

NEW YORK CITY WATERFRONT REVITALIZATION PROGRAM Consistency Assessment Form

Proposed actions that are subject to CEQR, ULURP or other local, state or federal discretionary review procedures, and that are within New York City's Coastal Zone, must be reviewed and assessed for their consistency with the [New York City Waterfront Revitalization Program](#) (WRP) which has been approved as part of the State's Coastal Management Program.

This form is intended to assist an applicant in certifying that the proposed activity is consistent with the WRP. It should be completed when the local, state, or federal application is prepared. The completed form and accompanying information will be used by the New York State Department of State, the New York City Department of City Planning, or other city or state agencies in their review of the applicant's certification of consistency.

A. APPLICANT INFORMATION

Name of Applicant: Consolidated Edison Company of New York, Inc

Name of Applicant Representative: Howard Goldberg

Address: 31-01 20th Ave, Queens, NY 11105

Telephone: 929-243-2844 Email: Goldbergh@coned.com

Project site owner (if different than above): _____

B. PROPOSED ACTIVITY

If more space is needed, include as an attachment.

1. Brief description of activity

Consolidated Edison Company of New York, Inc. (Con Edison) is proposing the Nitrogen Refrigeration Cycle (NRC) Replacement Project (the "proposed project") to replace the liquefied natural gas (LNG) nitrogen loop system at its approximately 25-acre LNG facility in Astoria, Queens, New York City (the "project site"), to ensure reliability for Con Edison's customers during the cold winter season and unplanned interruptions on the gas system. The proposed project entails the in-kind replacement of the existing 82 MM Btu/hr gas turbine used for natural gas liquefaction, with a new, more efficient Siemens 54 MM Btu/hr gas turbine that will substantially reduce the facility's air emissions. Con Edison is seeking a modification to its Title V Permit for the Con Edison Astoria Facility to facilitate the proposed project. The proposed modification to the Title V Permit would restrict usage of the proposed turbine to 4,380 hours of operation per year. The existing combustion turbine, which has been in operation since 1974, is located in an approximately 3,300 square foot building near the facility's LNG storage tank. The replacement turbine would be installed in a new approximately 6,500 sf building on the same site that is being constructed independent from the proposed project to contain other LNG plant equipment. The proposed turbine would be served by utility lines that are also under construction to connect the new building independent from the proposed project.

2. Purpose of activity

The existing liquefaction system is not able to perform at its design basis specification of liquefying 6 million standard cubic feet per day (MMSCFD). It can liquefy half the design basis and takes twice as long to fill the tank, thereby compromising the ability of the LNG facility to fill the LNG tank during the liquefaction season. A complete replacement of the nitrogen loop system would ensure the LNG facility's ability to maintain sufficient LNG storage to support the distribution system.

C. PROJECT LOCATION

Borough: Queens Tax Block/Lot(s): Block 850, Lot 1

Street Address: 31-01 20th Avenue

Name of water body (if located on the waterfront): _____

D. REQUIRED ACTIONS OR APPROVALS

Check all that apply.

City Actions/Approvals/Funding

City Planning Commission Yes No

<input type="checkbox"/> City Map Amendment	<input type="checkbox"/> Zoning Certification	<input type="checkbox"/> Concession
<input type="checkbox"/> Zoning Map Amendment	<input type="checkbox"/> Zoning Authorizations	<input type="checkbox"/> UDAAP
<input type="checkbox"/> Zoning Text Amendment	<input type="checkbox"/> Acquisition – Real Property	<input type="checkbox"/> Revocable Consent
<input type="checkbox"/> Site Selection – Public Facility	<input type="checkbox"/> Disposition – Real Property	<input type="checkbox"/> Franchise
<input type="checkbox"/> Housing Plan & Project	<input type="checkbox"/> Other, explain: _____	
<input type="checkbox"/> Special Permit		

(if appropriate, specify type: Modification Renewal other) Expiration Date: _____

Board of Standards and Appeals Yes No

<input type="checkbox"/> Variance (use)	
<input type="checkbox"/> Variance (bulk)	
<input type="checkbox"/> Special Permit	

(if appropriate, specify type: Modification Renewal other) Expiration Date: _____

Other City Approvals

<input type="checkbox"/> Legislation	<input type="checkbox"/> Funding for Construction, specify: _____
<input type="checkbox"/> Rulemaking	<input type="checkbox"/> Policy or Plan, specify: _____
<input type="checkbox"/> Construction of Public Facilities	<input type="checkbox"/> Funding of Program, specify: _____
<input type="checkbox"/> 384 (b) (4) Approval	<input type="checkbox"/> Permits, specify: _____
<input checked="" type="checkbox"/> Other, explain: <u>NYCDOB, NYCDEP, FDNY Approvals</u>	

State Actions/Approvals/Funding

<input checked="" type="checkbox"/>	State permit or license, specify Agency: <u>NYSDEC</u> Permit type and number: <u>Title V modification (permit # 2-6301-00006/0008)</u>
<input type="checkbox"/>	Funding for Construction, specify: _____
<input type="checkbox"/>	Funding of a Program, specify: _____
<input type="checkbox"/>	Other, explain: _____

Federal Actions/Approvals/Funding

<input type="checkbox"/>	Federal permit or license, specify Agency: _____ Permit type and number: _____
<input type="checkbox"/>	Funding for Construction, specify: _____
<input type="checkbox"/>	Funding of a Program, specify: _____
<input type="checkbox"/>	Other, explain: _____

Is this being reviewed in conjunction with a [Joint Application for Permits?](#) Yes No

E. LOCATION QUESTIONS

1. Does the project require a waterfront site? Yes No
2. Would the action result in a physical alteration to a waterfront site, including land along the shoreline, land under water or coastal waters? Yes No
3. Is the project located on publicly owned land or receiving public assistance? Yes No
4. Is the project located within a FEMA 1% annual chance floodplain? (6.2) Yes No
5. Is the project located within a FEMA 0.2% annual chance floodplain? (6.2) Yes No
6. Is the project located adjacent to or within a special area designation? See [Maps – Part III](#) of the NYC WRP. If so, check appropriate boxes below and evaluate policies noted in parentheses as part of WRP Policy Assessment (Section F).
 - Significant Maritime and Industrial Area (SMIA) (2.1)
 - Special Natural Waterfront Area (SNWA) (4.1)
 - Priority Maritime Activity Zone (PMAZ) (3.5)
 - Recognized Ecological Complex (REC) (4.4)
 - West Shore Ecologically Sensitive Maritime and Industrial Area (ESMIA) (2.2, 4.2)

F. WRP POLICY ASSESSMENT

Review the project or action for consistency with the WRP policies. For each policy, check Promote, Hinder or Not Applicable (N/A). For more information about consistency review process and determination, see **Part I** of the [NYC Waterfront Revitalization Program](#). When assessing each policy, review the full policy language, including all sub-policies, contained within **Part II** of the WRP. The relevance of each applicable policy may vary depending upon the project type and where it is located (i.e. if it is located within one of the special area designations).

For those policies checked Promote or Hinder, provide a written statement on a separate page that assesses the effects of the proposed activity on the relevant policies or standards. If the project or action promotes a policy, explain how the action would be consistent with the goals of the policy. If it hinders a policy, consideration should be given toward any practical means of altering or modifying the project to eliminate the hindrance. Policies that would be advanced by the project should be balanced against those that would be hindered by the project. If reasonable modifications to eliminate the hindrance are not possible, consideration should be given as to whether the hindrance is of such a degree as to be substantial, and if so, those adverse effects should be mitigated to the extent practicable.

		Promote	Hinder	N/A
I	Support and facilitate commercial and residential redevelopment in areas well-suited to such development.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1.1	Encourage commercial and residential redevelopment in appropriate Coastal Zone areas.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1.2	Encourage non-industrial development with uses and design features that enliven the waterfront and attract the public.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1.3	Encourage redevelopment in the Coastal Zone where public facilities and infrastructure are adequate or will be developed.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1.4	In areas adjacent to SMIA's, ensure new residential development maximizes compatibility with existing adjacent maritime and industrial uses.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
1.5	Integrate consideration of climate change and sea level rise into the planning and design of waterfront residential and commercial development, pursuant to WRP Policy 6.2.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

		Promote	Hinder	N/A
2	Support water-dependent and industrial uses in New York City coastal areas that are well-suited to their continued operation.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2.1	Promote water-dependent and industrial uses in Significant Maritime and Industrial Areas.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2.2	Encourage a compatible relationship between working waterfront uses, upland development and natural resources within the Ecologically Sensitive Maritime and Industrial Area.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2.3	Encourage working waterfront uses at appropriate sites outside the Significant Maritime and Industrial Areas or Ecologically Sensitive Maritime Industrial Area.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2.4	Provide infrastructure improvements necessary to support working waterfront uses.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2.5	Incorporate consideration of climate change and sea level rise into the planning and design of waterfront industrial development and infrastructure, pursuant to WRP Policy 6.2.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3	Promote use of New York City's waterways for commercial and recreational boating and water-dependent transportation.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.1.	Support and encourage in-water recreational activities in suitable locations.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.2	Support and encourage recreational, educational and commercial boating in New York City's maritime centers.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.3	Minimize conflicts between recreational boating and commercial ship operations.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.4	Minimize impact of commercial and recreational boating activities on the aquatic environment and surrounding land and water uses.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
3.5	In Priority Marine Activity Zones, support the ongoing maintenance of maritime infrastructure for water-dependent uses.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4	Protect and restore the quality and function of ecological systems within the New York City coastal area.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4.1	Protect and restore the ecological quality and component habitats and resources within the Special Natural Waterfront Areas.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4.2	Protect and restore the ecological quality and component habitats and resources within the Ecologically Sensitive Maritime and Industrial Area.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4.3	Protect designated Significant Coastal Fish and Wildlife Habitats.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4.4	Identify, remediate and restore ecological functions within Recognized Ecological Complexes.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4.5	Protect and restore tidal and freshwater wetlands.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4.6	In addition to wetlands, seek opportunities to create a mosaic of habitats with high ecological value and function that provide environmental and societal benefits. Restoration should strive to incorporate multiple habitat characteristics to achieve the greatest ecological benefit at a single location.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4.7	Protect vulnerable plant, fish and wildlife species, and rare ecological communities. Design and develop land and water uses to maximize their integration or compatibility with the identified ecological community.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
4.8	Maintain and protect living aquatic resources.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

		Promote	Hinder	N/A
5	Protect and improve water quality in the New York City coastal area.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5.1	Manage direct or indirect discharges to waterbodies.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5.2	Protect the quality of New York City's waters by managing activities that generate nonpoint source pollution.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5.3	Protect water quality when excavating or placing fill in navigable waters and in or near marshes, estuaries, tidal marshes, and wetlands.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5.4	Protect the quality and quantity of groundwater, streams, and the sources of water for wetlands.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
5.5	Protect and improve water quality through cost-effective grey-infrastructure and in-water ecological strategies.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6	Minimize loss of life, structures, infrastructure, and natural resources caused by flooding and erosion, and increase resilience to future conditions created by climate change.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.1	Minimize losses from flooding and erosion by employing non-structural and structural management measures appropriate to the site, the use of the property to be protected, and the surrounding area.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.2	Integrate consideration of the latest New York City projections of climate change and sea level rise (as published in <i>New York City Panel on Climate Change 2015 Report, Chapter 2: Sea Level Rise and Coastal Storms</i>) into the planning and design of projects in the city's Coastal Zone.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
6.3	Direct public funding for flood prevention or erosion control measures to those locations where the investment will yield significant public benefit.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
6.4	Protect and preserve non-renewable sources of sand for beach nourishment.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7	Minimize environmental degradation and negative impacts on public health from solid waste, toxic pollutants, hazardous materials, and industrial materials that may pose risks to the environment and public health and safety.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.1	Manage solid waste material, hazardous wastes, toxic pollutants, substances hazardous to the environment, and the unenclosed storage of industrial materials to protect public health, control pollution and prevent degradation of coastal ecosystems.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
7.2	Prevent and remediate discharge of petroleum products.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
7.3	Transport solid waste and hazardous materials and site solid and hazardous waste facilities in a manner that minimizes potential degradation of coastal resources.	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
8	Provide public access to, from, and along New York City's coastal waters.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8.1	Preserve, protect, maintain, and enhance physical, visual and recreational access to the waterfront.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8.2	Incorporate public access into new public and private development where compatible with proposed land use and coastal location.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8.3	Provide visual access to the waterfront where physically practical.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8.4	Preserve and develop waterfront open space and recreation on publicly owned land at suitable locations.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

		Promote	Hinder	N/A
8.5	Preserve the public interest in and use of lands and waters held in public trust by the State and City.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
8.6	Design waterfront public spaces to encourage the waterfront's identity and encourage stewardship.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9	Protect scenic resources that contribute to the visual quality of the New York City coastal area.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9.1	Protect and improve visual quality associated with New York City's urban context and the historic and working waterfront.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
9.2	Protect and enhance scenic values associated with natural resources.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10	Protect, preserve, and enhance resources significant to the historical, archaeological, architectural, and cultural legacy of the New York City coastal area.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10.1	Retain and preserve historic resources, and enhance resources significant to the coastal culture of New York City.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
10.2	Protect and preserve archaeological resources and artifacts.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

G. CERTIFICATION

The applicant or agent must certify that the proposed activity is consistent with New York City's approved Local Waterfront Revitalization Program, pursuant to New York State's Coastal Management Program. If this certification cannot be made, the proposed activity shall not be undertaken. If this certification can be made, complete this Section.

"The proposed activity complies with New York State's approved Coastal Management Program as expressed in New York City's approved Local Waterfront Revitalization Program, pursuant to New York State's Coastal Management Program, and will be conducted in a manner consistent with such program."

Applicant/Agent's Name: Howard Goldberg

Address: 31-01 20th Ave, Queens, NY 11105

Telephone: 929-243-2844 Email: Goldbergh@coned.com

Applicant/Agent's Signature: *Howard Goldberg*

Date: 10/6/23

Submission Requirements

For all actions requiring City Planning Commission approval, materials should be submitted to the Department of City Planning.

For local actions not requiring City Planning Commission review, the applicant or agent shall submit materials to the Lead Agency responsible for environmental review. A copy should also be sent to the Department of City Planning.

For State actions or funding, the Lead Agency responsible for environmental review should transmit its WRP consistency assessment to the Department of City Planning.

For Federal direct actions, funding, or permits applications, including Joint Applicants for Permits, the applicant or agent shall also submit a copy of this completed form along with his/her application to the [NYS Department of State Office of Planning and Development](#) and other relevant state and federal agencies. A copy of the application should be provided to the NYC Department of City Planning.

The Department of City Planning is also available for consultation and advisement regarding WRP consistency procedural matters.

New York City Department of City Planning

Waterfront and Open Space Division
120 Broadway, 31st Floor
New York, New York 10271
212-720-3696
wrp@planning.nyc.gov
www.nyc.gov/wrp

New York State Department of State

Office of Planning and Development
Suite 1010
One Commerce Place, 99 Washington Avenue
Albany, New York 12231-0001
518-474-6000
www.dos.ny.gov/opd/programs/consistency

Applicant Checklist

- Copy of original signed NYC Consistency Assessment Form
- Attachment with consistency assessment statements for all relevant policies
- For Joint Applications for Permits, one (1) copy of the complete application package
- Environmental Review documents
- Drawings (plans, sections, elevations), surveys, photographs, maps, or other information or materials which would support the certification of consistency and are not included in other documents submitted. All drawings should be clearly labeled and at a scale that is legible.
- Policy 6.2 Flood Elevation worksheet, if applicable. For guidance on applicability, refer to the WRP Policy 6.2 Guidance document available at www.nyc.gov/wrp

Consolidated Edison Company of New York, Inc. (Con Edison) is proposing the Nitrogen Refrigeration Cycle (NRC) Replacement Project (the “proposed project”) to replace the liquefied natural gas (LNG) nitrogen loop system at its approximately 25-acre LNG facility in Astoria, Queens, New York City (“project site”), to ensure reliability for Con Edison’s customers during the cold winter season and unplanned interruptions on the gas system. The proposed project entails the in-kind replacement of the existing 82 MM Btu/hr gas turbine used for natural gas liquefaction, with a new, more efficient Siemens 54 MM Btu/hr gas turbine that will substantially reduce the Facility’s air emissions. Con Edison is seeking a modification to its Title V Permit for the Con Edison Astoria Facility to facilitate the proposed project. The proposed modification to the Title V Permit would restrict usage of the proposed turbine to 4,380 hours of operation per year. The existing combustion turbine, which has been in operation since 1974, is located in an approximately 3,300 square foot building near the facility's LNG storage tank. The replacement turbine would be installed in a new approximately 6,500 sf building on the same site that is being constructed independent from the proposed project to contain other LNG plant equipment. The proposed turbine would be served by utility lines that are also under construction to connect the new building independent from the proposed project.

WATERFRONT REVITALIZATION PROGRAM

New York City’s Waterfront Revitalization Program (WRP) includes 10 principal policies designed to maximize the benefits derived from economic development, environmental preservation, and public use of the waterfront, while minimizing conflicts among these objectives. The project site is located within the City’s Coastal Zone and therefore, is subject to review for consistency with the policies of the WRP. Assessments of the proposed project’s conformity with the City’s WRP policies are provided below for all policy questions answered “Promote” or “Hinder” on the revised 2016 Coastal Assessment Form.

Policy 2: Support water-dependent and industrial uses in New York City coastal areas that are well-suited to their continued operation.

Policy 2.5: Incorporate consideration of climate change and sea level rise into the planning and design of waterfront industrial development and infrastructure, pursuant to WRP Policy 6.2.

As described below under Policy 6, the proposed project would minimize the potential impacts of flooding and would be consistent with Policy 6.2; therefore, the proposed project would promote this policy.

Policy 6: Minimize loss of life, structures, infrastructure, and natural resources caused by flooding and erosion, and increase resilience to future conditions created by climate change.

Policy 6.1: Minimize losses from flooding and erosion by employing non-structural and structural management measures appropriate to the site, the use of the property to be protected, and the surrounding area.

Con Ed Astoria Nitrogen Refrigeration Cycle Replacement Project

As discussed in Policy 6.2 below, the proposed new turbine would be elevated above the current base flood elevation (BFE) of +13 feet North American Vertical Datum of 1988 (NAVD88) to an elevation of +18 feet NAVD88. It would remain above the 1 percent chance annual floodplain throughout the useful life of the project, which is assumed to be 30 years. There would be no ground disturbance as part of the proposed project, as the proposed turbine would be installed in a new approximately building that is being constructed independent from the proposed project to contain other LNG plant equipment. Therefore, the proposed project would not result in increased risk from flooding and would promote this policy.

Policy 6.2: Integrate consideration of the latest New York City projections of climate change and sea level rise (as published in New York City Panel on Climate Change 2015 Report, Chapter 2: Sea Level Rise and Coastal Storms) into the planning and design of projects in the city's Coastal Zone.

Guidance provided by the NYC Department of City Planning recommends a detailed methodology to determine consistency with Policy 6.2 for projects that will construct new critical infrastructure, like the proposed project. The sections below use the detailed methodology to evaluate consistency with this policy.

1. Identify vulnerabilities and consequences: assess the project's vulnerabilities to future coastal hazards and identify what the potential consequences may be.

a. Complete the Flood Evaluation Worksheet.

The information in the following subsections is based on the results of the completed worksheet, which is provided in Attachment 1.

b. Identify any project features that may be located below the elevation of the 1% floodplain over the lifespan of the project under any sea level rise scenario.

The design life of the new turbine is assumed to be 30 years, assuming regular maintenance. The New York City Panel on Climate Change (NPCC) projected that sea levels are likely to increase by up to 30 inches by the 2050s, 58 inches by the 2080s, and 75 inches by 2100 under the "High" scenario projections, relative to the 2000-2004 base period (the most recent projections from the NPCC were issued in 2015). Under current conditions, the project site is in the 1-percent annual chance floodplain in Zone AE with a base flood elevation (BFE) of +13 feet NAVD88. Zone AE is considered a Special Flood Hazard Area (SFHA), which is defined as the area that will be inundated by the flood event having a 1-percent chance of being equaled or exceeded in any given year. Based on the NPCC projections, the 1-percent annual chance flood elevation for the project site could increase to +15.5 feet by the 2050s, +17.83 feet by the 2080s, and up to +19.25 feet by 2100. The evaluation year is 2050 for the turbine, which is anticipated to have a 50-year lifespan.

The new turbine, with a design flood elevation (DFE) of +18 feet NAVD88, would remain elevated above the 1 percent annual chance floodplain throughout its useful life of 30 years under all scenarios of sea level rise.

c. Identify any vulnerable, critical, or potentially hazardous features that may be located below the elevation of Mean Higher High Water (MHHW) over the lifespan of the project under any sea level rise scenario.

Based on the range of sea level rise predictions described above, MHHW at the Project site could increase to +6.16 feet in the 2050s, +8.49 feet in the 2080s, and +9.91 feet by 2100. The proposed project would remain above MHHW through its useful life ending in 2050.

d. Describe how any additional coastal hazards are likely to affect the project, both currently and in the future, such as waves, high winds, or debris.

The proposed project is within Zone AE, which is within a Special Flood Hazard Area (SFHA). SFHA are defined as the area that will be inundated by the flood event having a 1-percent chance of being equaled or exceeded in any given year and are subject to waves less than 3 feet in height.

2. Identify adaptive strategies: assess how the vulnerabilities and consequences identified in Step 1 are addressed through the project's design and planning.

a. For any features identified in Step 1(b), describe how any flood damage reduction elements incorporated into the project, or any natural elevation on the site, provide any additional protection. Describe how will any planned adaptive measures protect the feature in the future from flooding?

The proposed turbine would be elevated above the current BFE to +18 feet NAVD88 and would remain elevated above the 1 percent annual chance floodplain throughout its useful life.

b. For any features identified in Step 1(c), describe how any flood damage reduction elements incorporated into the project, or any natural elevation on the site, provide any additional protection. Describe how will any planned adaptive measures protect the feature in the future from flooding?

As described in Step 1(c), none of the project elements would be vulnerable to MHHW within their design life based on the High scenario projections.

c. Describe any additional measures being taken to protect the project from additional coastal hazards such as waves, high winds, or debris.

The proposed new turbine would be located within a new building that is being constructed independent of the proposed project. The new building would provide additional protection for the new turbine from other coastal hazards.

d. Describe how the project will affect the flood protection of adjacent sites, if relevant.

Because the proposed project does not involve any ground disturbance, and because the floodplain within New York City is controlled by astronomic tide and meteorological forces like hurricanes, and not by fluvial flooding, the proposed project does not have the potential to adversely affect the floodplain or result in increased coastal flooding at adjacent sites or within the study area.

3. Assess policy consistency: conclude whether the project is consistent with Policy 6.2 of the Waterfront Revitalization Program.

The project site is within the 1-percent annual chance floodplain. While it would involve the construction of new vulnerable or hazardous feature, the proposed new turbine would be elevated above the 1 percent annual chance floodplain for its entire useful life ending in 2050. Therefore, the proposed project would promote this policy.

Con Ed Astoria Nitrogen Refrigeration Cycle Replacement Project

Policy 7: Minimize environmental degradation and negative impacts on public health from solid waste, toxic pollutants, hazardous materials, and industrial materials that may pose risks to the environment and public health and safety.

Policy 7.1: Manage solid waste material, hazardous wastes, toxic pollutants, substances hazardous to the environment, and the unenclosed storage of industrial materials to protect public health, control pollution and prevent degradation of coastal ecosystems.

The tax lot within which the proposed project is located (Block 850, Lot 1) is currently under a Resource Conservation and Recovery Act (RCRA) Corrective Action Program and is associated with over 100 years of utility/industrial activity including filling and grading, spills, solid waste management, a manufactured gas plant and storage of hazardous materials. The New York State Department of Environmental Conservation (NYSDEC) is overseeing the Corrective Action program and would continue to be consulted on work conducted at the project site. Demolition of the old turbine would be done in a manner that would prevent the release of any hazardous substance to the surrounding areas. With these measures in place, the proposed project would promote this policy.

Policy 7.3: Transport solid waste and hazardous materials and site solid and hazardous waste facilities in a manner that minimizes potential degradation of coastal resources.

Any solid waste and/or hazardous materials that are produced during demolition of the old turbine would be transported to a facility approved to receive such materials and in accordance with all applicable regulations. Therefore, the proposed project would promote this policy.

NYC Waterfront Revitalization Program - Policy 6.2 Flood Elevation Worksheet

COMPLETE INSTRUCTIONS ON HOW TO USE THIS WORKSHEET ARE PROVIDED IN THE "CLIMATE CHANGE ADAPTATION GUIDANCE" DOCUMENT AVAILABLE AT www.nyc.gov/wrp

Enter information about the project and site in highlighted cells in Tabs 1-3. Tab 4, "Summary Charts" contains primary results. Tab 5, "0.2%+SLR" produces charts to be used for critical infrastructure or facilities. Tab 6, "Calculations" contains background computations. Appendix A contains tide elevations for station across the city to be used for the elevation of MHHW if a site survey is not available. Non-highlighted cells have been locked.

Background Information	
Project Name	Con Ed Astoria Nitrogen Refrigeration Cycle Replacement Project
Location	31-01 20th Avenue, Astoria, New York 11105; within Block 850, Lot 1
Type(s)	<input type="checkbox"/> Residential, Commercial, Community Facility <input type="checkbox"/> Parkland, Open Space, and Natural Areas <input type="checkbox"/> Tidal Wetland Restoration <input checked="" type="checkbox"/> Critical Infrastructure or Facility <input checked="" type="checkbox"/> Industrial Uses <input type="checkbox"/> Over-water Structures <input type="checkbox"/> Shoreline Structures <input type="checkbox"/> Transportation <input type="checkbox"/> Wastewater Treatment/Drainage <input type="checkbox"/> Coastal Protection
Description	A complete replacement of the nitrogen loop system to ensure the LNG facility's ability to maintain sufficient LNG storage to support the distribution system. The existing combustion turbine is located in an approximately 3,300 square foot building near the facility's LNG storage tank. The proposed turbine would be installed in a new approximately 6,500 sf building that is being constructed independent from the proposed project to contain other LNG plant equipment. The proposed turbine would be served by utility lines that are also under construction to connect the new building independent from the proposed project.
Planned Completion Date	2025
Expected Project Lifespan	2050

The New York City Waterfront Revitalization Program Climate Change Adaptation Guidance document was developed by the NYC Department of City Planning. It is a guidance document only and is not intended to serve as a substitute for actual regulations. The City disclaims any liability for errors that may be contained herein and shall not be responsible for any damages, consequential or actual, arising out of or in connection with the use of this information. The City reserves the right to update or correct information in this guidance document at any time and without notice.

For technical assistance on using this worksheet, email wrp@planning.nyc.gov, using the message subject "Policy 6.2 Worksheet."

Last update: Sept. 7, 2018

Establish current tidal and flood heights.

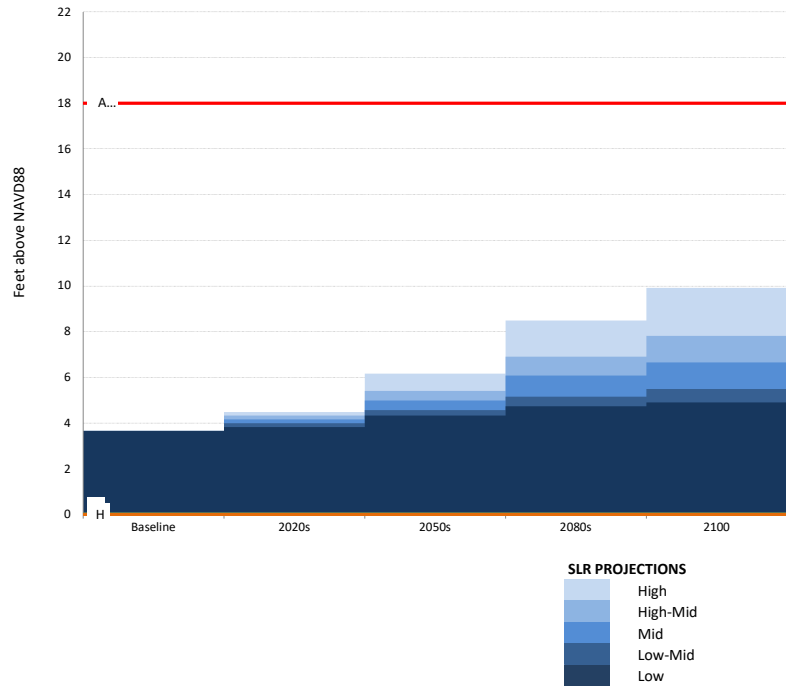
	FT (NAVD88)	Feet	Datum	Source
MHHW	3.66	3.66	NAVD88	<i>Appendix A: Port Morris</i>
1% flood height	13.00	13.00	NAVD88	<i>FEMA pFIRMs</i>
Design flood elevation	18.00	18.00	NAVD88	
<i>As relevant:</i>				
0.2% flood height	-->			

Data will be converted based on the following datums:

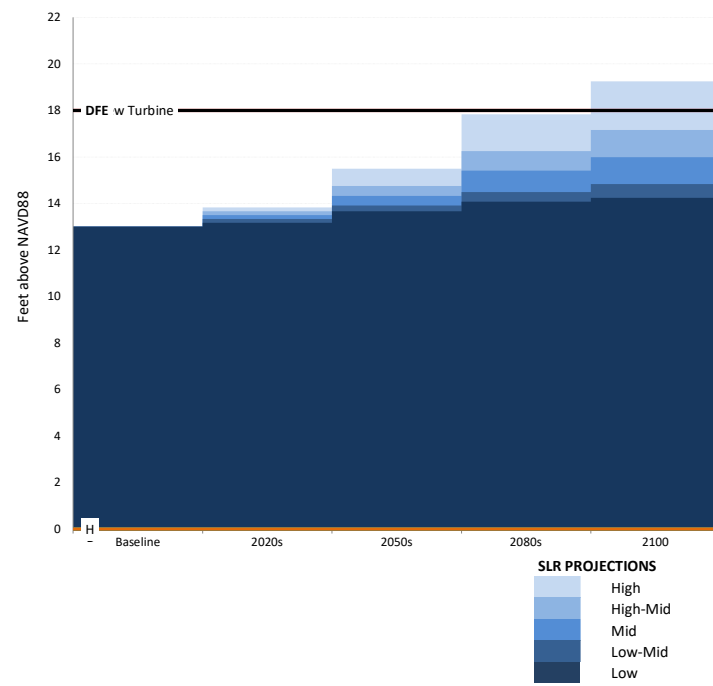
Datum	FT (NAVD88)
NAVD88	0.00
NGVD29	-1.10
Manhattan Datum	1.65
Bronx Datum	1.51
Brooklyn Datum (Sewer)	0.61
Brooklyn Datum (Highway)	1.45
Queens Datum	1.63
Richmond Datum	2.09

Assess project vulnerability over a range of sea level rise projections.

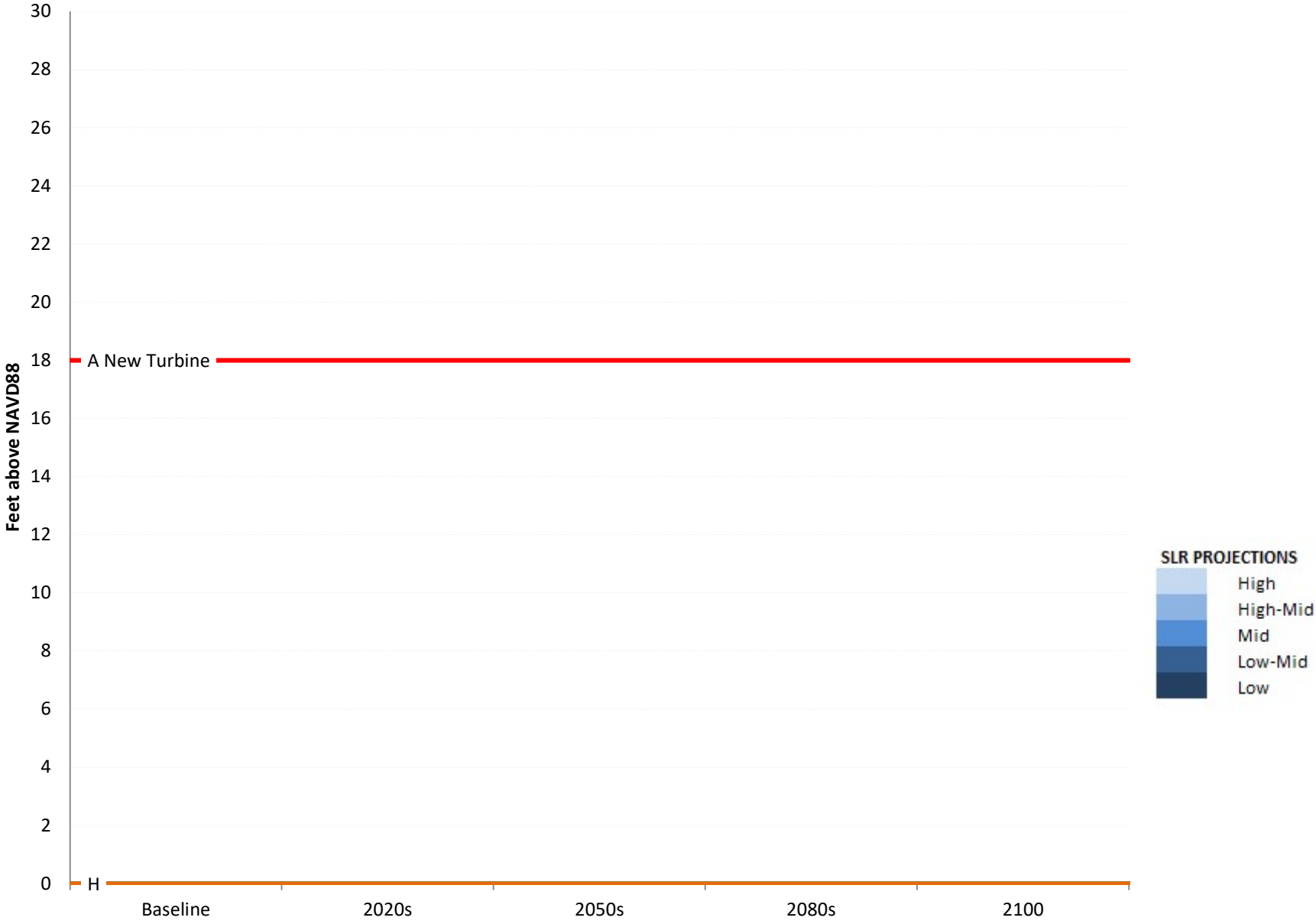
Mean Higher High Water + Sea Level Rise



1% Flood Elevation + Sea Level Rise



0.2% Flood Elevation + Sea Level Rise



	SLR (ft)						SLR (in)				
	Low	Low-Mid	Mid	High-Mid	High		Low	Low-Mid	Mid	High-Mid	High
Baseline	0.00	0.00	0.00	0.00	0.00	2014	0	0	0	0	0
2020s	0.17	0.33	0.50	0.67	0.83	2020s	2	4	6	8	10
2050s	0.67	0.92	1.33	1.75	2.50	2050s	8	11	16	21	30
2080s	1.08	1.50	2.42	3.25	4.83	2080s	13	18	29	39	58
2100	1.25	1.83	3.00	4.17	6.25	2100	15	22	36	50	75

MHHW+SLR (ft above NAVD88)

	Low	Low-Mid	Mid	High-Mid	High
Baseline	3.66	3.66	3.66	3.66	3.66
2020s	3.83	3.99	4.16	4.33	4.49
2050s	4.33	4.58	4.99	5.41	6.16
2080s	4.74	5.16	6.08	6.91	8.49
2100	4.91	5.49	6.66	7.83	9.91

1%+SLR (ft above NAVD88)

	Low	Low-Mid	Mid	High-Mid	High
Baseline	13.00	13.00	13.00	13.00	13.00
2020s	13.17	13.33	13.50	13.67	13.83
2050s	13.67	13.92	14.33	14.75	15.50
2080s	14.08	14.50	15.42	16.25	17.83
2100	14.25	14.83	16.00	17.17	19.25

0.2%+SLR (ft above NAVD88)

	Low	Low-Mid	Mid	High-Mid	High
Baseline	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
2020s	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
2050s	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
2080s	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!
2100	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!

	0	1
A New Turbine	18	18
B	0	0
C	0	0
D	0	0
E	0	0
F	0	0
G	0	0
H	0	0
DFE	18.00	18.00

NOAA Tide Station Data

(to be used only when a site survey is unavailable)

Station ID	Station Name	Source MHHW (Feet, NAVD88)*	Adjusted MHHW (Feet, NAVD88)*	Source
8518687	Queensboro Bridge	2.27	2.60	NOAA Tides and Currents
8530095	Alpine	2.11	2.44	NOAA Tides and Currents
8516614	Glen Cove	3.72	4.05	NOAA Tides and Currents
8516990	Willetts Point	3.72	4.05	NOAA Tides and Currents
8518639	Port Morris	3.33	3.66	NOAA Tides and Currents
8518699	Williamsburg Bridge	2.14	2.47	NOAA Tides and Currents
8518750	The Battery	2.28	2.61	NOAA Tides and Currents
8531680	Sandy Hook	2.41	2.74	NOAA Tides and Currents
8518490	New Rochelle	3.71	4.04	NOAA Tides and Currents
8531545	Keyport	2.66	2.99	NOAA Tides and Currents
8516891	Norton Point	2.08	2.41	NOAA VDATUM
8517201	North Channel	2.72	3.05	NOAA Tides and Currents
8517137	Beach Channel	2.10	2.43	NOAA VDATUM
8517756	Kingsborough	2.13	2.46	NOAA VDATUM
8519436	Great Kills	2.22	2.55	NOAA VDATUM
8531142	Port Reading	2.82	3.15	NOAA VDATUM
8519483	Bergen Point	2.56	2.89	NOAA VDATUM
8519050	USCG	2.28	2.61	NOAA Tides and Currents
8518902	Dyckman St	2.01	2.34	NOAA Tides and Currents
8517251	Worlds Fair Marina	3.59	3.92	NOAA VDATUM
8518668	Horns Hook	2.54	2.87	NOAA VDATUM
8518643	Randalls Island	2.60	2.93	NOAA VDATUM
8518526	Throggs Neck	3.68	4.01	NOAA Tides and Currents

* MHHW values include an addition 0.33 feet to account for changes in sea level since the 1983-2001 tidal epoch.

