacts resulting from installation or operation of the Project on aquatic habitat and wetlands are not anticipated. Proper sediment control best management practices (BMPs) will be used for any soil disturbing activities to prevent soil and sediment being discharged into Gowanus Bay.

The proposed Project does not involve any deep drilling, groundwater extraction; therefore, impacts to the groundwater are not anticipated. Additionally, other than the Gowanus Bay, no other surface waters occur on the facility and are not proposed to be filled, drained or otherwise impacted. As indicated above, any earth disturbing activities proposed (trenching for underground interconnections on site), proper sediment control will be used to prevent soil and sediment from being discharged into Gowanus Bay.

The existing facilities are currently covered with an onshore stormwater drainage system and each of the barges are equipped with oil/water separators before storm and other water are discharged. Changes to the onshore system for the repowered the Gowanus facility are not proposed (except for

perhaps the South Pier) and the new power barges will be similarly equipped to treat water as required by the SPDES permit prior to discharge.

Similar to the existing facility, the repowered Gowanus facility will maintain the fuel oil barge, station transformers, lubricating oil tanks and waste oil tanks. In addition, a urea tank will be installed on each of the new power barges to support the SCR. The demineralized water system, including the main tank and trailers discussed in the Project description, will be located on the South Pier and will comply with all applicable flood elevation requirements. AGC will also comply with local, State, and Federal registration requirements and modify, as necessary, the existing SPCC plan for the repowered Gowanus facility, Key elements of the plans will be presented in the Article 10 Application. Summaries of typical chemical usage, quantity and storage methods needed during construction and operation of the Project facility also will be provided in the Article 10 Application.

4.23.4 Proposed Content of Article 10 Application

Exhibit 23 of the Article 10 Application will identify and/or map water resources and the aquatic ecology at the Project site, provide an impact analysis, and propose impact avoidance/mitigation measures as required under 16 NYCRR 1001.23 as specified below.

r) Groundwater:

a. Hydrologic information reporting depths to high groundwater and bedrock, including a site map showing depth to high groundwater and bedrock in increments appropriate for the facility site.

b. A map based on publicly available information showing all areas within the study area delineating all groundwater aquifers and groundwater recharge areas, and identifying groundwater flow direction, groundwater quality, and the location, depth, yield and use of all public and private groundwater wells or other points of extraction of groundwater, and including delineation of well head and aquifer protection zones.

c. An analysis and evaluation of potential impacts (during normal and drought conditions) from the construction and/or operation of the facility on drinking water supplies, groundwater quality and quantity in the facility area, including potential impacts on public and private water supplies, including private wells within a one-mile radius of the facility site, and wellhead and aquifer protection zones.

s) Surface water:

a. A map and identification of all surface waters, including intermittent streams, within the study area.

b. A description of the New York State listed water classification and standards, physical water quality parameters, flow, biological aquatic resource characteristics (including species, habitat, and presence of aquatic invasive species) and other characteristics of such surface waters, including intermittent streams, within the study area.

c. The facility is located along the tidal and saline waters of Gowanus Bay where there are not any drinking water supply intakes. As a result, an identification of any downstream surface water drinking-water supply intakes within one mile, or if none within one mile, an identification of the nearest one (giving location of the intakes by longitude and latitude) that could potentially be affected by the facility or interconnections, including characterization of the type, nature, and extent of service provided from the identified source is not proposed to be included in the Article 10 Application.

d. An analysis of the impact of the construction and operation of the facility and interconnections on such surface waters, including impacts to drinking water supplies, and an identification and evaluation of reasonable avoidance measures and, where impacts are unavoidable, mitigation measures regarding impacts on such surface waters, including the precautions that will be taken to avoid or minimize dredging.

e. An identification and evaluation of reasonable avoidance measures, and where impacts are unavoidable, mitigation measures, including the use of water storage, stormwater reuse, and offsetting water conservation, regarding groundwater impacts.

t) Stormwater:

a. A SWPPP for the collection and management of stormwater discharges from the Project prepared in accordance with the applicable SPDES General Permit for Stormwater Discharges from Construction Activity (SPDES General Permit) and the most current version of the New York State Standards and Specifications for Erosion and Sediment Control. If the Project is not eligible

for coverage under the SPDES General Permit, a completed application for a SPDES Permit for the collection and management of stormwater discharges will be prepared.

b. A preliminary plan, prepared in accordance with the most current version of the New York State Standards and Specifications for Erosion and Sediment Control, that identifies the post construction erosion and sediment practices that will be used to manage stormwater runoff from the developed project site. This can include runoff reduction/green infrastructure practices, water quality treatment practices, and practices that control the volume and rate of runoff.

u) Chemical and petroleum bulk storage:

a. A description of the spill prevention and control measures to be in place for ammonia storage, fuel oil storage, wastewater storage, and other chemical, petroleum or hazardous substances stored on site, including an evaluation of alternatives and mitigation measures.

b. An identification whether the storage of ammonia, fuel oil, wastewater, other chemicals, petroleum or hazardous substances, or disposal of solid wastes on site is subject to regulation under the State of New York's chemical and petroleum bulk storage programs, and if so, a demonstration of compliance with such regulations.

c. An identification whether the storage of ammonia, fuel oil, wastewater, other chemicals, petroleum or hazardous substances on site is subject to regulation under local law (county, city, town or village), and if so, a demonstration of the degree of compliance with such local laws.

v) Aquatic species and invasive species:

a. An analysis of the impact of the construction and operation of the facility on biological aquatic resources, including species listed as endangered, threatened, or species of special concern in 6 NYCRR Part 182, and including the potential for introducing and/or spreading invasive species.

b. An identification and evaluation of reasonable avoidance measures and, where impacts are unavoidable, mitigation measures regarding impacts on such biological aquatic resources, including species and invasive species impacts (if any) and assure compliance with applicable water quality standards (6 NYCRR Part 703).

w) Cooling water: The current facility is not currently cooled with water and the proposed project will not use cooling water; as a result, items a. through e. below are not proposed to be included in the Article 10 Application.

a. A description of the proposed cooling water system, including the selected cooling technology, the source of cooling water, the cooling water intake structure location and design, the daily maximum cooling water design flow and all the anticipated construction and operational costs of the cooling water system;

b. A description of the volume and location of the cooling water discharge, the anticipated maximum discharge temperature and maximum delta T, and a description of the anticipated thermal plume;

c. A description of the practices that will be employed to avoid pathogen growth (including legionella), an assessment of whether such practices conform to recommendations of the Cooling Tower Institute, and the identification of any potential biocides to be used in the cooling water system;

d. A description of the taxonomic identification and life history information of all species and life stages of fish and shellfish potentially susceptible to impingement and entrainment by the proposed cooling water intake structure including the estimated number of all species and life stages to be impinged and entrained; and

e. An identification and evaluation of mitigation measures taken to minimize adverse environmental impacts to aquatic life as a result of the location, design, construction, and capacity of the cooling water intake structure.

4.24 Visual Impacts– Exhibit 24

This section of the PSS addresses the information and analyses that will be presented in Exhibit 24 as required by NYCRR 1001.24. The technical aspects of the Project installation and operation relative to visual impacts will be addressed. A preliminary overview of the existing facility, potential impacts, and required VIA to be included in Exhibit 24 of the Article 10 Application is provided in the subsections below.

4.24.1 Existing Facilities

As described in Section 3.1 of this PSS, the Project is located in a heavily industrial waterfront area which is zoned for industrial use (M3-1 District) and is bordered on the landward sides by large industrial facilities (Sims Recycling, Lafarge Cement Company, NYPA peaking power station, and Gowanus substation) and to the west by Gowanus Bay. The elevated BQE is located to the south and east beyond these facilities and beyond the BQE, the general areas consists of large apartment and mixed-use buildings interspersed with houses and commercial areas.

Several aboveground historic sites, structures and historic districts listed or determined eligible for listing on the State/NRHP or designated as Landmarks by the LPC occur within the vicinity of the Project area as identified in previous studies conducted at the site (see Sections 4.4 and 4.20 of this PSS). These sites include, but are not limited to the 29th Street Pier, Gowanus Canal, Bush Terminal Complex, Green-Wood Cemetery, Sunset Park Historic District, Erie Basin, Red Hook Recreational Area, and Sunset Park.

4.24.2 Potential Impacts

As stated in Section 2.0 of this PSS, the four existing power barges will be removed at the Gowanus facility and replaced with two new power barges. The new barges will be on property that is currently used for generation of electric power; therefore, the current land use will not change. The existing stacks at the Gowanus facility are currently enclosed in building façades which are approximately 57 feet above water level. The stacks on the two new barges will be upgraded to open-air (i.e., not housed in buildings) and designed as low as possible to achieve ambient air quality standards. The height of the new stacks is estimated to increase to approximately 100-125 feet above water level. This will slightly modify the existing view of the site; however, changes in the viewshed are not anticipated.

While visual impacts from the repowering of the Gowanus facility are not anticipated given the heavily developed and largely industrial setting of the Project area, a VIA will be conducted as outlined below in Section 4.24.3 to identify sensitive resources and determine the significance of site visibility. The VIA will be prepared in a manner consistent with DEC Visual Policy and in coordination with DPS, DEC, and OPRHP where appropriate.

4.24.3 Proposed Content of Article 10 Application

Exhibit 24 of the Article 10 Application will include a VIA and proposed avoidance/mitigation measures as required under 16 NYCRR 1001.24 and include the following:

(a) A visual impact assessment (VIA) to determine the extent and assess the significance of facility visibility. The components of the VIA shall include identification of visually sensitive resources, viewshed mapping, confirmatory visual assessment fieldwork, visual simulations (photographic overlays), cumulative visual impact analysis, and proposed visual impact mitigation. The VIA shall address the following issues:

(1) the character and visual quality of the existing landscape;

(2) visibility of the facility, including visibility of facility operational characteristics, such as visible plumes from the exhaust stacks;

(3) visibility of all above-ground interconnections and roadways to be constructed within the facility study area as determined by the viewshed analysis;

(4) appearance of the facility upon completion, including building/structure size, architectural design, facade colors and texture, and site lighting;

(5) lighting (including lumens, location and direction of lights for facility area and/or task use, and safety including worker safety and tall structure marking requirements) and similar features;

(6) representative views (photographic overlays) of the facility, including front, side and rear views, indicating approximate elevations;

(7) nature and degree of visual change resulting from construction of the facility and above-ground interconnections;

(8) nature and degree of visual change resulting from operation of the facility;

(9) analysis and description of related operational effects of the facility such as visible plumes, shading, glare, and shadow flicker;

(10) proposed mitigation and mitigation alternatives based on an assessment of mitigation strategies, including screening (landscaping), architectural design, visual offsets, relocation or rearranging facility components, reduction of facility component profiles, alternative technologies, facility color and design, lighting options for work areas and safety requirements, and lighting options for stack lighting if required by the Federal Aviation Administration; and

(11) a description of all visual resources that would be affected by the facility.

(b) The viewshed analysis component of the VIA shall be conducted as follows:

(1) Viewshed maps depicting areas of project visibility within the facility study area shall be prepared and presented on a 1:24,000 scale recent edition topographic base map. A line of sight profile shall also be done for resources of statewide concern located within the VIA study area. The viewshed maps shall provide an indication of areas of potential visibility based on topography and vegetation and the highest elevation of facility structures. The potential screening effects of vegetation shall also be shown. The map(s) shall be divided into foreground, midground and background areas based on visibility distinction and distance zone criteria. Visually-sensitive sites, cultural and historical resources, representative viewpoints, photograph locations, and public vantage points within the viewshed study area shall be included on the map(s) or an overlay. An overlay indicating landscape similarity zones shall be included.

(2) The VIA shall include a detailed description of the methodology used to develop the viewshed maps, including software, baseline information, and sources of data.

(3) The viewshed mapping shall be used to determine the sensitive viewing areas and locations of viewer groups in the facility vicinity. These shall include recreational areas, residences, businesses, historic sites (listed or eligible for listing on the State or NRHP), and travelers (interstate and other highway users). As stated in Section 4.20.4 of this PSS, and in coordination with OPRHP, a supplemental Phase 1A literature review will be conducted as part of the Article 10 Application to identify potential historic sites listed or eligible for listing on the State or NRHP within the Project vicinity.

(4) The Applicant will confer with municipal planning representatives, DPS, DEC and OPRHP in its selection of important or representative viewpoints. Viewpoint selection is based upon the following criteria:

(i) representative or typical views from unobstructed or direct line- of-sight views;

(ii) significance of viewpoints, designated scenic resources, areas or features (which features typically include, but are not limited to: landmark landscapes; wild, scenic or recreational rivers administered respectively by either the DEC pursuant to ECL Article

15 or U.S. Department of Interior pursuant to 16 USC section 1271; forest preserve lands, any relevant scenic vistas (outside Adirondack Park which is not applicable), conservation easement lands, scenic byways designated by the Federal or State governments; scenic districts and scenic roads, designated by the Commissioner of Environmental Conservation pursuant to ECL Article 49 scenic districts; scenic areas of statewide significance; State parks or historic sites; sites listed on National or State Registers of Historic Places; areas covered by scenic easements, public parks or recreation areas; locally designated historic or scenic districts and scenic overlooks; and high-use public areas;

(iii) level of viewer exposure, i.e., frequency of viewers or relative numbers, including residential areas, or high-volume roadways;

(iv) proposed land uses;

(v) input from local public sources; and

(vi) building/structure data collected for each potentially eligible property prepared in a format acceptable to OPRHP and DPS and submitted to OPRHP and DPS for review prior to completing the viewpoint selection.

(5) Photographic simulations of the facility and interconnections shall be prepared from the representative viewpoints to demonstrate the post-construction appearance of the facility. Where vegetation screening is relied on for project mitigation, leaf-off and leaf-on simulation shall be provided. Representative viewpoints shall be established in consultation with DEC, DPS, and OPRHP.

(6) Additional revised simulations illustrating mitigation shall be prepared for those observation points for which mitigation is proposed in the application.

(7) Each set of existing and simulated views of the facility shall be compared and rated and the results of the visual impact assessment shall be summarized. Documentation of the steps followed in the rating and assessment methodology shall be provided including results of rating impact panels and a description of the qualifications of the individuals serving on the panels. Where visual impacts from the proposed facility are identified, potential mitigation measures

shall be outlined, and the extent to which they effectively minimize such impact shall be discussed.

(8) As applicable to the proposed facility technology, the analysis shall include analyses of overall appearance and operational characteristics of the facility and related facilities, including stack and cooling tower plume visibility, shading, glare, shadow flicker, or related visible effects of facility operation, including an assessment of the predicted extent, frequency, and duration of any such visible effects created by the facility.

4.25 Effects on Transportation – Exhibit 25

This section of the PSS addresses the information and analyses that will be presented in Exhibit 25 as required by 16 NYCRR 1001.25. The technical aspects of the Project installation and operation relative to impacts on transportation will be addressed. As the Narrows units are to be retired, transportation impacts with regard to Narrows will not be evaluated, except as may be related to decommissioning.

4.25.1 Existing Facility

As described in Section 3.9 of this PSS, the Gowanus facility is located within a heavily industrialized area in an urban waterfront setting and is well served and connected to by a network of interstate, Federal, and State highways, as well as surface City streets.

Truck routes in the vicinity of the Gowanus facility range from expressways to local truck routes and principal streets. These routes include the following state and federally designated roadways: the BQE, Grand Central Parkway/I-278, Belt Parkway/State Route 27, Long Island Expressway/I-495, and Prospect Expressway. The existing Gowanus facility does not require frequented truck traffic.

Gowanus Bay and the larger New York Upper Bay are extensively traversed by passenger boats and commercial shipping vessels.

A total of three airports are located within the vicinity of Project. The closest is Newark Liberty International Airport to the west northwest, which is approximately 9 miles from the Gowanus facility. The Wall Street Heliport is within 3 miles.

No surface rail occurs within the immediate vicinity of Project. The closest surface freight rail occurs south of the Project area. The areas surrounding the Gowanus facility are serviced by MTA Long Island Railroad and multiple subway lines.

4.25.2 Potential Impacts

Because of the heavily industrialized nature of the area surrounding the Project, the highways and surface streets are open to, and extensively used by truck, car and bus traffic. Installation and operation of the Project is anticipated to result in minimal additional traffic. The Project will only require urea deliveries via truck, at a rate of only one truck per week, and the swapping of the demineralization trailers 1 to 2 times a year. As a result, impacts to road traffic/transportation due to installation and operation of the Project are not anticipated.

Delivery of oversized materials via barges will be utilized during Project installation to the maximum extent practicable in order to minimize any potential roadway traffic impacts in the vicinity of the Gowanus facility. The various deliveries by barges will be coordinated with the USCG and appropriate Port Authority representatives prior to arriving at the Gowanus facility, as applicable.

As indicated in Section 2.0 of this PSS, stack heights will be increasing from the current 57-62 feet above water level to approximately 100-125 feet. This increase is not anticipated to impact air traffic. Based on consultation with the Downtown Manhattan Heliport, no impacts/issues from the increase heights were identified[22]. Additionally, the FAA OE/AAA Notice Criteria Tool preliminarily indicated that that stack heights will not impact air traffic; however, due to the Project's location, filing with the FAA will be required to determine potential impacts to air navigation facilities.

The Gowanus facility currently does not use rail for freight deliveries; however, use of passenger rail/subway could increase slightly during Project installation due to workers that would be necessary for installation of the new power barges and upgrading of the associated infrastructure. Given the heavy usage of the passenger rail/subway in Brooklyn, any usage increase as a result of the Project is not anticipated to impact transportation in any significant way.

[22] The Downtown Manhattan Heliport is located at Pier 6 in Manhattan. The Downtown Manhattan Heliport is located within 3 miles of the Project. Therefore, as required by Section 1000.4 of the Article 10 regulations, Applicant met with the operator of the Downtown Manhattan Heliport to discuss the Project on April 29, 2019.

4.25.3 Proposed Content of Article 10 Application

Exhibit 25 of the Article 10 Application as required under 16 NYCRR 1001.25 will include the following:

(a) A conceptual site plan, drawn at an appropriate scale, depicting all facility site driveway and roadway intersections, showing:

(1) for generation facilities, other than for wind turbines, horizontal and vertical geometry, the number of approach lanes, the lane widths, shoulder widths, traffic control devices by approaches, and sight distances;

(2) for wind turbine sites, access road locations and widths, including characterizations of road intersection suitability. This does not apply to the Project.

(b) A description of the pre-construction characteristics of the roadways in the vicinity of the facility, including:

(1) a review of existing data on vehicle traffic, use levels and accidents;

(2) a review of transit facilities and routes, including areas of school bus service;

(3) an identification of potential approach and departure routes to and from the facility site for police, fire, ambulance and other emergency vehicles;

(4) a review of available load bearing and structural rating information for expected facility traffic routes; and

(5) Because installation and operation of the Project will result minimal additional traffic, conducting 24-hour traffic volume counts and peak turning movement counts for typical weekday morning, weekday afternoon, and Saturday peaks, at representative critical intersections is not proposed to be included in the Article 10 application.

(c) An estimate of the trip generation characteristics of the facility during both construction and operation, including:

(1) for each major phase of construction, and for the operation phase, an estimate of the number and frequency of vehicle trips, including time of day and day of week arrival and departure distribution, by size, weight and type of vehicle;

(2) an identification of approach and departure routes to and from the facility site out to a 5-mile distance for vehicles carrying water, fuel oil, bulk fuels (including wood, biomass, coal and municipal solid waste), chemicals or hazardous materials for construction or operation of the facility;

(3) for major cut or fill activity (spoil removal or deposition at the facility site and affected interconnection areas), a separate estimate of the number and frequency of vehicle trips, including time of day and day of week arrival and departure distribution, and including a delineation of approach and departure routes, by size, weight and type of vehicle; and

(4) an identification of approach and departure routes to and from the facility site for construction workers and employees of the facility.

(d) It is anticipated that this requirement will not be applicable to any significant extent due to the nature of the repowered Project; however, if minimally applicable, an analysis and evaluation of the traffic and transportation impacts of the facility, including:

(1) a comparison of projected future traffic conditions with and without the Project, the analysis to be conducted separately for the peak construction impacts of the facility and for the typical operations of the completed facility, including in congested urbanized areas a calculation and comparison of the level of service for each representative intersection, giving detail for each turning movement;

(2) an evaluation of the adequacy of the road system to accommodate the projected traffic, the analysis to be conducted separately for the peak construction impacts of the facility and for the typical operations of the completed facility, the analysis to also include an identification of the extent and duration of traffic interferences during construction of the facility and any interconnections;

(3) an assessment of over-size load deliveries, and the adequacy of roadway systems to accommodate oversize and over-weight vehicles; improvements necessary to accommodate

oversize or overweight deliveries; impacts associated with such improvements; and mitigation measures appropriate to minimize such impacts;

(4) an identification and evaluation of practicable mitigation measures regarding traffic and transportation impacts, including time restrictions, the use of alternative technologies, the construction of physical roadway improvements, the installation of new traffic control devices, and the repair of local roads due to damage by heavy equipment or construction activities during construction or operation of the facility; and

(5) a description of all road use and restoration agreements, if any, between the applicant and landowners, municipalities, or other entities, regarding repair of local roads damaged by heavy equipment or construction activities during construction or operation of the facility.

(e) It is anticipated that this requirement will not be applicable to any significant extent due to the nature of the repowered Project; however, if minimally applicable, an analysis and evaluation of the impacts of the facility on airports and airstrips, railroads, subways, buses and any other mass transit systems in the vicinity of the facility. The analysis and evaluation shall include impacts on military training and frequent military operations in the National Airspace System and Special Use Airspace designated by the Federal Aviation Administration.

(f) If any construction or alteration is proposed that requires a Notice of Proposed Construction to be submitted to the administrator of the Federal Aviation Administration (FAA) in accordance with 49 U.S.C. § 44718 and 14 CFR Part 77 (generally required for all construction or alteration of more than 200 feet in height above the ground level, and for certain other construction or alteration near or at civilian public airports and heliports and military airports and heliports or in instrument approach areas as defined by the FAA):

(1) The application shall include a statement that the applicant has:

(i) received an informal Department of Defense review of the proposed construction or alteration in accordance with 32 CFR § 211.7; or

(ii) received a formal Department of Defense review of the proposed construction or alteration in accordance with 32 CFR § 211.6.

(2) If such construction or alteration is proposed to be located:

(i) within 12 miles of the nearest point of the nearest runway of a commercial service, cargo service, reliever or general aviation (public use) airport or a military airport with at least one runway more than 3,200 feet in actual length; or

(ii) within six miles of the nearest point of the nearest runway of a commercial service, cargo service, reliever or general aviation (public use) airport or a military airport with its longest runway no more than 3,200 feet in actual length; or

(iii) within three miles of the nearest point of the nearest point of the nearest landing and takeoff area of a commercial service, cargo service, reliever or general aviation (public use) heliport or military heliport:

The Application shall include a statement that the applicant has consulted with the operators of such airports and heliports that are non-military facilities, has provided a detailed map and description of such construction or alteration to such operators, and has requested review of and comment on such construction or alteration by such operators.

Further, the Application shall include a statement that the applicant has provided a detailed map and description of such construction or alteration to the operators (base commanders) of such airports and heliports that are military facilities.

(3) The Application shall include a detailed description of the responses received in such reviews and consultations required in paragraphs (1) and (2) of this subdivision, including specifically whether and why such operators believe such construction or alteration should be:

(i) unrestricted;

(ii) subject to site-specific requirements; or

(iii) excluded from certain areas.

4.26 Effects on Communication – Exhibit 26

This section of the PSS addresses the information and analyses that will be presented in Exhibit 26 as required by 16 NYCRR 1001.26. The technical aspects of the Project installation and operation relative to communication facilities will be addressed.

4.26.1 Existing Facilities

As described in Section 3.9 of this PSS, the Gowanus facility feeds to an adjacent to an existing high-voltage ConEd Gowanus Substation that operates at voltage levels up to 345 kV. The substation is located adjacent to the Gowanus facility to the west and east of the BQE. The substation contains an open-air buss duct and includes electrical connectors/feeders connecting both to the utility's transmission grid serving New York City and local community distribution system. Given the location of the facility in New York City, there are numerous radio, television, microwave, and other communication facilities within the vicinity of the Project.

As the Narrows units are to be retired, no discussion of the effects of Narrows on communications is necessary.

4.26.2 Potential Impacts

The feeder from the Gowanus facility connecting to the switch yard operates at 138kV and AGC is not aware of any historic or ongoing interferences due to electric fields resulting from the current operation of the feeder or substation. There are no known effects on microwave communications, television, radio or standard telephone communications resulting from the existing substation. Given the facility has been operating as a power generating station with no known impacts on communications, Project impacts are not anticipated.

4.26.3 Proposed Content of Article 10 Application

Exhibit 26 of the Article 10 Application will include those items required under 16 NYCRR 1001.26 as outlined below:

(a) An identification of all existing broadcast communication sources within a two-mile radius of the facility and the electric interconnection between the facility and the point of interconnection (the Project and immediately adjacent substation is considered as one location), unless otherwise noted, including:

(1) AM radio;

(2) FM radio;

(3) television;

(4) telephone;

(5) microwave transmission (all affected sources, not limited to a two-mile radius);

(6) emergency services;

(7) municipal/school district services;

(8) public utility services;

(9) doppler/weather radar (all affected sources, not limited to a two- mile radius);

(10) air traffic control (all affected sources, not limited to a two-mile radius);

(11) armed forces (all affected sources, not limited to a two-mile radius);

(12) GPS;

(13) LORAN (all affected sources, not limited to a two-mile radius); and

(14) amateur radio licenses registered to users.

(b) An identification of all existing underground cable and fiber optic major transmission telecommunication lines within a two-mile radius of the facility and the electric interconnection between the facility and the point of interconnection (the Project and immediately adjacent substation is considered as one location) .

(c) A statement describing the anticipated effects of the proposed facility and the electric interconnection between the facility and the point of interconnection (the Project and immediately adjacent substation is considered as one location) on the communications systems required to be identified pursuant to subdivisions (a) and (b) of this section, including the potential for:

(1) structures to interfere with broadcast patterns by re-radiating the broadcasts in other directions;

(2) structures to block necessary lines-of-sight;

(3) physical disturbance by construction activities;

(4) adverse impacts to co-located lines due to unintended bonding; and

(5) any other potential for interference.

(d) As previously discussed, the current facility interconnection does not currently have any impact on communication facilities and will continue to be used at the same voltage (138kV). Given this, an evaluation of the design configuration of the proposed facility and electric interconnection between the facility and the point of interconnection demonstrating that there shall be no adverse effects on the communications systems required to be identified pursuant to subdivisions (a) and (b) of this section should not be applicable and is not proposed to be included in the Article 10 Application.

(e) As previously discussed, the current facility does not have any known impact on communication facilities. As a result, impacts resulting from the repowered Gowanus facility are not anticipated. Therefore, a description of post-construction activities that shall be undertaken to identify and mitigate any adverse effects on the communications systems required to be identified pursuant to subdivisions (a) and (b) of this section that occur despite the design configuration of the proposed facility and electric interconnection between the facility and the point of interconnection should not be applicable and is not proposed to be included in the Article 10 Application.

4.27 Socioeconomics Effects – Exhibit 27

This section of the PSS addresses the information and analyses that will be presented in Exhibit 27 as required by 16 NYCRR 1001.27. The technical aspects of the Project installation and operation relative to pollution control facilities will be addressed.

4.27.1 Existing Facility

As described in Section 2 of this PSS, the existing Gowanus facility was built by ConEd and has been operating within the community since the 1970s. In late 1999, the facility was sold by ConEd to AGC. The Gowanus and Narrows facilities currently employ 27 persons. In addition to staff payroll, a review of the

local expenditures by AGC indicates that over $8 million is spent annually by these facilities with local merchants, vendors, and contractors.

The Project occurs in the Sunset Park neighborhood of Brooklyn, New York which is a vibrant, multicultural community with expansive residential neighborhood providing both permanent and short-term housing. Section 4.28 of this PSS (Environmental Justice) will discuss further the required review under DEC's environmental justice regulations with respect to population, income and health profile statistics as reported by the U.S. Census Bureau and the State and City Departments of Health for Brooklyn, Community District 7 and Sunset Park.

4.27.2 Potential Impacts

The installation of the Project is not anticipated to have any significant adverse impact on the area population, housing demand, employment or other socio-economic factors. As stated in Section 2.2.2, the new power barges and combustion turbines will be manufactured and assembled offsite. They will be transported over water to the site and moored to the pier. Electrical, fuel, and water interconnections will be made upon arrival of the barges at the site. Labor for the installation of the Project will generally be sourced locally which will benefit, albeit minimally, the New York Metropolitan Area from additional direct non-payroll expenditures over the installation period. The Project is not anticipated to have any increase in permanent jobs and those that staff the Narrows facility would likely be shifted to other AGC facilities.

Concerns are often expressed regarding the potential impact of electrical generation projects on real estate value. As described in Section 4 of this PSS, the area immediately surrounding the Project is zoned as Manufacturing District, M3-1. The property is also currently in use as an electric generation facility. These conditions make it unlikely that surrounding industrial properties will decrease in value due to the repowering and operation of the Project. Local industrial and commercial property values may increase slightly due to the Project's power reliability and lower community emissions (particularly with respect to the retirement of the Narrows generating units).

4.27.3 Proposed Content of Article 10 Application

Exhibit 27 of the Article 10 Application will discuss the current socio-economic conditions, as applicable, and the potential impacts of the Project on the community as applicable and required under 16 NYCRR 1001.27, as follows:

(a) An estimate of the average construction work force, by discipline, for each quarter, during the period of construction; and an estimate of the peak construction employment level.

(b) An estimate of the annual construction payroll, by trade, for each year of construction and an estimate of annual direct non-payroll expenditures likely to be made in the vicinity of the facility (materials, services, rentals, and similar categories) during the period of construction.

(c) An estimate of the annual secondary employment and economic activity likely to be generated in the vicinity of the facility by the construction of the plant. This analysis shall state the basis of any economic multiplier factor or other assumption used.

(d) An estimate of the number of jobs and the on-site payroll, by discipline, during a typical year once the plant is in operation, and an estimate of other expenditures likely to be made in the vicinity of the facility during a typical year of operation.

(e) An estimate of the annual secondary employment and economic activity likely to be generated in the vicinity of the facility by its operation.

(f) An estimate of incremental school district operating and infrastructure costs due to the construction and operation of the facility, this estimate to be made after consultation with the affected school districts.

(g) An estimate of incremental municipal, public authority, or utility operating and infrastructure costs that will be incurred for police, fire, emergency, water, sewer, solid waste disposal, highway maintenance and other municipal, public authority, or utility services during the construction and operation phases of the facility (this estimate to be made after consultation with the affected municipalities, public authorities, and utilities).

(h) An identification of all jurisdictions (including benefit assessment districts and user fee jurisdictions) that levy real property taxes or benefit assessments or user fees upon the facility site, its improvements and appurtenances and any entity from which payments in lieu of taxes will or may be negotiated.

(i) For each jurisdiction, an estimate of the incremental amount of annual taxes (and payments in lieu of taxes, benefit charges and user charges) it is projected would be levied against the post-construction facility site, its improvements and appurtenances.

(j) For each jurisdiction, a comparison of the fiscal costs to the jurisdiction that are expected to result from the construction and operation of the facility to the expected tax revenues (and payments in lieu of taxes, benefit charge revenues and user charge revenues) generated by the facility.

(k) An analysis of whether all contingency plans to be implemented in response to the occurrence of a fire emergency or a hazardous substance incident can be fulfilled by existing local emergency response capacity, and in that regard identifying any specific equipment or training deficiencies in local emergency response capacity (this analysis to be made after consultation with the affected local emergency response organizations).

(l) A detailed statement indicating how the proposed facility and interconnections are consistent with each of the State smart growth public infrastructure criteria specified in ECL 6-0107, or why compliance would be impracticable.

4.28 Environmental Justice – Exhibit 28

This section of the PSS addresses the information and analyses that will be presented in Exhibit 28 as required by 16 NYCRR 1001.28.

When the Article 10 was enacted into law in 2011 (Chapter 388 of the Laws of 2011), the Legislature addressed the historic concern that low-income communities and communities of color should not bear a disproportionate share of adverse environmental and health impacts associated with the generation of electricity. Specifically, the standard for review of any project under Article 10 includes consideration of "the impact on community character and whether the facility would affect communities that are disproportionately impacted by cumulative levels of pollutants." See Article 10, §168(4)(f). Further, if the Siting Board finds that a project "results in or contributes to a significant and adverse disproportionate environmental impact in the community in which the facility would be located," Article 10 requires the project proponent should avoid, offset or minimize the impacts caused … to the maximum extent practicable…." See Article 10, §168(3)(d). DEC promulgated regulations found at 6 NYCRR Part 487 for the analysis of environmental justice issues associated with projects subject to review and approval under Article 10.

As discussed throughout this PSS, the Project is located within a highly urbanized area in New York City, along the working waterfront of the Gowanus and Sunset Park communities. As part of AGC's PIP Plan, AGC mapped areas designated Potential EJ Areas within the one-mile study areas around the Gowanus and Narrows facilities, based on current 2010 census data, as updated in 2015, and other data obtained from the DEC's Geospatial Information System (GIS) Tools for Environmental Justice website (www.dec.ny.gov/public/911.html) and in accordance with DEC regulations at 6 NYCRR §487.5 as presented in Figures 3, 4, and 5 of this PSS. Per 6 NYCRR §487.3, EJ areas include census block groups featuring populations that meet or exceed at least one of the following statistical thresholds:

(1) At least 51.1% of the population in an urban area reported themselves to be members of minority groups; or

(2) At least 33.8% of the population in a rural area reported themselves to be members of minority groups; or

(3) At least 23.59% of the population in an urban or rural area had household incomes below the Federal poverty level.

As presented in Figure 5 of this PSS, the Project is proximate to multiple EJ areas. Because of the location of the repowered Gowanus facility and the retirement of the existing Narrows facility in an area with designated EJ Areas, an environmental justice analysis will be performed in accordance with DEC regulations at 6 NYCRR Part 487 and Article 10. As discussed in Section 4.9 of this PSS, regarding alternative locations, AGC will not be evaluating different locations for the Project given that it is a true repowering project. Furthermore, since Narrows will be retiring as part of the Project, thereby eliminating any present significant and adverse impacts to the community from Narrows, the analysis under the DEC regulations and Article 10 will be focused on the repowering of the Gowanus facility (with discussion of the potential benefits of the Narrows facility retirement).

The DEC regulations require that the Applicant complete for the Application, among other things, a "comprehensive demographic, economic and physical description" of the study area; a cumulative impact analysis of air quality; an evaluation of any significant and adverse disproportionate environmental impacts within the study area; and a discussion of any mitigation measures that may be required. See 6 NYCRR §487.6(c).

In order to evaluate any disproportionate impacts, the regulation at 6 NYCRR §487.8 requires the identification of three comparison areas relevant to the Project:

(1) The adjacent community defined to be between the one and two-mile contours from the Gowanus facility per 6 NYCRR §487.3(a), as presented in Figure 12 of this PSS;

(2) Kings County (the Borough of Brooklyn); and

(3) New York City as a whole.

In addition to preparing the Application in accordance with the DEC regulations, and in accordance with 16 NYCRR 1001.28, Exhibit 28 of the Article 10 Application will contain: (1) a thorough identification and evaluation of significant and adverse disproportionate environmental impacts of the Project, if any, including description of and citations to any health and environmental studies used in the evaluation, and (2) separately stated for each significant and adverse disproportionate environmental impact identified during the evaluation process, if any, a detailed description of any mitigation measures (including offsets) needed to avoid or minimize such impact to the maximum extent practicable (to include a "qualitative and where possible quantitative analysis demonstrating that the scope of avoidance, mitigation and offset measures…"). Demographic and health studies will use the most recent U.S. Census Bureau statistics and other available information from the New York State Department of Health (DOH) and New York City Department of Health and Mental Hygiene, including the City's Community Health Profiles for the study and comparison areas.

Specifically, with respect to the required cumulative air impacts analysis, as discussed in Section 4.17, upon receipt and resolution of DEC and DOH comments to the modelling protocol, AGC will perform a modelling analysis for the Project study area (at one-half mile and one mile as required by 6 NYCRR §487.7(b) unless demonstrated impacts require a larger study area). The analysis will include background concentrations as required by 6 NYCRR §487.7(b) and emitting on-site sources and determine the total impact on air quality within the study area including (1) an estimation of the maximum potential air concentrations (short-term and long-term) of appropriate pollutants and (2) a comparison of the maximum predicted air concentrations to ambient air quality standards and guidelines and ambient background concentrations for non-criteria pollutants for both short-term and long-term exposures for any appropriate pollutant. The analysis will be presented for both alternatives discussed in Section 4.9 of this PSS.

Note that the Project is the first project in New York City to be proposed for certification under Article 10 and the Applicant will work closely with DPS, DEC, DOH, New York City, and interested community leaders in preparing the environmental justice analysis for Exhibit 28 of the Article 10 Application.

4.29 Site Restoration and Decommissioning – Exhibit 29

This section of the PSS addresses the information and analyses that will be presented in Exhibit 29 as required by 16 NYCRR 1001.29.

4.29.1 Description of Decommissioning

Once the repowered Gowanus facility has reached the end of its useful operational life, the barges may be easily removed/relocated without leaving vast abandoned infrastructure in the community. All four of the existing power barges at the Gowanus facility will be disconnected and removed from the site in preparation for the arrival of new barges, installation, and commissioning. The existing power barges will be sold and scraped or repurposed.

The existing feeder cables and associated oil static houses at the Gowanus facility will be drained and decommissioned since new XLPE feeder cables will be installed as described in Exhibit 5. At present, all other existing utilities and infrastructure are planned to be reused to the maximum extent possible.

Similarly, for the Narrows facility, when retired as part of the Project, the power barges will be disconnected, removed from service and will sold and scrapped or repurposed. Upon retirement, there will be no further fossil fuel-fired generation at Narrows. As mentioned in the Section 2.0 of this PSS, the interconnection and remaining utilities will be preserved for future alternate projects such as offshore wind or battery storage.

As discussed previously, decommissioning activities will be subject to regulatory requirements for notice to the PSC and the NYISO prior to shut-down. This notice allows for electric reliability issues to be considered.

4.29.2 Proposed Content of Article 10 Application

Exhibit 29 of the Article 10 Application will describe the plan for decommissioning and restoration of the site as required under 16 NYCRR 1001.29.

(a) A statement of the performance criteria proposed for site restoration in the event the facility cannot be completed and for decommissioning of the facility, including a discussion of why the performance criteria are appropriate. Among other things, the statement shall address:

(1) safety and the removal of hazardous conditions;

(2) environmental impacts;

(3) aesthetics;

(4) salvage and recycling;

(5) potential future uses for the site; and

(6) the useful life of the facility.

(b) A plan for the decommissioning and restoration of the facility site including how such decommissioning and restoration shall be funded and a schedule for the conduct of decommissioning and site restoration activities.

4.30 Nuclear – Exhibit 30

This section is not applicable to the Project.

4.31 Local Laws and Ordinances – Exhibit 31

This section of the PSS addresses the information and analyses that will be presented in Exhibit 31 as required by 16 NYCRR 1001.31.

During preparation of the Article 10 Application, the Applicant will continue its consultation with New York City agencies to confirm that all requirements applicable to the Project have been correctly identified.

4.31.1 Applicable Local Laws and Ordinances

The Applicant has compiled the following preliminary list of local laws, regulations, standards, and other requirements that may be required for the installation or operation of the Project, as summarized in the following table. Each permit has procedural and substantive aspects so the Applicant is providing one table that reflects the necessary permits and/or approvals. As the Gowanus facility is an existing facility,

some permits for the repowering Project may only require modification. Note that, in consultation with New York City, the Applicant does not intend to request any waiver of local requirements.

Table 4.31-1. New York City Permits and Approvals for the Installation and Operation of the Facility

New York City Agency	Requirement	Discussion
Department of Small Business Services (**SBS**) (In coordination with DOB & FDNY)	Installation/work permits: electrical, mechanical, fuel & gas, mechanical, plumbing, fire prevention,	Required for installation of new facilities and modifications of existing facilities and interconnections.
Department of City Planning (**DCP**) & City Coastal Commission	Local Waterfront Revitalization Program (LWRP) Consistency Review	Flood and resilience issues will be address as part of the review required for Policy 6.2 of the LWRP.
Department of Environmental Protection (**DEP**)	Certificate of Operation (15 RCNY Chapter 2) & (NYC Administrative Code Title 24 Air Pollution and Control)	Required to operate a specific piece of equipment or apparatus that may emit an air contaminant.
DEP	Water use/sewer connection	May only need to be modified
Fire Department of New York City (**FDNY**)	Fire prevention code consistency review and inspection	Required for installation of new facilities or modification of existing facilities.

4.31.2 Building Permits

Pursuant to Section 1301 of the NYC Charter and Title 22 of the NYC Administrative Code, the Department of Small Business Services (SBS) is tasked with issuing permits for all construction related to improvement or maintenance on waterfront properties. As the Project will be contracted as turnkey for delivery to the Project site, the Project will not involve construction of the generating units or barges in New York; however, the Project will involve connection activities, potential upgrades of feeder cables and the water line, as well as the addition of the water demineralization system including a 1.1 million gallon tank on the South Pier, as discussed in the Project description. Some of these activities will require permits from SBS and NYCDEP.

4.31.3 Local Laws and Ordinances Applicable to Utility Interconnections in Public and ROW

None.

4.31.4 Statement of Zoning

The area in which the existing facilities and the Project are located is zoned M-3 for heavy industrial use, appropriate for a power plant (Use Group 18) in accordance with the New York City Zoning Resolution. No zoning changes will be required for the Project.

4.32 State Laws and Ordinances – Exhibit 32

This section of the PSS addresses the information and analyses that will be presented in Exhibit 32 as required by 16 NYCRR 1001.32.

During preparation of the Article 10 Application, the Applicant will continue its consultation with State agencies to confirm that all requirements applicable to the Project have been correctly identified.

4.32.1 Applicable State Approvals, Consents, Permits, Certificates, or Other Conditions

The Applicant has compiled the following preliminary list of State, regulations, standards, and other requirements that may be required for the installation or operation of the Project, as summarized in the following table. Each permit has procedural and substantive aspects so the Applicant is providing one table that reflects the necessary permits and/or approvals. As the Gowanus facility is an existing facility, some permits for the repowering Project may only require modification.

Table 4.32-1. State Permits Approvals for the Installation and Operation of the Facility

New York State Agency	Requirement	Discussion
Department of Public Service (**DPS**) Board on Electric Generation Siting and the Environment	Certificate of Environmental Compatibility and Public Need (PSL Article 10)	A certification is required for the installation and operation of major electric generating facilities with a nameplate generating capacity of 25 MW or more.
Public Service Commission (**PSC**)	Certificate of Public Convenience and Necessity (PSL §68 Certificate)	Required before installation and operation of major electric generating facilities.
Department of Environmental Conservation (**DEC**)	State Facility Air Permit (6 NYCRR 201-5)	Required by the Federal Clean Air Act prior to the operation of new or modified sources of air emissions.
DEC	Title V Air Permit (6 NYCRR 201-6)	Required by the Federal Clean Air Act prior to the operation of new or modified sources of air emissions.
DEC	NNSR/PSD Air Permit (6 NYCRR 231)	Required prior to operation of new or modified stationary sources of air emissions.
DEC	Title IV Acid Rain Permit (6 NYCRR 201-6)	
DEC	Petroleum Bulk Storage Permit (6 NYCRR 613)	
DEC	Major Onshore Storage Facility License 6 NYCRR 610, 613	Required for the fuel barge. As the fuel barge is existing and not being modified, no modification to this permit will be necessary.
DEC	Spill Prevention Control and Countermeasure (SPCC) Plan (6 NYCRR 612-614; 40 CFR 112)	
DEC	Chemical Bulk Storage Permit (6 NYCRR 596-599)	

Table 4.32-1. State Permits Approvals for the Installation and Operation of the Facility

New York State Agency	Requirement	Discussion
DEC	State Pollutant Discharge Elimination System Permit (6 NYCRR 750)	Required for installation that will result in a disturbance of greater than one acre or the discharge of treated dewatering effluents. Notification is also required for the termination of permitted process wastewater or stormwater discharges.
DEC	SPDES General Permit for Stormwater Discharge from Installation Activity	
DEC	Tidal Wetland Permit (6 NYCRR 661)	Required for all work affecting tidal wetlands of New York State; to the extent applicable, a Water Quality Certification pursuant to Section 401 of the Clean Water Act may be applicable.
DEC	Protection of Waters Permit -Article 15 (6 NYCRR 608)	Required for any work below mean high water level on the protected streams
DEC	Hazardous Substance Bulk Storage Facility Registration	All stationary tanks storing hazardous substances at a facility must be registered with the New York State Department of Environmental Conservation per Part 596 regulations.
Department of State (**DOS**)	Coastal Zone Consistency Determination	Required in support of issuance of DEC and United State Army Corps of Engineers permits and approvals to ensure consistency with designated uses of the coastal zone and applicable coastal zone policies; under State regulations, the Department of City Planning will conduct the consistency review under its Local Waterfront Revitalization Plan.
Office of Parks, Recreation and Historic Preservation and State Historic Preservation Office (**OPRHP and SHPO**)	Section 106 Cultural and Historic Resources Review and Consultation – "Determination of No Effect" (Parks, Recreation and Historic Preservation Law §14.09 Determination)	Provides a determination "Letter of Resolution" of whether cultural and or historic resources are potentially present on the site, and is required for issuance of State and Federal permits.
Department of Labor (**DOL**) & Asbestos Control Bureau	Asbestos Project Notification	An Asbestos Project Notification must be completed and sent to the Asbestos Control Bureau before beginning any project where asbestos could be released.
Department of Transportation (**DOT**)	Oversize/Overweight Vehicle Permit	Required for vehicles on state highways that exceed specified dimensions and or weights.

4.33 Other Applications and Approvals – Exhibit 33

This section of the PSS addresses the information and analyses that will be presented in Exhibit 32 as required by 16 NYCRR 1001.33.

During preparation of the Article 10 Application, the Applicant will continue its consultation with Federal agencies, as necessary, to confirm that all requirements applicable to the Project have been correctly identified.

4.33.1 Federal Permits, Licenses, Approvals, or Consents Required for Installation or Operation

The Applicant has compiled the following preliminary list of Federal regulations and requirements that may be required for the installation or operation of the Project, as summarized in the following table. Each permit has procedural and substantive aspects so that the table simply reflects the necessary permits and/or approvals. As the Gowanus facility is an existing facility, some permits for the repowering Project may only require modification.

Table 4.33-1. Federal Permits and Approvals for the Installation and Operation of the Facility

Federal Agency	Requirement	Discussion
U.S. Army Corps of Engineers (**USACE**)	Section 10 of the Rivers and Harbors Act of 1899/Section 404 of the Clean Water Act	Required for structures or work in waters of the United States, including navigable waters. The level of permitting (IP or NWP) will be based on impacts resulting from specific installation activities.
USACE & **SHPO**	Section 106 of the National Historic Preservation Act	Provides a determination if the Project will have adverse effects on historic properties.
U.S. Environmental Protection Agency (**EPA**)	Asbestos Abatement Project Notification	Appropriate state agency must be notified of any demolition or renovation project involving asbestos removal at least ten (10) working days prior to beginning of the project.
EPA	Title V Clean Air Act	The permit program has been delegate by the State, however, USEPA has certain review authority
EPA	NPDES Vessel General Permit for the fuel barge.	
U.S. Coast Guard (**USCG**)	Certificate of Inspection for fuel barge (46 CFR 151-04-1 and 31.05-1); certificates of documentation and certificates of Financial Responsibility required for fuel and power barges (46 CFR Part 67 and 33 CFR 138); Vessel Response Plan for fuel barge (33 CFR 155); Facility Response Plan [in consultation with USEPS] and Facility Security Plan for existing power barges (33 CFR Part 105); Facility Operation Manual (33 CFR 154)	As the fuel barge is existing and not being modified, no modification to those permits will be necessary. It is expected that the existing USCG permits will be modified for the repowered Gowanus facility.
Federal Aviation Administration (**FAA**)	FAA clearance and review (14 CFR 77.9)	As required by Article 10 regulations, on April 29, 2019, the Applicant met with the Wall Street Heliport which is Manhattan access the river from the Project but within a 3-mile radius of the Project.
American Bureau of Shipping (**ABS**)		Although not a Federal agency, ABS provides significant design criteria for vessels, including barges. Much of the design criteria have been adopted by the USCG in regulation and policy.

4.33.2 Other Applications

The Applicant does not have, and is not aware of, any other application or filing that concerns the subject matter of the Project.

4.34 Electrical Interconnection Description – Exhibit 34

This section of the PSS addresses the information and analyses that will be presented in Exhibit 34 as required by 16 NYCRR 1001.34.

4.34.1 Existing Facilities

The Gowanus and Narrows facilities service the NYISO Zone J (New York City) power market and are electrically connected within the Gowanus/Greenwood sub-load pocket at the 138-kV level. This sub-load pocket encompasses much of Sunset Park and experiences constraints in providing electricity during peak electrical demand.

Each of the existing power barges at the Gowanus facility are directly connected to the adjacent ConEd Gowanus Substation via underground feeder cables. The existing Barge 1, Barge 2, Barge 3, and Barge 4 connect through feeders 42421, 42422, 42423, and 42424, respectively, to each of the existing POIs in the substation. These feeders are bifurcated through a common 138kV bus inside the Gowanus Substation in pairs where feeders 42421 and 42423 are linked and feeders 42422 and 42424 are linked. The output from each of the bifurcated common buses is then transmitted to the Con Edison Greenwood Substation via ConEd owned underground feeders 42G13 and 42G24 for Gowanus barge feeders 42421/42423 and 42422/42424 respectively. The existing POIs will be reutilized for the new barges as described in Section 2.2.2 and 4.5 of this PSS.

The existing Narrows Facility POIs are at ConEd's Greenwood Substation. The Narrows feeders 23161 and 23162, for Barge 1 and Barge 2, respectively, run from the facility to the substation approximately 2.3 miles underground.

As the Narrows units will be retired, after decommissioning, the electrical interconnection system may be utilized for an alternate offshore wind or battery storage project, which is not part of the Project and will be evaluated and permitted outside of this Article 10 proceeding.

4.34.2 Proposed Content of Article 10 Application

Exhibit 34 of the Article 10 Application will describe the proposed electrical interconnection as required under 16 NYCRR 1001.34 and will include:

(a) the design voltage and voltage of initial operation;

(b) the type, size, number and materials of conductors;

(c) the insulator design;

(d) the length of the transmission line;

(e) the typical dimensions and construction materials of the towers;

(f) the design standards for each type of tower and tower foundation;

(g) for underground construction, the type of cable system to be used and the design standards for that system;

(h) for underground construction, indicate on a profile of the line the depth of the cable and the location of any oil pumping stations and manholes;

(i) equipment to be installed in any proposed switching station or substation including an explanation of the necessity for any such switching station or substation;

(j) any terminal facility; and

(k) the need for cathodic protection measures.

4.35 Electric and Magnetic Fields – Exhibit 35

This section of the PSS addresses the information and analyses that will be presented in Exhibit 35 as required by 16 NYCRR 1001.35.

4.35.1 Existing Facility

As discussed above in Section 4.34, each of the existing power barges at the Gowanus facility are directly connected to the adjacent ConEd Gowanus Substation via underground feeder cables. The existing

Barge 1, Barge 2, Barge 3, and Barge 4 connect through feeders 42421, 42422, 42423, and 42424 respectively to each of the existing POIs in the ConEd Gowanus Substation. These feeders are bifurcated through a common 138kV bus inside the Gowanus Substation in pairs where feeders 42421 and 42423 are linked and feeders 42422 and 42424 are linked. The output from each of the bifurcated common buses is then transmitted to the ConEd Greenwood Substation via ConEd owned underground feeders 42G13 and 42G24 for Gowanus barge feeders 42421/42423 and 42422/42424 respectively. The existing POIs will be reutilized for the new barges as described in Section 2.2.2 and 4.5 of this PSS.

The aerial photograph below shows the Gowanus facility and the adjacent ConEd Substation.

No public or private property are crossed by the feeders. Given this, there is currently no public exposure and there would be no public exposure to potential electromagnetic field (EMF) effects, if any, as a result of the Project.

4.35.2 Proposed Content of Article 10 Application

As detailed in Section 2.0 and Section 4.35.1 above, there is currently no public exposure to EMF and given the proposed Project, public exposure to EMF is not anticipated. As such EMF modeling, right-of-

way segment plans and associated mapping as required under 16NYCRR 1001.35 should not be applicable and is not proposed to be included in Exhibit 35 of the Article 10 Application.

4.36 Gas Interconnection Description – Exhibit 36

This section of the PSS addresses the information and analyses that will be presented in Exhibit 36 as required by 16 NYCRR 1001.36.

4.36.1 Existing Facilities

As discussed in Section 4.7 of this PSS, the Gowanus and Narrows facilities are currently connected to the National Grid New York natural gas distribution system and receives service under the "interruptible" natural gas tariff. The existing POE and M&R station are owned, maintained, and operated by National Grid. The repowered Gowanus facility will utilize the existing POE and M&R station.

POE piping consists of 16-inch diameter schedule 40 pipe, which then runs through a coalescent filter, after which it is decreased to 12-inch diameter piping and separates into 3-meter runs, before combining to a single outlet consisting of 12-inch diameter piping to the existing power barges. Piping is currently connected from the POE to service existing combustion turbines. The piping connected downstream from the M&R station is owned and operated by AGC and will remain in place for the repowered Gowanus facility, with the expected upgrade of some aboveground piping along the pier to the new barges.

Working from the M&R equipment toward the combustion turbines, a 12-inch gas header runs north from the M&R equipment to a tee and then branches into two 12-inch pipelines routed to the existing barges. The new compressor outlet pressure will be 950 psia; suction pressure is rated for 250 psia. The existing facility does not have a gas compression system.

The estimated natural gas consumption for the repowered Gowanus facility is:

- Maximum estimated hourly = 60,571 therms
- Maximum estimated daily = 1,453,716 therms
- Maximum estimated monthly = 43,611,480 therms

The repowered Gowanus facility will require approximately 300 psig at the POE, which is the current normal pressure of the existing facility. The minimum allowable pressure at the POE will be 250 psig. New gas compressors will be installed downstream of the POE for each new unit on the new power barges. Five new gas compressors will be installed on each new power barge for a total of ten new compressors, i.e., one compressor will support each unit and a fifth compressor is a backup and available to support any unit on the barge in the event of a compressor outage. The compressors are rated for 1750 HP each in a 5 x 25 percent configuration per barge.

As the Narrows units will be retired, there will be no gas interconnection system used after decommissioning.

4.36.2 Proposed Content of Article 10 Application

Exhibit 36 of the Article 10 Application will describe the proposed gas interconnection as required under 16 NYCRR 1001.36 and will include:

(a) A study of gas supply options, capacity, and system impact, including:

(1) A detailed description of the proposed gas pipeline interconnection, including all interconnecting facilities, pipeline route, size, operating pressure, volume of gas required to serve the facility, the need for new on-site compression, and identifying who shall construct, own and operate the pipeline facilities.

(2) An analysis demonstrating that there shall be sufficient gas supply and gas transmission capacity to support the requirements of the facility. AGC has requested that National Grid's New York City natural gas delivery subsidiary study natural gas delivery to the Project. The study will determine whether the Project could obtain either "firm" (i.e. non-interruptible) or "partially interruptible" (i.e., a maximum of 30 days interruption per calendar year) natural gas delivery.

(3) An estimate of the peak hour, peak day, seasonal and annual natural gas requirements of the facility.

(4) An identification of the nature and extent of the natural gas capacity and transportation service as firm, interruptible, or both.

(5) An evaluation of the potential impacts of the facility on the gas distribution system of the local distribution company (LDC).

(6) A discussion of the impact of the facility use of gas on wholesale supplies and prices in the region using the same transmission facilities as the facility.

(b) A description and preliminary design details for the gas interconnection including:

(1) class criteria for the interconnection pipeline location;

(2) location and design of valves;

(3) a plan for pressure testing of the station piping facilities, indicating applicable code, standards and procedures for testing and release of test medium; and

(4) the need for cathodic protection measures.

4.37 Backup Fuel – Exhibit 37

This section of the PSS addresses the information and analyses that will be presented in Exhibit 37 as required by 16 NYCRR 1001.37.

4.37.1 Existing Facilities

As fully discussed in Section 2.2.1 above regarding the existing Gowanus and Narrows facilities, the backup fuel oil used at the Gowanus and Narrows facilities is ULSD, which has been the liquid fuel used at the Gowanus facility exclusively since April 2010 and at the Narrows facility since January 2014. The USLD is stored at the Gowanus facility in a moored, double-hulled fuel barge newly constructed in 2014 and maintained in accordance with ABS, USCG, and DEC regulations. The ULSD for the Narrows facility is stored in two tanks on AGC-owned property adjacent to the Narrows facility.

As Narrows is retiring, a discussion of backup fuel for its operation is not necessary. With respect to the Gowanus facility, ULSD, stored in the existing fuel barge, will continue to be used primarily as a back-up fuel as required by the New York State Reliability Council for reliability and resiliency purposes (to be used no more than 720 hours per year). There will be no changes in the operation of the fuel barges so there are no anticipated impacts associated with the Project's continued use of backup fuel.

4.37.2 Proposed Content of Article 10 Application

Exhibit 37 of the Article 10 Application will include, as relevant:

(a) A description of the existing fuel barge, the barge loading and fueling equipment, and the ULSD used as backup fuel at the repowered Gowanus facility, including:

(1) A chemical analysis of the back-up fuel;

(2) an estimate of the rate of fuel oil consumption at full power output;

(3) a description of any secondary containment and any other facilities or measures proposed to prevent, contain or clean up oil spills;

(4) an estimate of the maximum period that the plant could burn oil without refueling;

(5) a description of oil delivery process to the fuel barge and an estimate of the maximum rate of delivery;

(6) an estimate of the expected frequency and duration of oil firing of the facility and a discussion of the assumptions and analyses used to arrive at this estimate; and

(7) a statement of the number of days of back-up fuel supply to be maintained including a discussion as to whether such number will be sufficient to conform to Commission policies on minimum back-up fuel supply quantities.

(b) a description of current permitting requirements, including

(1) a copy of any SPCC Plan;

(2) a copy of a Major Petroleum Facility License pursuant to Article 12 of the Navigation Law, Section 174 (licenses), 17 NYCRR Part 30 (Oil Spill Prevention and Control- Licensing of Major Facilities), 6 NYCRR Part 610 (Certification of Onshore Major Facilities), and 6 NYCRR Parts 612 through 614 (Petroleum Bulk Storage Regulations), as applicable.

(c) A discussion of the impact of the facility use of fuel oil on wholesale supplies and prices in the affected region, as relevant.

As Narrows will be retired and the use of the fuel barge at Gowanus will remain the same for the repowered facility, it is not anticipated that there will be any impacts associated the use of the backup fuel that would require a significant impact analysis under Exhibit 37 of the Article 10 Application.

4.38 Water Interconnection – Exhibit 38

This section of the PSS addresses the information and analyses that will be presented in Exhibit 38 as required by 16 NYCRR 1001.38.

4.38.1 Existing Facility

The existing facility is serviced by a water interconnection using public water supply at an average of approximately 1,600 gallons of water per day. New York City's existing water line may require maintenance repairs or line upgrades due to age and to meet the demand of the new efficient units. Water line upgrade requirements will be evaluated in coordination with the New York City DEP. The existing water supply is utilized for site fire protections systems for existing power barge generator step-up (GSU) transformer deluge, fuel oil storage barge monitor lines, and fuel oil storage barge foam lines, and also regular station potable water services. The same water services will remain in place for the new power barges and station. The only change with the new power barges will be the use of demineralized water, which will be generated from the existing water line through a trailered reverse osmosis (RO) water treatment plant to be installed on the South Pier.

Demineralized water is not currently used for the existing power barges; however, a new approximate 1.1 million-gallon demineralized water tank will be located on the existing South Pier. Demineralized water is required for the new, more efficient gas turbines which will operate with wet compression, inlet fogging, and combustion water injection for NO_x abatement. Due the demineralized water requirements of the new gas turbines, the repowering of the Gowanus facility will require an increase in public water usage.

As the Narrows units will be retired, there will be no need for a water supply and interconnection analysis for Narrows in Exhibit 38 of the Article 10 Application.

4.38.2 Proposed Content of Article 10 Application

Exhibit 38 of the Article 10 Application will detail the existing interconnection, proposed upgraded interconnection, conduct an impact analysis of the water delivery infrastructure, and propose impact avoidance/mitigation measures as required under 16 NYCRR 1001.38.

(1) Estimate of the hours and daily peak, and hourly and daily average water supply needs and consumptive water losses of the facility (in gallons) for each day of a typical year, broken down by power production and domestic uses with daily, monthly and annual totals.

(2) Estimate of the daily peak, daily average, and fire suppression peak and average flow rate needs of the facility in gallons per minute and a demonstration that an adequate water supply is available (both quantity and pressure) for fire protections during normal and drought periods.

(3) Description of the methodology used to prepare the water supply needs and minimum and maximum flow rate estimates stating all factors used.

(4) Description of the water chemistry requirements for water to be supplied to the facility, indicating any requirements that are more stringent than New York State standards for potable water, and any additional water treatment that shall be necessary to obtain the desired chemistry.

(5) Identify the public water supply source, including an identification of the well field(s) in the localized zone, proposed to be used by the facility, including:

   a. Studies to assess the available capacity of the water supply source and an analysis of the impacts, in terms of quantity, quality, and pressure during both normal and drought periods of the facility's water use on the water supply system, including an identification of the well field(s) in the localized zone.

   b. Identification of all infrastructure necessary to serve the facility including treatment requirements.

   c. Impact assessment of the facility on excess infrastructure capacity, including distribution piping, mains, pumps, storage, or additional supply during both normal and maximum system demands.

d. Surface water or an on-site well is not proposed; the facility is currently serviced by a NYC DEP public water connection and will continue with proposed upgrades to the water interconnection. Therefore, a qualitative analysis of the water balance and an assessment of the impacts of the removal of the maximum daily withdrawal for the facility will not be included in the Article 10 Application.

e. A new surface water withdrawal is not proposed for water supply at this facility. As stated in 5(d) and above, the current facility is serviced by a NYC DEP public water connection and will continue with potential upgrades to the water interconnection.

f. Identify and describe facility water treatment facilities.

(6) Detailed description of the proposed water interconnection, including all interconnecting facilities, line route, size, functions, design details, and operating characteristics.

(7) Description of the status of negotiations and a copy of agreements that have been executed for providing water to the facility, as applicable, including permitting implications/modification requirements and restrictions imposed by the provider and a preliminary description of how the interconnection and system upgrades are to be installed, owned, maintained and funded.

(8) Because the Project is an existing facility with an existing water supply connection, the Identification and evaluation of other reasonable water supply alternatives and mitigation measures to avoid or minimize water supply impacts, including a contingency plan, if required, for water use curtailment during times of drought or water emergency, describing thresholds for water use curtailment will not be included in the Article 10 Application.

(9) A description and evaluation of compliance with any requirements regarding water withdrawals contained in applicable State regulations, the great lakes compact, or any requirements of the Susquehanna and Delaware River Basin Commissions will not be provided because the project does not propose water withdrawals. The facility is currently serviced by NYCDEP public water connection and will continue with proposed upgrades to the water interconnection.

4.39 Waste Water Interconnection – Exhibit 39

This section of the PSS addresses the information and analyses that will be presented in Exhibit 38 as required by 16 NYCRR 1001.39.

4.39.1 Existing Facility

Sanitary wastewater is currently discharged from the Gowanus facility through a gravity feed pipeline connection to an existing 4-inch line from the ejector pump vault to the sanitary sewer vault located at the facility. From there, the sanitary wastewater level discharges to the Owl's Head Water Pollution Control Plant (WPCP) located at 6700 Shore Road in Brooklyn, New York. An increase in wastewater is not anticipated as part of the Project; therefore, no changes are proposed to the existing wastewater interconnection.

The existing Petroleum Bulk Storage permits for the oil/water separators and the existing State Pollution Discharge Elimination System (SPDES) permit and best practices management plan will be modified for the new, repowered Gowanus facility.

As the Narrows units will be retired, there will be no need for a waste water interconnection analysis for Narrows in Exhibit 39 of the Article 10 Application.

4.39.2 Proposed content of Article 10 Application

Exhibit 39 of the Article 10 Application will detail, to the extent required, the existing waste water interconnection, proposed upgraded interconnection, conduct an impact analysis of the waste water infrastructure, and propose impact avoidance/mitigation measures as required under 16 NYCRR 1001.39.

(1) Detailed description of the proposed wastewater sewer interconnection, including all interconnecting facilities, line route, size, functions, and operating characteristics.

(2) A separate water balance diagram for hourly and daily peak and hourly and daily average water use operating conditions for the facility that shows in detail all water sources, plant water uses, water treatment facilities, wastewater treatment facilities, wastewater discharges and which effluents shall be discharged, and where, including information on the characteristics (e.g. volume, temperature, constituent concentrations) of each water withdrawal and discharge under all operating conditions.

(3) An identification and evaluation of reasonable mitigation measures regarding wastewater generation and disposal impacts, including the use of on-site subsurface disposal.

(4) An identification and description of all reasonable discharge or disposal methods for wastewater generated from the facility, including a review of options for discharging to municipal sewer systems, aquifer recharge areas, in-ground discharges, or other process wastewater disposal, as well as, where applicable, an analysis of the impacts on water quality and quantity in affected groundwater and surface water resources, and an analysis of the impacts of any out-of-aquifer transfers.

(5) A description of available capacity and any limitations on wastewater disposal capacity.

(6) Description of the status of negotiations with municipal sewage treatment, or a copy of agreements that have been executed, with municipalities, companies or individuals for receiving wastewater from the facility including any restrictions or conditions of approval placed on the facility for wastewater disposal, if any, imposed by the provider, and a preliminary description of how the interconnection and any necessary system upgrades will be installed, owned, maintained and funded.

(7) The current facility is serviced by a municipal sewage treatment and will continue with proposed upgrades to the wastewater interconnection. Therefore, an identification and description of any wastewater treatment facilities and discharge structures, including a demonstration that each facility and/or effluent discharge will meet all applicable effluent limitations or pretreatment standards, as well as all applicable New York State water quality standards, during construction and operation will not be included in the Article 10 Application.

(8) A completed application for a modified State pollutant discharge elimination system (SPDES) permit, as necessary, and a demonstration that the discharge complies with all applicable technology-based and/or water-quality based effluent limits.

4.40 Telecommunications Interconnection Description – Exhibit 40

This section of the PSS addresses the information and analyses that will be presented in Exhibit 40 as required by 16 NYCRR 1001.40.

There will be no changes in telecommunications interconnection from the existing Gowanus facility as a result of the Project. The Narrows facility will be shut down and the Gowanus facility will continue with the same telecommunications capacity.

4.40.1 Proposed content of Article 10 Application

A new telecommunications interconnection is not proposed for the facility; therefore, the following items required under 16 NYCRR 1001.40 are not applicable and are not proposed to be included in the Article 10 application:

(a) A detailed description of the proposed telecommunications interconnection, including all interconnecting facilities, line route, design details, size, functions, and operating characteristics.

(b) An analysis demonstrating that there will be sufficient capacity to support the requirements of the facility.

(c) A description of the status of negotiations, or a copy of agreements that have been executed, with companies or individuals for providing the communications interconnection including any restrictions or conditions of approval placed on the facility imposed by the provider, and a description of how the interconnection and any necessary system upgrades will be installed, owned, maintained and funded.

4.41 Applicant to Modify or Build Adjacent – Exhibit 41

This section is not applicable to the Project.

5. Conclusion

This Preliminary Scoping Statement has been prepared for the Gowanus Repowering Project, which is proposing to repower the older, less efficient, barge mounted electric generating units at the Gowanus facility and replace them with new, more efficient, barge mounted electric generating units, and then permanently retire the generating units at the Narrows facility. This PSS has been prepared to satisfy the requirements of 1000.5(l) of the New York Public Service Law, to facilitate an understanding of the Project, to highlight the benefit and need of the Project, to gather further input from stakeholders, and to establish the impact analysis requirements for the Article 10 Application.

The total MW rating of the Gowanus facility as repowered will be no greater than 590 MW, 50 MW less than the current facility's nameplate rating and the repowered Gowanus facility will result in a significant decrease in emission rates (pounds per MWh produced) for all major pollutants. Moreover, upon commencement of the repowered Gowanus facility, Narrows generating units will be retired, resulting in an additional decrease of 320 MW of traditional generation in the Sunset Park area, and it is expected that the Project will further displace significant pollution from older, higher-emitting, in-City generating facilities.

The repowering of the Gowanus facility allows for existing utility infrastructure to be used as much as possible, which will minimize environmental impacts normally associated with the construction of new interconnects and other infrastructure. The proven resiliency of the Project is also of great importance. The barges have the ability to remain operational under the most extreme tidal and storm conditions, which is an essential function in a resilient New York City. Furthermore, as New York City and New York State move toward greater reliance on renewable energy sources, should the Gowanus facility units no longer be needed for reliability, the barges may be easily removed without leaving behind abandoned infrastructure in the community. Finally, the Narrow retirement opens up the possibility of utilizing the interconnection for offshore wind resources or battery storage projects. AGC is exploring such opportunities outside but concurrent with the Article 10 process.

Upon submission of this PSS, there will be a 21-day public comment period. Thereafter, AGC will prepare responses to the public comments. AGC will also hold a public open house meeting to continue the public involvement process and to allow stakeholders to ask questions and to comment on the PSS. Next steps in submission of the Application will also be discussed at the public meeting. Parallel to the

public involvement process conducted by the Applicant, other public meetings will be commenced by a Presiding Examiner appointed by the Siting Board.