

Full Environmental Assessment Form
Part 1 - Project and Setting

Instructions for Completing Part 1

Part 1 is to be completed by the applicant or project sponsor. Responses become part of the application for approval or funding, are subject to public review, and may be subject to further verification.

Complete Part 1 based on information currently available. If additional research or investigation would be needed to fully respond to any item, please answer as thoroughly as possible based on current information; indicate whether missing information does not exist, or is not reasonably available to the sponsor; and, when possible, generally describe work or studies which would be necessary to update or fully develop that information.

Applicants/sponsors must complete all items in Sections A & B. In Sections C, D & E, most items contain an initial question that must be answered either “Yes” or “No”. If the answer to the initial question is “Yes”, complete the sub-questions that follow. If the answer to the initial question is “No”, proceed to the next question. Section F allows the project sponsor to identify and attach any additional information. Section G requires the name and signature of the applicant or project sponsor to verify that the information contained in Part 1 is accurate and complete.

A. Project and Applicant/Sponsor Information.

Name of Action or Project: Department of Correction, Rikers Island - Title V Permit Renewal 3 Application		
Project Location (describe, and attach a general location map): Rikers Island		
Brief Description of Proposed Action (include purpose or need): A modification to the Rikers Island cogeneration facility's Title V air permit is proposed to ensure that the facility, which generates steam for use on the island, has additional operating flexibility, and operates in compliance with the applicable regulations and permit conditions. These conditions include allowing the facility to operate the eight existing boilers as needed during periods of peak steam demand or when the cogeneration facility is undergoing maintenance. Currently, the Title V permit has annual emission caps for nitrogen oxides (NOx) and particulate matter less than 10 microns in diameter (PM10) that limit boiler operations. The removal of these limitations on the boilers requires modifications to the Title V permit conditions. In addition, new NOx emission limits will be established, which will require the cogeneration facility to meet a limit of 12 parts per million (ppm) when the combustion turbine is operating without additional natural gas-fired duct firing heat recovery steam generators (HRSGs). A NOx emission limit of 15 ppm is proposed when the combustion turbine is operating with duct firing. The annual NOx emissions cap on the cogeneration unit is being revised to 52 tons per year (tpy). No new equipment or physical modifications to the Rikers Island cogeneration facility or boilers are proposed. See also Attachment A.		
Name of Applicant/Sponsor: Alex Mahoney, Executive Director of Facilities NYC Department of Correction	Telephone: 718-546-1429	E-Mail: Alex.Mahoney@doc.nyc.gov
Address: 17-25 Hazen Street		
City/PO: East Elmhurst	State: NY	Zip Code: 11370
Project Contact (if not same as sponsor; give name and title/role): Donald MacCormack, Senior Stationary Engineer NYC Department of Correction	Telephone: 718-546-1941	E-Mail: Donald.Maccormack@doc.nyc.gov
Address: 17-25 Hazen Street		
City/PO: East Elmhurst	State: NY	Zip Code: 11370
Property Owner (if not same as sponsor):	Telephone:	E-Mail:
Address:		
City/PO:	State:	Zip Code:

B. Government Approvals

B. Government Approvals, Funding, or Sponsorship. (“Funding” includes grants, loans, tax relief, and any other forms of financial assistance.)

Government Entity	If Yes: Identify Agency and Approval(s) Required	Application Date (Actual or projected)
a. City Counsel, Town Board, <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No or Village Board of Trustees		
b. City, Town or Village Planning Board or Commission <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
c. City, Town or Village Zoning Board of Appeals <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
d. Other local agencies <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
e. County agencies <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
f. Regional agencies <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
g. State agencies <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	Renewal and modifications of the NYSDEC Title V Air Permit	
h. Federal agencies <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		
<p>i. Coastal Resources.</p> <p><i>i.</i> Is the project site within a Coastal Area, or the waterfront area of a Designated Inland Waterway? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><i>ii.</i> Is the project site located in a community with an approved Local Waterfront Revitalization Program? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No</p> <p><i>iii.</i> Is the project site within a Coastal Erosion Hazard Area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No</p>		

C. Planning and Zoning

C.1. Planning and zoning actions.

Will administrative or legislative adoption, or amendment of a plan, local law, ordinance, rule or regulation be the only approval(s) which must be granted to enable the proposed action to proceed? Yes No

- **If Yes**, complete sections C, F and G.
- **If No**, proceed to question C.2 and complete all remaining sections and questions in Part 1

C.2. Adopted land use plans.

a. Do any municipally- adopted (city, town, village or county) comprehensive land use plan(s) include the site where the proposed action would be located? Yes No

If Yes, does the comprehensive plan include specific recommendations for the site where the proposed action would be located? Yes No

b. Is the site of the proposed action within any local or regional special planning district (for example: Greenway; Brownfield Opportunity Area (BOA); designated State or Federal heritage area; watershed management plan; or other?) Yes No

If Yes, identify the plan(s):
 New York City Waterfront Revitalization Program

c. Is the proposed action located wholly or partially within an area listed in an adopted municipal open space plan, or an adopted municipal farmland protection plan? Yes No

If Yes, identify the plan(s):

C.3. Zoning

a. Is the site of the proposed action located in a municipality with an adopted zoning law or ordinance. Yes No
If Yes, what is the zoning classification(s) including any applicable overlay district?
C8-2

b. Is the use permitted or allowed by a special or conditional use permit? Yes No

c. Is a zoning change requested as part of the proposed action? Yes No
If Yes,
i. What is the proposed new zoning for the site? _____

C.4. Existing community services.

a. In what school district is the project site located? N/A - The project site is part of a correctional facility complex

b. What police or other public protection forces serve the project site?
NYC Department of Correction (NYCDOC)

c. Which fire protection and emergency medical services serve the project site?
Fire Safety Unit (FSU) of the NYCDOC

d. What parks serve the project site?
N/A - The project site is part of a correctional facility complex

D. Project Details

D.1. Proposed and Potential Development

a. What is the general nature of the proposed action (e.g., residential, industrial, commercial, recreational; if mixed, include all components)? Renewal and modifications to the Title V air quality permit

b. a. Total acreage of the site of the proposed action? approx. 417 acres
b. Total acreage to be physically disturbed? N/A acres
c. Total acreage (project site and any contiguous properties) owned or controlled by the applicant or project sponsor? approx. 417 acres

c. Is the proposed action an expansion of an existing project or use? Yes No
i. If Yes, what is the approximate percentage of the proposed expansion and identify the units (e.g., acres, miles, housing units, square feet)? % _____ Units: _____

d. Is the proposed action a subdivision, or does it include a subdivision? Yes No
If Yes,
i. Purpose or type of subdivision? (e.g., residential, industrial, commercial; if mixed, specify types) _____
ii. Is a cluster/conservation layout proposed? Yes No
iii. Number of lots proposed? _____
iv. Minimum and maximum proposed lot sizes? Minimum _____ Maximum _____

e. Will the proposed action be constructed in multiple phases? Yes No
i. If No, anticipated period of construction: N/A months
ii. If Yes:
• Total number of phases anticipated _____
• Anticipated commencement date of phase 1 (including demolition) _____ month _____ year
• Anticipated completion date of final phase _____ month _____ year
• Generally describe connections or relationships among phases, including any contingencies where progress of one phase may determine timing or duration of future phases: _____

f. Does the project include new residential uses? Yes No
 If Yes, show numbers of units proposed.

	<u>One Family</u>	<u>Two Family</u>	<u>Three Family</u>	<u>Multiple Family (four or more)</u>
Initial Phase	_____	_____	_____	_____
At completion	_____	_____	_____	_____
of all phases	_____	_____	_____	_____

g. Does the proposed action include new non-residential construction (including expansions)? Yes No
 If Yes,

i. Total number of structures _____

ii. Dimensions (in feet) of largest proposed structure: _____ height; _____ width; and _____ length

iii. Approximate extent of building space to be heated or cooled: _____ square feet

h. Does the proposed action include construction or other activities that will result in the impoundment of any liquids, such as creation of a water supply, reservoir, pond, lake, waste lagoon or other storage? Yes No
 If Yes,

i. Purpose of the impoundment: _____

ii. If a water impoundment, the principal source of the water: Ground water Surface water streams Other specify: _____

iii. If other than water, identify the type of impounded/contained liquids and their source. _____

iv. Approximate size of the proposed impoundment. Volume: _____ million gallons; surface area: _____ acres

v. Dimensions of the proposed dam or impounding structure: _____ height; _____ length

vi. Construction method/materials for the proposed dam or impounding structure (e.g., earth fill, rock, wood, concrete): _____

D.2. Project Operations

a. Does the proposed action include any excavation, mining, or dredging, during construction, operations, or both? Yes No
 (Not including general site preparation, grading or installation of utilities or foundations where all excavated materials will remain onsite)
 If Yes:

i. What is the purpose of the excavation or dredging? _____

ii. How much material (including rock, earth, sediments, etc.) is proposed to be removed from the site?

- Volume (specify tons or cubic yards): _____
- Over what duration of time? _____

iii. Describe nature and characteristics of materials to be excavated or dredged, and plans to use, manage or dispose of them. _____

iv. Will there be onsite dewatering or processing of excavated materials? Yes No
 If yes, describe. _____

v. What is the total area to be dredged or excavated? _____ acres

vi. What is the maximum area to be worked at any one time? _____ acres

vii. What would be the maximum depth of excavation or dredging? _____ feet

viii. Will the excavation require blasting? Yes No

ix. Summarize site reclamation goals and plan: _____

b. Would the proposed action cause or result in alteration of, increase or decrease in size of, or encroachment into any existing wetland, waterbody, shoreline, beach or adjacent area? Yes No
 If Yes:

i. Identify the wetland or waterbody which would be affected (by name, water index number, wetland map number or geographic description): _____

ii. Describe how the proposed action would affect that waterbody or wetland, e.g. excavation, fill, placement of structures, or alteration of channels, banks and shorelines. Indicate extent of activities, alterations and additions in square feet or acres:

iii. Will the proposed action cause or result in disturbance to bottom sediments? Yes No

If Yes, describe: _____

iv. Will the proposed action cause or result in the destruction or removal of aquatic vegetation? Yes No

If Yes:

- acres of aquatic vegetation proposed to be removed: _____
- expected acreage of aquatic vegetation remaining after project completion: _____
- purpose of proposed removal (e.g. beach clearing, invasive species control, boat access): _____
- proposed method of plant removal: _____
- if chemical/herbicide treatment will be used, specify product(s): _____

v. Describe any proposed reclamation/mitigation following disturbance: _____

c. Will the proposed action use, or create a new demand for water? Yes No

If Yes:

i. Total anticipated water usage/demand per day: _____ gallons/day

ii. Will the proposed action obtain water from an existing public water supply? Yes No

If Yes:

- Name of district or service area: _____
- Does the existing public water supply have capacity to serve the proposal? Yes No
- Is the project site in the existing district? Yes No
- Is expansion of the district needed? Yes No
- Do existing lines serve the project site? Yes No

iii. Will line extension within an existing district be necessary to supply the project? Yes No

If Yes:

- Describe extensions or capacity expansions proposed to serve this project: _____
- Source(s) of supply for the district: _____

iv. Is a new water supply district or service area proposed to be formed to serve the project site? Yes No

If Yes:

- Applicant/sponsor for new district: _____
- Date application submitted or anticipated: _____
- Proposed source(s) of supply for new district: _____

v. If a public water supply will not be used, describe plans to provide water supply for the project: _____

vi. If water supply will be from wells (public or private), what is the maximum pumping capacity: _____ gallons/minute.

d. Will the proposed action generate liquid wastes? Yes No

If Yes:

i. Total anticipated liquid waste generation per day: _____ gallons/day

ii. Nature of liquid wastes to be generated (e.g., sanitary wastewater, industrial; if combination, describe all components and approximate volumes or proportions of each): _____

iii. Will the proposed action use any existing public wastewater treatment facilities? Yes No

If Yes:

- Name of wastewater treatment plant to be used: _____
- Name of district: _____
- Does the existing wastewater treatment plant have capacity to serve the project? Yes No
- Is the project site in the existing district? Yes No
- Is expansion of the district needed? Yes No

• Do existing sewer lines serve the project site? Yes No
 • Will a line extension within an existing district be necessary to serve the project? Yes No
 If Yes:
 • Describe extensions or capacity expansions proposed to serve this project: _____

iv. Will a new wastewater (sewage) treatment district be formed to serve the project site? Yes No
 If Yes:
 • Applicant/sponsor for new district: _____
 • Date application submitted or anticipated: _____
 • What is the receiving water for the wastewater discharge? _____

v. If public facilities will not be used, describe plans to provide wastewater treatment for the project, including specifying proposed receiving water (name and classification if surface discharge or describe subsurface disposal plans):

vi. Describe any plans or designs to capture, recycle or reuse liquid waste: _____

e. Will the proposed action disturb more than one acre and create stormwater runoff, either from new point sources (i.e. ditches, pipes, swales, curbs, gutters or other concentrated flows of stormwater) or non-point source (i.e. sheet flow) during construction or post construction? Yes No
 If Yes:
 i. How much impervious surface will the project create in relation to total size of project parcel?
 _____ Square feet or _____ acres (impervious surface)
 _____ Square feet or _____ acres (parcel size)
 ii. Describe types of new point sources. _____

iii. Where will the stormwater runoff be directed (i.e. on-site stormwater management facility/structures, adjacent properties, groundwater, on-site surface water or off-site surface waters)?

 • If to surface waters, identify receiving water bodies or wetlands: _____

• Will stormwater runoff flow to adjacent properties? Yes No

iv. Does the proposed plan minimize impervious surfaces, use pervious materials or collect and re-use stormwater? Yes No

f. Does the proposed action include, or will it use on-site, one or more sources of air emissions, including fuel combustion, waste incineration, or other processes or operations? Yes No
 If Yes, identify:
 i. Mobile sources during project operations (e.g., heavy equipment, fleet or delivery vehicles)
 N/A - No new equipment or physical modifications to the existing Rikers Island cogeneration facility or boilers are proposed.

ii. Stationary sources during construction (e.g., power generation, structural heating, batch plant, crushers)
 N/A - No new equipment or physical modifications to the existing Rikers Island cogeneration facility or boilers are proposed.

iii. Stationary sources during operations (e.g., process emissions, large boilers, electric generation)
 2 cogeneration turbines equipped with duct burners; 8 boilers, 10 engines used for peak load management programs, and 55 emergency engines

g. Will any air emission sources named in D.2.f (above), require a NY State Air Registration, Air Facility Permit, or Federal Clean Air Act Title IV or Title V Permit? Yes No
 If Yes:
 i. Is the project site located in an Air quality non-attainment area? (Area routinely or periodically fails to meet ambient air quality standards for all or some parts of the year) Yes No
 ii. In addition to emissions as calculated in the application, the project will generate:
 • _____ 666,873 Tons/year (short tons) of Carbon Dioxide (CO₂)
 • _____ 4.69 Tons/year (short tons) of Nitrous Oxide (N₂O)
 • _____ N/A Tons/year (short tons) of Perfluorocarbons (PFCs)
 • _____ N/A Tons/year (short tons) of Sulfur Hexafluoride (SF₆)
 • _____ N/A Tons/year (short tons) of Carbon Dioxide equivalent of Hydrofluorocarbons (HFCs)
 • _____ 7.21 Tons/year (short tons) of Hazardous Air Pollutants (HAPs)

h. Will the proposed action generate or emit methane (including, but not limited to, sewage treatment plants, landfills, composting facilities)? Yes No

If Yes:

i. Estimate methane generation in tons/year (metric): _____

ii. Describe any methane capture, control or elimination measures included in project design (e.g., combustion to generate heat or electricity, flaring): _____

i. Will the proposed action result in the release of air pollutants from open-air operations or processes, such as quarry or landfill operations? Yes No

If Yes: Describe operations and nature of emissions (e.g., diesel exhaust, rock particulates/dust): _____

j. Will the proposed action result in a substantial increase in traffic above present levels or generate substantial new demand for transportation facilities or services? Yes No

If Yes:

i. When is the peak traffic expected (Check all that apply): Morning Evening Weekend
 Randomly between hours of _____ to _____.

ii. For commercial activities only, projected number of truck trips/day and type (e.g., semi trailers and dump trucks): _____

iii. Parking spaces: Existing _____ Proposed _____ Net increase/decrease _____

iv. Does the proposed action include any shared use parking? Yes No

v. If the proposed action includes any modification of existing roads, creation of new roads or change in existing access, describe: _____

vi. Are public/private transportation service(s) or facilities available within 1/2 mile of the proposed site? Yes No

vii. Will the proposed action include access to public transportation or accommodations for use of hybrid, electric or other alternative fueled vehicles? Yes No

viii. Will the proposed action include plans for pedestrian or bicycle accommodations for connections to existing pedestrian or bicycle routes? Yes No

k. Will the proposed action (for commercial or industrial projects only) generate new or additional demand for energy? Yes No

If Yes:

i. Estimate annual electricity demand during operation of the proposed action: _____

ii. Anticipated sources/suppliers of electricity for the project (e.g., on-site combustion, on-site renewable, via grid/local utility, or other): _____

iii. Will the proposed action require a new, or an upgrade, to an existing substation? Yes No

l. Hours of operation. Answer all items which apply.

<p>i. During Construction:</p> <ul style="list-style-type: none"> • Monday - Friday: _____ N/A - Existing facility • Saturday: _____ N/A - Existing facility • Sunday: _____ N/A - Existing facility • Holidays: _____ N/A - Existing facility 	<p>ii. During Operations:</p> <ul style="list-style-type: none"> • Monday - Friday: _____ N/A - Existing facility • Saturday: _____ N/A - Existing facility • Sunday: _____ N/A - Existing facility • Holidays: _____ N/A - Existing facility
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m. Will the proposed action produce noise that will exceed existing ambient noise levels during construction, operation, or both? Yes No
 If yes:
 i. Provide details including sources, time of day and duration:

ii. Will the proposed action remove existing natural barriers that could act as a noise barrier or screen? Yes No
 Describe: _____

n. Will the proposed action have outdoor lighting? Yes No
 If yes:
 i. Describe source(s), location(s), height of fixture(s), direction/aim, and proximity to nearest occupied structures:

ii. Will proposed action remove existing natural barriers that could act as a light barrier or screen? Yes No
 Describe: _____

o. Does the proposed action have the potential to produce odors for more than one hour per day? Yes No
 If Yes, describe possible sources, potential frequency and duration of odor emissions, and proximity to nearest occupied structures: _____

p. Will the proposed action include any bulk storage of petroleum (combined capacity of over 1,100 gallons) or chemical products 185 gallons in above ground storage or any amount in underground storage? Yes No
 If Yes:
 i. Product(s) to be stored _____
 ii. Volume(s) _____ per unit time _____ (e.g., month, year)
 iii. Generally, describe the proposed storage facilities: _____

q. Will the proposed action (commercial, industrial and recreational projects only) use pesticides (i.e., herbicides, insecticides) during construction or operation? Yes No
 If Yes:
 i. Describe proposed treatment(s):

ii. Will the proposed action use Integrated Pest Management Practices? Yes No

r. Will the proposed action (commercial or industrial projects only) involve or require the management or disposal of solid waste (excluding hazardous materials)? Yes No
 If Yes:
 i. Describe any solid waste(s) to be generated during construction or operation of the facility:
 • Construction: _____ tons per _____ (unit of time)
 • Operation : _____ tons per _____ (unit of time)
 ii. Describe any proposals for on-site minimization, recycling or reuse of materials to avoid disposal as solid waste:
 • Construction: _____

 • Operation: _____

iii. Proposed disposal methods/facilities for solid waste generated on-site:
 • Construction: _____

 • Operation: _____

s. Does the proposed action include construction or modification of a solid waste management facility? Yes No

If Yes:

i. Type of management or handling of waste proposed for the site (e.g., recycling or transfer station, composting, landfill, or other disposal activities): _____

ii. Anticipated rate of disposal/processing:

- _____ Tons/month, if transfer or other non-combustion/thermal treatment, or
- _____ Tons/hour, if combustion or thermal treatment

iii. If landfill, anticipated site life: _____ years

t. Will the proposed action at the site involve the commercial generation, treatment, storage, or disposal of hazardous waste? Yes No

If Yes:

i. Name(s) of all hazardous wastes or constituents to be generated, handled or managed at facility: _____

ii. Generally describe processes or activities involving hazardous wastes or constituents: _____

iii. Specify amount to be handled or generated _____ tons/month

iv. Describe any proposals for on-site minimization, recycling or reuse of hazardous constituents: _____

v. Will any hazardous wastes be disposed at an existing offsite hazardous waste facility? Yes No

If Yes: provide name and location of facility: _____

If No: describe proposed management of any hazardous wastes which will not be sent to a hazardous waste facility: _____

E. Site and Setting of Proposed Action

E.1. Land uses on and surrounding the project site

a. Existing land uses.

i. Check all uses that occur on, adjoining and near the project site.

- Urban Industrial Commercial Residential (suburban) Rural (non-farm)
 Forest Agriculture Aquatic Other (specify): Institutional (correctional facility).

ii. If mix of uses, generally describe:

b. Land uses and coverytypes on the project site.

Land use or Coverytype	Current Acreage	Acreage After Project Completion	Change (Acres +/-)
• Roads, buildings, and other paved or impervious surfaces	TBD	No change	No change
• Forested			
• Meadows, grasslands or brushlands (non-agricultural, including abandoned agricultural)			
• Agricultural (includes active orchards, field, greenhouse etc.)			
• Surface water features (lakes, ponds, streams, rivers, etc.)			
• Wetlands (freshwater or tidal)			
• Non-vegetated (bare rock, earth or fill)			
• Other Describe: _____			

c. Is the project site presently used by members of the community for public recreation? Yes No
i. If Yes: explain: _____

d. Are there any facilities serving children, the elderly, people with disabilities (e.g., schools, hospitals, licensed day care centers, or group homes) within 1500 feet of the project site? Yes No
If Yes,
i. Identify Facilities: _____

e. Does the project site contain an existing dam? Yes No
If Yes:
i. Dimensions of the dam and impoundment:
• Dam height: _____ feet
• Dam length: _____ feet
• Surface area: _____ acres
• Volume impounded: _____ gallons OR acre-feet
ii. Dam's existing hazard classification: _____
iii. Provide date and summarize results of last inspection: _____

f. Has the project site ever been used as a municipal, commercial or industrial solid waste management facility, or does the project site adjoin property which is now, or was at one time, used as a solid waste management facility? Yes No
If Yes:
i. Has the facility been formally closed? Yes No
• If yes, cite sources/documentation: _____
ii. Describe the location of the project site relative to the boundaries of the solid waste management facility: _____
iii. Describe any development constraints due to the prior solid waste activities: _____

g. Have hazardous wastes been generated, treated and/or disposed of at the site, or does the project site adjoin property which is now or was at one time used to commercially treat, store and/or dispose of hazardous waste? Yes No
If Yes:
i. Describe waste(s) handled and waste management activities, including approximate time when activities occurred:
There is a regulatory listing of Rikers Island as a Hazardous Substance Waste Disposal Site.

h. Potential contamination history. Has there been a reported spill at the proposed project site, or have any remedial actions been conducted at or adjacent to the proposed site? Yes No
If Yes:
i. Is any portion of the site listed on the NYSDEC Spills Incidents database or Environmental Site Remediation database? Check all that apply: Yes No
 Yes – Spills Incidents database Provide DEC ID number(s): _____
 Yes – Environmental Site Remediation database Provide DEC ID number(s): _____
 Neither database
ii. If site has been subject of RCRA corrective activities, describe control measures: _____
iii. Is the project within 2000 feet of any site in the NYSDEC Environmental Site Remediation database? Yes No
If yes, provide DEC ID number(s): _____
iv. If yes to (i), (ii) or (iii) above, describe current status of site(s): _____

v. Is the project site subject to an institutional control limiting property uses? Yes No

- If yes, DEC site ID number: _____
- Describe the type of institutional control (e.g., deed restriction or easement): _____
- Describe any use limitations: _____
- Describe any engineering controls: _____
- Will the project affect the institutional or engineering controls in place? Yes No
- Explain: _____

E.2. Natural Resources On or Near Project Site

a. What is the average depth to bedrock on the project site? _____ Approx. 70 feet

b. Are there bedrock outcroppings on the project site? Yes No
 If Yes, what proportion of the site is comprised of bedrock outcroppings? _____ %

c. Predominant soil type(s) present on project site: Fill _____ 100 %
 _____ %
 _____ %

d. What is the average depth to the water table on the project site? Average: _____ 10 feet

e. Drainage status of project site soils: Well Drained: _____ 100 % of site
 Moderately Well Drained: _____ % of site
 Poorly Drained _____ % of site

f. Approximate proportion of proposed action site with slopes: 0-10%: _____ 100 % of site
 10-15%: _____ % of site
 15% or greater: _____ % of site

g. Are there any unique geologic features on the project site? Yes No
 If Yes, describe: _____

h. Surface water features.

i. Does any portion of the project site contain wetlands or other waterbodies (including streams, rivers, ponds or lakes)? Yes No

ii. Do any wetlands or other waterbodies adjoin the project site? Yes No

If Yes to either *i* or *ii*, continue. If No, skip to E.2.i.

iii. Are any of the wetlands or waterbodies within or adjoining the project site regulated by any federal, state or local agency? Yes No

iv. For each identified regulated wetland and waterbody on the project site, provide the following information:

- Streams: Name East River Classification _____
- Lakes or Ponds: Name _____ Classification _____
- Wetlands: Name _____ Approximate Size _____
- Wetland No. (if regulated by DEC) _____

v. Are any of the above water bodies listed in the most recent compilation of NYS water quality-impaired waterbodies? Yes No

If yes, name of impaired water body/bodies and basis for listing as impaired: _____
Upper East River, PCBs/other toxics

i. Is the project site in a designated Floodway? Yes No

j. Is the project site in the 100-year Floodplain? Yes No

k. Is the project site in the 500-year Floodplain? Yes No

l. Is the project site located over, or immediately adjoining, a primary, principal or sole source aquifer? Yes No

If Yes:

i. Name of aquifer: _____

m. Identify the predominant wildlife species that occupy or use the project site: N/A (existing facility) _____ _____ _____	_____ _____ _____
n. Does the project site contain a designated significant natural community? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes: i. Describe the habitat/community (composition, function, and basis for designation): _____ _____ ii. Source(s) of description or evaluation: _____ iii. Extent of community/habitat: • Currently: _____ acres • Following completion of project as proposed: _____ acres • Gain or loss (indicate + or -): _____ acres	
o. Does project site contain any species of plant or animal that is listed by the federal government or NYS as endangered or threatened, or does it contain any areas identified as habitat for an endangered or threatened species? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes: i. Species and listing (endangered or threatened): _____ _____ _____	
p. Does the project site contain any species of plant or animal that is listed by NYS as rare, or as a species of special concern? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes: i. Species and listing: _____ _____	
q. Is the project site or adjoining area currently used for hunting, trapping, fishing or shell fishing? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If yes, give a brief description of how the proposed action may affect that use: _____ _____	
E.3. Designated Public Resources On or Near Project Site	
a. Is the project site, or any portion of it, located in a designated agricultural district certified pursuant to Agriculture and Markets Law, Article 25-AA, Section 303 and 304? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes, provide county plus district name/number: _____	
b. Are agricultural lands consisting of highly productive soils present? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No i. If Yes: acreage(s) on project site? _____ ii. Source(s) of soil rating(s): _____	
c. Does the project site contain all or part of, or is it substantially contiguous to, a registered National Natural Landmark? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes: i. Nature of the natural landmark: <input type="checkbox"/> Biological Community <input type="checkbox"/> Geological Feature ii. Provide brief description of landmark, including values behind designation and approximate size/extent: _____ _____ _____	
d. Is the project site located in or does it adjoin a state listed Critical Environmental Area? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No If Yes: i. CEA name: _____ ii. Basis for designation: _____ iii. Designating agency and date: _____	

e. Does the project site contain, or is it substantially contiguous to, a building, archaeological site, or district which is listed on the National or State Register of Historic Places, or that has been determined by the Commissioner of the NYS Office of Parks, Recreation and Historic Preservation to be eligible for listing on the State Register of Historic Places? Yes No

If Yes:

i. Nature of historic/archaeological resource: Archaeological Site Historic Building or District

ii. Name: _____

iii. Brief description of attributes on which listing is based: _____

f. Is the project site, or any portion of it, located in or adjacent to an area designated as sensitive for archaeological sites on the NY State Historic Preservation Office (SHPO) archaeological site inventory? Yes No

g. Have additional archaeological or historic site(s) or resources been identified on the project site? Yes No

If Yes:

i. Describe possible resource(s): _____

ii. Basis for identification: _____

h. Is the project site within five miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource? Yes No

If Yes:

i. Identify resource: See attachment page.

ii. Nature of, or basis for, designation (e.g., established highway overlook, state or local park, state historic trail or scenic byway, etc.): _____

iii. Distance between project and resource: _____ miles.

i. Is the project site located within a designated river corridor under the Wild, Scenic and Recreational Rivers Program 6 NYCRR 666? Yes No

If Yes:

i. Identify the name of the river and its designation: _____

ii. Is the activity consistent with development restrictions contained in 6NYCRR Part 666? Yes No

F. Additional Information

Attach any additional information which may be needed to clarify your project.

If you have identified any adverse impacts which could be associated with your proposal, please describe those impacts plus any measures which you propose to avoid or minimize them.

G. Verification

I certify that the information provided is true to the best of my knowledge.

Applicant/Sponsor Name NYCDOC

Date 3/18/21

Signature 

Title Alex Mahoney, Exec. Dir. of Facilities

E.3.h.: Is the project site within five miles of any officially designated and publicly accessible federal, state, or local scenic or aesthetic resource? If yes, identify resource; nature of, or basis for, designation; and distance between project and resource.

There are a number of parks within five miles of the project site, as well as publicly accessible buildings that have been designated as New York City Landmarks or have been determined eligible for listing on the State and National Registers of Historic Places. There are no designated scenic byways, scenic roads, scenic areas of statewide significance, scenic trails, or scenic rivers within 5 miles of the project site.






EAST RIVER

Rikers Island

LaGuardia Airport





0 1,000 FEET

-  Cogeneration Facility
-  PLM Engine Location
-  Boiler House

Note: Emergency engines are scattered throughout the Island.











-  Cogeneration Facility
-  PLM Engine Location
-  Boiler House
-  Public Facilities and Institutions

Note: Emergency engines are scattered throughout the Island.






Existing Land Use
Figure 2



-  Cogeneration Facility
-  PLM Engine Location
-  Boiler House
-  Tax Lot Boundary
-  Tax Block Boundary
-  Other Boundary

Note: Emergency engines are scattered throughout the Island.







-  Cogeneration Facility
-  PLM Engine Location
-  Boiler House
-  1% Annual Chance of Flooding
-  0.2% Annual Chance of Flooding

Note: Emergency engines are scattered throughout the Island.



0 1,000 FEET

-  Cogeneration Facility
-  PLM Engine Location
-  Boiler House
-  Coastal Zone Boundary

Note: Emergency engines are scattered throughout the Island.



NYC Coastal Zone Boundary
Figure 5

A. PROJECT DESCRIPTION

The applicant, the New York City Department of Corrections (NYCDOC), proposes to modify the Title V air permit for the Rikers Island cogeneration facility, to ensure that the facility has additional operating flexibility and operates in compliance with applicable regulations and permit conditions.

NYCDOC operates equipment on Rikers Island to generate electricity for various uses on the island, as well as a plant to generate steam for heating, hot water and for other process uses such as the on-site laundry. A cogeneration plant consisting of two 7.5-megawatt natural gas-fired combustion turbines was installed at the Rikers Island central steam plant in 2014. Each combustion turbine is equipped with a heat recovery steam generator (HRSG) that can be operated with a supplemental natural gas-fired duct burner in tandem with the turbine to provide additional steam output. During periods of peak steam demand on Rikers Island, or when the cogeneration plant is undergoing maintenance, the existing dual-fired (natural gas and fuel oil) boilers are needed to supply steam. Under the existing New York State Department of Environmental Conservation (NYSDEC) Title V permit, the boilers cannot be operated as needed due to annual emission limits, especially during periods of peak demand or cogeneration plant maintenance conditions. For this reason, modifications to the Rikers Island facility's Title V air permit have been proposed to ensure that the facility has additional operating flexibility, and operates in compliance with the applicable regulations and permit conditions. These conditions include allowing the facility to operate the eight existing boilers as needed during periods of peak steam demand or when the cogeneration plant is undergoing maintenance.

Currently, the Title V permit has annual emission caps for nitrogen oxides (NO_x) and particulate matter less than 10 microns in diameter (PM₁₀) that limit boiler operations. The removal of these limitations on the boilers requires modifications to the Title V permit conditions. In addition, under the current Title V permit, certain internal combustion engines on Rikers Island that operate at the facility have the option of enrolling in a Peak Load Management (PLM) program. These engines are subject to a NO_x emissions cap of 22.5 tons/year outside use during regular testing and maintenance, as specified in the current Title V permit.

In addition, new NO_x emission limits will be established, which will require the cogeneration plant to meet a limit of 12 parts per million (ppm) when the combustion turbine is operating without additional natural gas-fired duct firing HRSGs. A NO_x emission limit of 15 ppm is proposed when the combustion turbine is operating with duct firing HRSGs. The annual NO_x emissions cap on the cogeneration plant is being revised to 52 tons per year (tpy).

The proposed Title V permit modification requires the approval of NYSDEC. No new equipment or physical modifications to the Rikers Island cogeneration plant, boilers, or engines are proposed.

B. ENVIRONMENTAL ANALYSES

The environmental review of the proposed permit modification follows the requirements of the New York State Environmental Quality Review Act (SEQRA), and generally uses the 2020 *New York City Environmental Quality Review (CEQR) Technical Manual* as a guide with respect to environmental analysis methodologies and impact criteria for evaluating the proposed permit modification in this *Supplemental Report*, unless stated otherwise.¹

Because the proposed permit modification would not result in any construction of new facilities or structures, would not result in subsurface disturbance, would not result in any change to existing land use or zoning and would not require any zoning actions, would not introduce any new sources of noise or new noise-sensitive uses, would not result in a new population, and would not displace an existing population or business, in accordance with *CEQR Technical Manual* methodology, no further analysis is required and no significant adverse impacts would be expected to occur in the following areas: socioeconomic conditions; community facilities and services; open space; shadows; historic and cultural resources; urban design and visual resources; hazardous materials; natural resources; water and sewer infrastructure; solid waste and sanitation services; energy; transportation; noise; neighborhood character; and construction. Additional analyses are presented below.

LAND USE, ZONING, AND PUBLIC POLICY

PUBLIC POLICY—WATERFRONT REVITALIZATION PROGRAM

The project site is located within the coastal zone designated by New York State and New York City (see **Figure 5**), and therefore the proposed permit modification is subject to review for consistency with the policies of the City’s Waterfront Revitalization Program (WRP).

The Federal Coastal Zone Management Act (CZMA) of 1972 was enacted to support and protect the distinctive character of the waterfront and to set forth standard policies for reviewing proposed development projects along coastlines. The program responded to City, State, and federal concerns about the deterioration and inappropriate use of the waterfront. The CZMA emphasizes the primacy of State decision-making regarding the coastal zone. In accordance with the CZMA, New York State adopted its own Coastal Management Program (CMP), designed to balance economic development and preservation by promoting waterfront revitalization and water-dependent uses while protecting fish and wildlife, open space and scenic areas, farmland, and public access to the shoreline, and minimizing adverse changes to ecological systems and erosion and flood hazards. The New York State CMP provides for local implementation when a municipality adopts a local waterfront revitalization program, as is the case in New York City.

The WRP is the City’s principal coastal zone management tool. The WRP was originally adopted in 1982 and approved by the New York State Department of State (NYS DOS) for inclusion in the New York State CMP. The WRP establishes the City’s policies for the development and use of the waterfront and provides a framework for evaluating activities proposed in the Coastal Zone. Revisions to the WRP were approved by the City Council on October 30, 2013. The revisions are intended to reflect policy elements included in the DCP’s 2011 *Vision 2020 New York City Comprehensive Waterfront Plan*, including incorporation of climate change and sea level rise

¹ The City of New York, Mayor’s Office of Environmental Coordination. *City Environmental Quality Review (“CEQR”) Technical Manual 2020 Edition Revisions (Effective 12/27/16)*.

considerations to increase the resiliency of the waterfront area, promotion of waterfront industrial development and both commercial and recreational water-borne activities, increased restoration of ecologically significant areas, and design of best practices for waterfront open spaces.

The changes were recently approved by NYSDOS and the U.S. Department of Commerce. The proposed project's consistency with the WRP has been assessed using the 2013 revisions. The New York State Consistency Assessment Form, WRP Consistency Assessment Form, and assessments of the proposed project's conformity with the City's WRP policies are provided in **Appendix A**.

AIR QUALITY

See Attachment B.

GREENHOUSE GAS EMISSIONS AND CLIMATE CHANGE

Increased GHG emissions are changing the global climate, which is predicted to lead to wide-ranging effects on the environment, including rising sea levels, increases in temperature, and changes in precipitation levels.

In July of 2019, New York State enacted the Climate Leadership and Community Protection Act (CLCPA). Among other requirements, the CLCPA directs state agencies to determine if their decisions are consistent with the Statewide GHG emission limits established by the CLCPA in Environmental Conservation Law (ECL) Article 75 compared to a statewide 1990 GHG emissions baseline. In the case of the NYSDEC, a CLCPA consistency determination is required for applications for new state facility permits, new Title V permits, and significant modifications to state facility permits and Title V permits.

The proposed permit modifications do not include any new equipment or physical modifications to the Rikers Island cogeneration plant, boilers, or engines. This modification is required to provide operational flexibility to the facility and maintain facility compliance with respect to annual NO_x emissions. The facility will continue to operate in a similar manner as they have been operating since the installation of the cogeneration plant with no expected changes. In addition, the facility is accepting new permit conditions, thereby reducing the number of engines that could participate in PLM programs and also defining limits on the operating load for the PLM engines. With these conditions it is expected that there would be no change in GHG emissions.

The cogeneration plant provides power as well as heating and cooling to the buildings on the Island. The cogeneration plant was installed in 2014 and utilizes waste heat for heating and cooling, which reduces the amount of required fuel for steam generation from the plant boilers. In addition, on-site power generation reduces the electric load that is typically supplied by existing power plants, helping to manage peak electricity usage, particularly during the summer months, where a portion of the power generated during peak periods is from older more polluting and less efficient fossil fuel power plants. On-site power production also reduces losses that occur when electricity is transmitted and distributed over long distances. As a result of the energy savings achieved for the facility, the cogeneration systems lower the operating costs and reduce greenhouse gas (GHG) emissions when compared to the 1990 baseline specified in the CLCPA. For these reasons, the project would continue to realize GHG benefits. Therefore, no further analysis is required.

PUBLIC HEALTH

The proposed action would not result in any significant unmitigated adverse impacts to air quality, water quality, hazardous materials, noise, or any other relevant CEQR analysis area. Therefore, the proposed permit modification would not result in any significant adverse impacts to public health, and no further analysis is necessary.

A. PROJECT DESCRIPTION

The New York City Department of Correction (DOC) maintains a power plant, boiler house, engine generators that have the capability to participate in peak load management (PLM) programs, and multiple emergency generators that are distributed throughout the property. The power plant consists of a cogeneration plant with two, 7.5 megawatt (MW) natural-gas-fired, turbines equipped with duct-firing heat recovery steam generators and one, 1.5 MW emergency black start engine generator. The boiler house consists of eight, 96 MMBTU/hr dual fuel-fired boilers. There are 19 diesel fuel fired engine generators that have the capability to participate in PLM programs, each rated between 800 kilowatts (KW) and 1,100 KW. In addition, there are exempt emergency backup-generators located throughout the facility.

Modifications to the Rikers Island facility's Title V air permit have been proposed to ensure that the facility has additional operating flexibility, and operates in compliance with all applicable regulations and permit conditions. No new equipment or physical modifications to the Rikers Island cogeneration facility or boilers are proposed under the proposed permit modifications.

An air dispersion modeling analysis was performed, at NYSDEC's request, to demonstrate compliance with 1-hour NO₂ National Ambient Air Quality Standards (NAAQS) in support of the Title V modification and renewal application. NO₂ is one of the primary pollutants of concern for engines and boilers because it is a principal precursor to ozone formation. The results of the modeling analysis determined that the facility with the proposed permit modifications results in local increases in 1-hour NO₂ concentrations, particularly at nearby locations on Rikers Island and over the open water. However, the modeled 1-hour NO₂ concentrations from the facility, when added to ambient background levels, were not predicted to exceed the 1-hour NAAQS. In addition, 1-hour NO₂ concentrations significantly drop at distant locations further away from the modeled sources.

In order to avoid potential exceedances of the 1-hour NO₂ standard, the facility is accepting new permit conditions, thereby reducing the number of engines that could participate in PLM programs and also defining limits on the maximum enrolled capacity for the PLM engines. Furthermore, new NO_x emission limits will be established which will require the cogeneration facility to meet stringent NO_x emission levels and the annual NO_x emissions from the cogeneration unit are being capped at 52 tons per year. With these conditions in place, no significant adverse air quality impacts are predicted with the proposed permit modifications.

EQUIPMENT DESCRIPTION*POWER PLANT*

The power plant consists of two, 7.5 MW Solar Taurus 70-10301S natural gas fired, simple cycle gas turbines equipped with duct firing heat recovery steam generators, and one 1.5 MW emergency

black start engine generator. The power plant provides electrical power and thermal energy to Rikers Island. The exhaust from each turbine is vented to a separate stack located outside the powerhouse. The black start engine generator is used for emergency purposes only, and is tested periodically. Since it is considered to be an intermittent source it was not included in the modeling analysis, based on applicable USEPA guidance¹.

BOILER HOUSE

Eight 96 MMBTU/hr boilers, each firing natural gas as the primary fuel and distillate oil as backup fuel, exhaust through three separate stacks located adjacent to the Boiler House. The boilers provide thermal energy to Rikers Island and primarily operate as a backup or supplemental to the power plant.

PLM ENGINES

There are 19 internal combustion engines at Rikers that have the option of enrolling in PLM programs with Con Edison. In the current Title V permit these 19 engines are subject to a NO_x emissions cap of 22.5 tons/year. These 19 engines (four 1,100 kW, two 800 kW, three 900 kW, one 625 kW, and nine 1,150 kW) fire diesel fuel oil and are located at various locations throughout Rikers. Each engine exhausts locally. Fourteen of these engines have undergone a NO_x RACT analysis per 6 NYCRR 227-2, dated March 2020. The RACT analysis demonstrated that RACT for these engines is no control, as defined in New York State's DAR-20, and are therefore in compliance with Part 227-2, either at their existing NO_x variance limit in the current Title V permit or at a new NO_x limit based upon the most recent stack testing conducted in 2018. The remaining five engines were not tested in 2018 and therefore currently do not participate in a PLM program. These engines may be used for emergency purposes only and therefore were not included in the modeling analysis, based on applicable USEPA guidance that they are classified as intermittent sources.²

EMERGENCY ENGINES

The facility has approximately 51 emergency diesel engines scattered throughout Rikers Island for emergency support. These engines are only used for emergency back-up and are operated periodically for maintenance and testing purposes. As per EPA's guidance, these engines are considered to be intermittent sources and were therefore not included in the modeling analysis.

SOURCE PARAMETERS AND EMISSION RATES

An air quality impact analysis was conducted to evaluate potential impacts from Rikers with respect to the NO₂ 1-hour NAAQS. Stack exhaust parameters for the turbines with duct firing (cogeneration plant), boilers, and PLM engines were obtained from the Title V permit application.

For the cogeneration plant, NO_x emission rates were calculated based on the proposed NO_x emission limit of 15 parts per million (ppm) at 15% O₂ from the turbines with duct firing, as demonstrated in the LAER analysis dated March 2020. The modeling analysis assumed that both

¹ EPA Memorandum, "Additional Clarification Regarding Application of Appendix W, Modeling Guidance for the 1-Hour NO₂ National Ambient Air Quality Standard," March 1, 2011.

² EPA Memorandum, "Additional Clarification Regarding Application of Appendix W, Modeling Guidance for the 1-Hour NO₂ National Ambient Air Quality Standard," March 1, 2011.

turbines operate continuously at maximum capacity with duct firing year-round as a conservative estimate.

For the boilers, NO_x emission rates were calculated based on the NO_x RACT emission limit of 0.12 pounds per MMBtu as demonstrated in the March 2020 NO_x RACT analysis. The modeling analysis assumes that all eight boilers are operating continuously at maximum capacity. This is a conservative assumption since two of the eight boilers are currently not operational.

The Rikers PLM engines have historically participated in the New York Independent System Operator (NYISO) Special Case Resource (SCR) and Con Edison Coordinated Demand Response Programs (CDRP) and are dispatched between 1:00 PM and 7:00 PM Monday through Friday when the grid is peaking in the summer. In the last decade, the facility has never been called during the winter season. However, for modeling purposes, the engines are assumed to be running continuously assuming operation between 1:00 PM and 7:00 PM throughout the year. The modeling analysis uses a specific NO_x RACT limit and maximum allowable enrolled kW capacity for each engine to demonstrate compliance with the 1-hour NO₂ standard. New conditions reflecting these kW limits by engine are included in the Title V permit renewal application.

Table 1 presents the stack parameters and NO₂ emission rates used in the analysis for the boilers and the cogeneration plant. **Table 2** presents the stack parameters and NO₂ emission rates used in the analysis for the PLM engines.

Table 1
Boiler and Cogeneration Plant
Stack Parameters and NO₂ Emission Rates

Parameter	Boilers			Cogeneration Plant
	U-00001	U-00002	U-00003	U-00011
Stack Exhaust Height (feet) ⁽¹⁾	182	185	170	150
Stack Exhaust Diameter (feet) ⁽¹⁾	11.7	9.0	7.0	5.0
Stack Exhaust Temperature (°F) ⁽¹⁾	450	450	450	292
Stack Exhaust velocity (feet/sec) ⁽¹⁾	19.81	16.64	27.51	62.2
Fuel Type	Natural Gas / #2 Fuel oil	Natural Gas / #2 Fuel oil	Natural Gas / #2 Fuel oil	Natural Gas
Emissions (g/s)				
NO ₂ (1-hour)	5.81 ⁽²⁾	2.90 ⁽²⁾	2.90 ⁽²⁾	0.94 ⁽³⁾⁽⁴⁾
Notes:				
⁽¹⁾ Stack exhaust parameters obtained from Title V Permit.				
⁽²⁾ NO ₂ emission rates are based on the NO _x RACT limits.				
⁽³⁾ Emission rates presented are per unit.				
⁽⁴⁾ Emission rate based on worst case ambient temperature/load condition (0°F ambient temperature and 100% operating load) with duct burner operation year-round.				

Table 2
PLM Engines
Stack Parameters and NO₂ Emission Rates

Parameter	Location													
	GRVC				RMSC		OBCC				WF			
Maximum modeled capacity (KW)	715	638	469	540	200	200	0	0	0	0	615	615	615	615
Emission Source	00010	00011	00012	00013	00014	00015	00016	00017	00018	00019	00020	00022	00024	00025
Emission Point	00010	00011	00012	00013	00014	00015	00016	00017	00018	00019	00020	00022	00024	00025
Stack Exhaust Height (feet) ⁽¹⁾	110	110	110	110	35	35	18	18	18	18	18	18	18	18
Stack Exhaust Diameter (feet) ⁽¹⁾	0.83	0.83	0.83	0.83	1.00	1.00	1.00	0.83	0.83	0.83	1.00	1.00	1.00	1.00
Stack Exhaust Temperature (°F) ⁽¹⁾	800	800	800	800	800	800	800	800	800	800	800	800	800	800
Stack Exhaust velocity (feet/sec) ⁽¹⁾	172	172	98	141	87	87	141	141	172	172	125	125	125	125
Fuel Type	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel	Diesel
Emissions														
NO _x RACT Limit (g/bhp-hr)	7.7	9.2 ⁽²⁾	7.5	7.4	7.8	8.1	6.7 ⁽²⁾	4.7 ⁽²⁾	8.9 ⁽²⁾	8.6 ⁽²⁾	6.9	7.0	7.7	6.6
NO ₂ (1-hour) per engine (g/s)	2.051	2.186	1.310	1.489	0.581	0.603	0.0 ⁽³⁾	0.0 ⁽³⁾	0.0 ⁽³⁾	0.0 ⁽³⁾	1.581	1.604	1.765	1.513
Notes:														
GRVC: George R. Veirno Center														
RMSC: Rose M. Singer Center														
OBCC: Otis Bantum Correctional Center														
WF: West Facility														
⁽¹⁾ Stack exhaust parameters obtained from Title V permit application.														
⁽²⁾ Revised proposed NO _x RACT emission limit as demonstrated in the March 2020 NO _x RACT analysis.														
⁽³⁾ Operation of the four PLM engines located at OBCC have the potential to exceed the 1-hour NO ₂ standard at the current NO ₂ emission limits; therefore, these engines have been excluded from this 1-hour NO ₂ modeling analysis and will not operate under PLM programs until they can demonstrate compliance with the standard.														

B. AIR QUALITY REGULATIONS, STANDARDS, AND BENCHMARKS

NATIONAL AND STATE AIR QUALITY STANDARDS

As required by the CAA, primary and secondary NAAQS have been established³ for six major air pollutants: CO, NO₂, ozone, respirable PM (both PM_{2.5} and PM₁₀), SO₂, and lead. The primary standards represent levels that are requisite to protect the public health, allowing an adequate margin of safety. The secondary standards are intended to protect the nation's welfare, and account for air pollutant effects on soil, water, visibility, materials, vegetation, and other aspects of the environment. The primary standards are generally either the same as the secondary standards or more restrictive. The NAAQS are presented in **Table 3**. The NAAQS for CO, annual NO₂, and 3-hour SO₂ have also been adopted as the ambient air quality standards for New York State, but are defined on a running 12-month basis rather than for calendar years only. New York State also has standards for total suspended particles, settleable particles, non-methane hydrocarbons, 24-hour and annual SO₂, and ozone which correspond to federal standards that have since been revoked or replaced, and for the noncriteria pollutants beryllium, fluoride, and hydrogen sulfide.

Effective December 2015, EPA lowered the 2008 ozone NAAQS from 0.075 ppm to 0.070. EPA issued final area designations for the revised standard on April 30, 2018.

NAAQS ATTAINMENT STATUS AND STATE IMPLEMENTATION PLANS

The CAA, as amended in 1990, defines non-attainment areas (NAA) as geographic regions that have been designated as not meeting one or more of the NAAQS. When an area is designated as non-attainment by EPA, the state is required to develop and implement a State Implementation Plan (SIP), which delineates how a state plans to achieve air quality that meets the NAAQS under the deadlines established by the CAA, followed by a plan for maintaining attainment status once the area is in attainment.

In 2002, EPA re-designated New York City as in attainment for CO. Under the resulting maintenance plans, New York is committed to implementing site-specific control measures throughout the city to reduce CO levels, should unanticipated localized growth result in elevated CO levels during the maintenance period. The second CO maintenance plan for the region was approved by EPA on May 30, 2014.

Manhattan had been designated as a moderate NAA for PM₁₀. EPA clarified on July 29, 2015 that the designation only applied to the revoked annual standard.

The five New York City counties and Nassau, Suffolk, Rockland, Westchester, and Orange Counties had been designated as a PM_{2.5} NAA (New York Portion of the New York–Northern New Jersey–Long Island, NY–NJ–CT NAA) since 2004 under the CAA due to exceedance of the 1997 annual average standard, and were also nonattainment with the 2006 24-hour PM_{2.5} NAAQS since November 2009. The area was redesignated as in attainment for that standard effective April 18, 2014 and is now under a maintenance plan. EPA lowered the annual average primary standard to 12 µg/m³ effective March 2013. EPA designated the area as in attainment for the 12 µg/m³ NAAQS effective April 15, 2015.

³ EPA. *National Ambient Air Quality Standards*. 40 CFR part 50.

Table 3
National Ambient Air Quality Standards (NAAQS)

Pollutant	Primary		Secondary	
	ppm	µg/m ³	ppm	µg/m ³
Carbon Monoxide (CO)				
8-Hour Average	9 ⁽¹⁾	10,000	None	
1-Hour Average	35 ⁽¹⁾	40,000		
Lead				
Rolling 3-Month Average	NA	0.15	NA	0.15
Nitrogen Dioxide (NO₂)				
1-Hour Average ⁽²⁾	0.100	188	None	
Annual Average	0.053	100	0.053	100
Ozone (O₃)				
8-Hour Average ⁽³⁾	0.070	140	0.070	140
Respirable Particulate Matter (PM₁₀)				
24-Hour Average ⁽¹⁾	NA	150	NA	150
Fine Respirable Particulate Matter (PM_{2.5})				
Annual Mean ⁽⁴⁾	NA	12	NA	15
24-Hour Average ⁽⁵⁾	NA	35	NA	35
Sulfur Dioxide (SO₂)				
1-Hour Average ⁽⁶⁾	0.075	196	NA	NA
Maximum 3-Hour Average ⁽¹⁾	NA	NA	0.50	1,300
<p>Notes: ppm – parts per million (unit of measure for gases only) µg/m³ – micrograms per cubic meter (unit of measure for gases and particles, including lead) NA – not applicable All annual periods refer to calendar year. Standards are defined in ppm. Approximately equivalent concentrations in µg/m³ are presented. ⁽¹⁾ Not to be exceeded more than once a year. ⁽²⁾ 3-year average of the annual 98th percentile daily maximum 1-hr average concentration. ⁽³⁾ 3-year average of the annual fourth highest daily maximum 8-hr average concentration. ⁽⁴⁾ 3-year average of annual mean. ⁽⁵⁾ Not to be exceeded by the annual 98th percentile when averaged over 3 years. ⁽⁶⁾ 3-year average of the annual 99th percentile daily maximum 1-hr average concentration. Source: 40 CFR Part 50: National Primary and Secondary Ambient Air Quality Standards.</p>				

Effective June 15, 2004, EPA designated Nassau, Rockland, Suffolk, Westchester, and the five New York City counties (NY portion of the New York–Northern New Jersey–Long Island, NY-NJ-CT, NAA) as moderate non-attainment areas for the 1997 8-hour average ozone standard. In March 2008 EPA strengthened the 8-hour ozone standards, but certain requirements remain in areas that were either nonattainment or maintenance areas for the 1997 ozone standard (‘anti-backsliding’). EPA designated the same NAA as a marginal NAA for the 2008 ozone NAAQS, effective July 20, 2012. On April 11, 2016, as requested by New York State, EPA reclassified the

area as a “moderate” NAA. On July 19, 2017 DEC announced that the New York Metro Area (NYMA) is not projected to meet the July 20, 2018 attainment deadline and DEC therefore requested that EPA reclassify the NYMA to “serious” nonattainment. EPA reclassified the NYMA from “moderate” to “serious” NAA, effective September 23, 2019, which imposes a new attainment deadline of July 20, 2021 (based on 2018-2020 monitored data). On April 30, 2018, EPA designated the same area as a moderate NAA for the revised 2015 ozone standard. SIP revisions are due by August 3, 2021.

New York City is currently in attainment of the annual-average NO₂ standard. EPA has designated the entire state of New York as “unclassifiable/attainment” of the 1-hour NO₂ standard effective February 29, 2012. Since additional monitoring is required for the 1-hour standard, areas will be reclassified once three years of monitoring data are available.

EPA has established a 1-hour SO₂ standard, replacing the former 24-hour and annual standards, effective August 23, 2010. In December 2017, EPA designated the entire State of New York as in attainment for this standard, with the exception of Monroe County, which was designated “unclassifiable”.

C. METHODOLOGY FOR PREDICTING NO₂ CONCENTRATIONS

NO₂ is one of the primary pollutants of concern for engines and boilers because it is a principal precursor to ozone formation. This section presents the methodologies, data, and assumptions used to conduct the 1-hour NO₂ modeling analysis for Rikers.

DISPERSION MODEL

The dispersion modeling analysis was performed using the EPA AERMOD dispersion model⁴. The AERMOD model calculates pollutant concentrations from one or more points (e.g., exhaust stacks) based on hourly meteorological data, and has the capability of calculating pollutant concentrations at locations when the plume from the exhaust stack is affected by the aerodynamic wakes and eddies (downwash) produced by nearby structures. Computations with the AERMOD model to determine impacts from the facility were made assuming urban dispersion coefficients, regulatory default options (stack tip downwash, elevated terrain, calm winds processing, etc.), inclusion of building wake, the use of flagpole receptors, and the urban boundary layer option.

METEOROLOGICAL DATA

The modeling analysis was performed using latest recent five-year meteorological data set from the nearest representative National Weather Service (NWS) station, consisting of surface data from LaGuardia Airport, NY and concurrent upper air data from Brookhaven National Laboratory in Upton, NY (2015 to 2019). The NYSDEC supplied the meteorological dataset, which was processed with the AERMET Version 19191 processor.

⁴ EPA. *AERMOD Implementation Guide*. 454/B-19-035, August 2019; AERMOD Model Formulation and Evaluation. 454/R-19-0014, August 2019; and User's Guide for the AMS/EPA Regulatory Model (AERMOD). 454/B-19-027, August 2019.

RECEPTOR NETWORK

Receptor data, including ground level elevations and coordinates, were used in the AERMOD model. Four uniform ground-level Cartesian receptor grids were utilized. The first is a coarse Cartesian receptor grid with receptor spacing of 500 meters extending out from 5 km to 10 km in all directions from center of the Rikers Island. The second receptor grid is an intermediate Cartesian receptor grid with 250 meter receptor spacing, extending out from 2 km to 5 km in all directions from the center of the Rikers Island. The third receptor grid is a fine Cartesian receptor grid with 100 meter spacing, extending out from 1 km to 2 km in all directions from the center of the Rikers Island. The fourth receptor grid is a fine Cartesian receptor grid with 75 meter spacing extending out to 1 km from north, south, east and west boundaries of the Rikers Island. Discrete ground level receptors on Rikers Island the public has access, including recreation spaces, were also modeled. A terrain pre-processor program was used to determine the representative ground elevations for each receptor.

MODELING ANALYSIS

EPA has developed guidance for assessing 1-hour average NO₂ concentrations for compliance with the NAAQS.⁵ This guidance along with other guidance from the California Air Pollution Control Officers Association (CAPCOA)⁶ was used to develop representative 1-hour background concentrations that were added to the concentrations predicted from the modeled project sources. The background data was provided by the NYSDEC and the methodology used the multi-year averages of the 98th percentiles of the available background concentrations by season and hour-of-day based on EPA's March 1, 2011 Clarification memo.

1-hour average NO₂ concentration increments from the modeled sources were estimated using the AERMOD model's PVMRM module to analyze chemical transformation within the model. The PVMRM module incorporates hourly background ozone concentrations to estimate NO_x transformation within the source plume. Ozone concentrations were obtained from NYSDEC for the NYSDEC Queens College II monitoring station since that is the most representative ozone monitoring station for the years 2015-2019. An initial default NO₂ to NO_x ratio of 50 percent at the source exhaust stack was used for the turbines and boilers, and 20 percent⁷ for the PLM engines, which is considered representative for this source type. A review of the USEPA's NO₂/NO_x In-stack Ratio (ISR) Database (NO₂_ISR_database.xls and NO₂_ISR_alpha_database) determined that this value is more conservative than the average values of similar sized units.

Total 1-hour NO₂ concentrations were determined following methodologies that are accepted by the EPA, and which are considered appropriate and conservative for this analysis. The methodology used to determine the compliance of total 1-hour NO₂ concentrations from the emission sources with the 1-hour NO₂ NAAQS was based on adding the monitored background

⁵ EPA Memorandum, "Additional Clarification Regarding Application of Appendix W, Modeling Guidance for the 1-Hour NO₂ National Ambient Air Quality Standard," March 1, 2011.

⁶ Modeling Compliance of the Federal 1-Hour NO₂ NAAQS", CAPCOA Guidance Document, October 27, 2011, http://www.valleyair.org/busind/pto/Tox_Resources/CAPCOANO2GuidanceDocument10-27-11.pdf

⁷ San Joaquin Valley, Assessment of Non-Regulatory Options in AERMOD Specifically OLM and PVMRM, Appendix C—Recommended In-stack NO₂/NO_x Ratios, http://www.valleyair.org/busind/pto/Tox_Resources/AirQualityMonitoring.htm#modeling_guidance

to modeled concentrations, as follows: hourly modeled concentrations from emission sources were first added to the seasonal hourly background monitored concentrations from the nearest representative monitoring station provided by NYSDEC; then the highest combined daily 1-hour NO₂ concentration was determined at each receptor location and the 98th percentile daily 1-hour maximum concentration for each modeled year was calculated within the AERMOD model; finally the 98th percentile concentrations was averaged over the latest five years.

D. PREDICTED AIR QUALITY IMPACTS

An air dispersion modeling analysis was performed, to demonstrate compliance with 1-hour NO₂ NAAQS in support of the Title V renewal application. The results of the modeling analysis are presented in **Table 4**.

Table 4
Maximum Predicted 1-hour NO₂ Concentrations

Modeled Pollutant	Averaging Period	Maximum Impact (µg/m³)	Background Concentration (µg/m³)	Total Concentration (µg/m³)	NAAQS (µg/m³)
NO ₂	1-Hour	--	--	187.8 ⁽¹⁾	188
Notes					
⁽¹⁾ The 1-Hour NO ₂ concentration presented is the maximum of the total 98th percentile 1-Hour NO ₂ concentration predicted at any receptor using seasonal-hourly background concentrations and using the PVMRM module.					

The results shown in the table determined that the modeled 1-hour NO₂ concentrations from the facility, when added to ambient background levels, are not predicted to exceed the 1-hour NAAQS. Modifications have been proposed to the Title V air permit to limit the operating load for the PLM engines.

With the proposed modifications, there would be no significant adverse air quality impacts from the Rikers Island facility. *

Appendix A
New York City Waterfront Revitalization Program
Consistency Assessment Forms

NEW YORK STATE DEPARTMENT OF STATE
COASTAL MANAGEMENT PROGRAM

Coastal Assessment Form

A. INSTRUCTIONS (Please print or type all answers)

1. State agencies shall complete this CAF for proposed actions which are subject to Part 600 of Title 19 of the NYCRR. This assessment is intended to supplement other information used by a state agency in making a determination of significance pursuant to the State Environmental Quality Review Act (see 6 NYCRR, Part 617). If it is determined that a proposed action will not have a significant effect on the environment, this assessment is intended to assist a state agency in complying with the certification requirements of 19 NYCRR Section 600.4.
2. If any question in Section C on this form is answered "yes," then the proposed action may affect the achievement of the coastal policies contained in Article 42 of the Executive Law. Thus, the action should be analyzed in more detail and, if necessary, modified prior to either (a) making a certification of consistency pursuant to 19 NYCRR Part 600 or, (b) making the findings required under SEQR, 6 NYCRR, Section 617.11, if the action is one for which an environmental impact statement is being prepared. If an action cannot be certified as consistent with the coastal policies, it shall not be undertaken.
3. Before answering the questions in Section C, the preparer of this form should review the coastal policies contained in 19 NYCRR Section 600.5. A proposed action should be evaluated as to its significant beneficial and adverse effects upon the coastal area.

B. DESCRIPTION OF PROPOSED ACTION

1. Type of state agency action (check appropriate response):

- (a) Directly undertaken (e.g. capital construction, planning activity, agency regulation, land transaction)
- (b) Financial assistance (e.g. grant, loan, subsidy)
- (c) Permit, license, certification

2. Describe nature and extent of action:

The New York City Department of Corrections (NYCDOC), proposes to modify the Title V air permit for the Rikers Island cogeneration facility, to ensure that the facility has additional operating flexibility and operates in compliance with applicable regulations and permit conditions. NYCDOC operates equipment on Rikers Island to generate electricity for various uses on the island, as well as a plant to generate steam for heating, hot water and for other process uses such as the on-site laundry. A cogeneration plant consisting of two 7.5-megawatt natural gas-fired combustion turbines was installed at the Rikers Island central steam plant in 2014. Each combustion turbine is equipped with a heat recovery steam generator (HRSG) that can be operated with a supplemental natural gas-fired duct burner in tandem with the turbine to provide additional steam output. During periods of peak steam demand on Rikers Island, or when the cogeneration plant is undergoing maintenance, the existing dual-fired (natural gas and fuel oil) boilers are needed to supply steam. Under the existing New York State Department of Environmental Conservation (NYSDEC) Title V permit, the boilers cannot be operated as needed due to annual emission limits, especially during periods of peak demand or cogeneration plant maintenance conditions. For this reason, modifications to the Rikers Island facility's Title V air permit have been proposed to ensure that the facility has additional operating flexibility, and operates in compliance with the applicable regulations and permit conditions. These conditions include allowing the facility to operate the eight existing boilers as needed during periods of peak steam demand or when the cogeneration plant is undergoing maintenance.

Currently, the Title V permit has annual emission caps for nitrogen oxides (NO_x) and particulate matter less than 10 microns in diameter (PM₁₀) that limit boiler operations. The removal of these limitations on the boilers requires modifications to the Title V permit conditions. In addition, under the current Title V permit, certain internal combustion engines on Rikers Island that operate at the facility have the option of enrolling in a Peak Load Management (PLM) program. These engines are subject to a NO_x emissions cap of 22.5 tons/year outside use during

regular testing and maintenance, as specified in the current Title V permit.

In addition, new NOx emission limits will be established, which will require the cogeneration plant to meet a limit of 12 parts per million (ppm) when the combustion turbine is operating without additional natural gas-fired duct firing HRSGs. A NOx emission limit of 15 ppm is proposed when the combustion turbine is operating with duct firing HRSGs. The annual NOx emissions cap on the cogeneration plant is being revised to 52 tons per year (tpy).

The proposed Title V permit modification requires the approval of NYSDEC. No new equipment or physical modifications to the Rikers Island cogeneration plant, boilers, or engines are proposed.

3. Location of action:
- | | | |
|---------------------------|---|--|
| <u>New York</u>
County | <u>New York City</u>
City, Town or Village | <u>Rikers Island, New York, NY 11370</u>
Street or Site Description |
|---------------------------|---|--|
4. If an application for the proposed action has been filed with the state agency, the following information shall be provided:
- (a) Name of applicant: Alex Mahoney, Executive Director of Facilities, NYC Department of Correction
- (b) Mailing address: 17-25 Hazen Street, New York, NY 11370
- (c) Telephone Number: Area Code 718-546-1429
- (d) State agency application number: _____
5. Will the action be directly undertaken, require funding, or approval by a federal agency?
Yes _____ No X If yes, which federal agency? _____

C. COASTAL ASSESSMENT (Check either "YES" or "NO" for each of the following questions)

	<u>YES</u>	<u>NO</u>
1. Will the proposed activity be <u>located</u> in, or contiguous to, or have a <u>significant effect</u> upon any of the resource areas identified on the coastal area map:		
(a) Significant fish or wildlife habitats?	_____	_____ <u>X</u>
(b) Scenic resources of statewide significance?	_____	_____ <u>X</u>
(c) Important agricultural lands?	_____	_____ <u>X</u>
2. Will the proposed activity have a <u>significant effect</u> upon:		
(a) Commercial or recreational use of fish and wildlife resources?	_____	_____ <u>X</u>
(b) Scenic quality of the coastal environment?	_____	_____ <u>X</u>
(c) Development of future, or existing water dependent uses?	_____	_____ <u>X</u>
(d) Operation of the State's major ports?	_____	_____ <u>X</u>
(e) Land and water uses within the State's small harbors?	_____	_____ <u>X</u>
(f) Existing or potential public recreation opportunities?	_____	_____ <u>X</u>
(g) Structures, sites or districts of historic, archeological or cultural significance to the State or nation?	_____	_____ <u>X</u>
3. Will the proposed activity <u>involve</u> or <u>result in</u> any of the following:		
(a) Physical alteration of two (2) acres or more of land along the shoreline, land under water or coastal waters?	_____	_____ <u>X</u>
(b) Physical alteration of five (5) acres or more of land located elsewhere in the coastal area?	_____	_____ <u>X</u>
(c) Expansion of existing public services of infrastructure in undeveloped or low density areas of the coastal area?	_____	_____ <u>X</u>
(d) Energy facility not subject to Article VII or VIII of the Public Service Law?	_____	_____ <u>X</u>
(e) Mining, excavation, filling or dredging in coastal waters?	_____	_____ <u>X</u>
(f) Reduction of existing or potential public access to or along the shore?	_____	_____ <u>X</u>
(g) Sale or change in use of state-owned lands located on the shoreline or under water?	_____	_____ <u>X</u>
(h) Development within a designated flood or erosion hazard area?	_____	_____ <u>X</u>
(i) Development on a beach, dune, barrier island or other natural feature that provides protection against flooding or erosion?	_____	_____ <u>X</u>
4. Will the proposed action be <u>located</u> in or have a <u>significant effect</u> upon an area included in an approved Local Waterfront Revitalization Program?	_____ <u>X</u>	_____

D. SUBMISSION REQUIREMENTS

If any question in Section C is answered "Yes", AND either of the following two conditions is met:

Section B.1(a) or B.1(b) is checked; or
Section B.1(c) is checked AND B.5 is answered "Yes",

THEN one copy of the Completed Coastal Assessment Form shall be submitted to:

New York State Department of State
Office of Coastal, Local Government and Community Sustainability
One Commerce Plaza
99 Washington Avenue, Suite 1010
Albany, New York 12231-0001

If assistance of further information is needed to complete this form, please call the Department of State at (518) 474-6000.

E. REMARKS OR ADDITIONAL INFORMATION

Will the proposed action be located in or have a significant effect upon an area included in an approved Local Waterfront Revitalization Program?

The project site is located within the coastal zone designated by New York State and New York City, and therefore the proposed permit modification is subject to review for consistency with the policies of New York City's Waterfront Revitalization Program. The City's WRP Consistency Assessment Form has been prepared and is included in Appendix A.

Preparer's Name: **Alex Mahoney**
(Please print)

Title: **Executive Director of Facilities** Agency: **NYC Department of Correction**

Telephone Number: **718-546-1429** Date: **03/04/2021**

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: New York City Department of Correction

Name of Applicant Representative: Alex Mahoney, Executive Director of Facilities

Address: 17-25 Hazen Street, New York, NY 11370

Telephone: 718-546-1429 Email: Alex.Mahoney@doc.nyc.gov

Project site owner (if different than above): _____

B. PROPOSED ACTIVITY

If more space is needed, include as an attachment.

1. Brief description of activity

A modification to the Rikers Island cogeneration facility's Title V air permit is proposed to ensure that the facility, which generates steam for use on the island, has additional operating flexibility, and operates in compliance with the applicable regulations and permit conditions. These conditions include allowing the facility to operate the eight existing boilers as needed during periods of peak steam demand or when the cogeneration facility is undergoing maintenance. Currently, the Title V permit has annual emission caps for nitrogen oxides (NOx) and particulate matter less than 10 microns in diameter (PM10) that limit boiler operations. The removal of these limitations on the boilers requires modifications to the Title V permit conditions.

In addition, new NOx emission limits will be established, which will require the cogeneration facility to meet a limit of 12 parts per million (ppm) when the combustion turbine is operating without additional natural gas-fired duct firing heat recovery steam generators (HRSGs). A NOx emission limit of 15 ppm is proposed when the combustion turbine is operating with duct firing. The annual NOx emissions cap on the cogeneration unit is being revised to 52 tons per year (tpy). No new equipment or physical modifications to the Rikers Island cogeneration facility or boilers are proposed.

2. Purpose of activity

Under the existing NYSDEC Title V permit, the Rikers Island cogeneration facility's boilers cannot be operated as needed due to annual emission limits, especially during periods of peak demand or cogeneration plant maintenance conditions. For this reason, modifications to the facility's Title V air permit have been proposed to ensure that the facility has additional operating flexibility, and operates in compliance with the applicable regulations and permit conditions. These conditions include allowing the facility to operate the eight existing boilers as needed during periods of peak steam demand or when the cogeneration plant is undergoing maintenance.

C. PROJECT LOCATION

Borough: Bronx Tax Block/Lot(s): 2605 / 40

Street Address: 1600 Hazen Street

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

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

- Variance (use)
 - Variance (bulk)
 - 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 type="checkbox"/> Other, explain: _____ | |

State Actions/Approvals/Funding

- State permit or license, specify Agency: NYSDEC Permit type and number: Title V air permit modification
- Funding for Construction, specify: _____
- Funding of a Program, specify: _____
- Other, explain: _____

Federal Actions/Approvals/Funding

- Federal permit or license, specify Agency: _____ Permit type and number: _____
- Funding for Construction, specify: _____
- Funding of a Program, specify: _____
- 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"/>
I.1	Encourage commercial and residential redevelopment in appropriate Coastal Zone areas.	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
I.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"/>
I.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"/>
I.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"/>
I.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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 type="checkbox"/>	<input type="checkbox"/>	<input checked="" 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 checked="" type="checkbox"/>	<input type="checkbox"/>	<input 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: NYC Department of Correction, Alex Mahoney

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Applicant/Agent's Signature: 

Date: 3/18/20

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

B. Proposed Activity

1. Brief description of activity

The applicant, the New York City Department of Corrections (NYCDOC), proposes to modify the Title V air permit for the Rikers Island cogeneration facility, to ensure that the facility has additional operating flexibility and operates in compliance with applicable regulations and permit conditions.

NYCDOC operates equipment on Rikers Island to generate electricity for various uses on the island, as well as a plant to generate steam for heating, hot water and for other process uses such as the on-site laundry. A cogeneration plant consisting of two 7.5-megawatt natural gas-fired combustion turbines was installed at the Rikers Island central steam plant in 2014. Each combustion turbine is equipped with a heat recovery steam generator (HRSG) that can be operated with a supplemental natural gas-fired duct burner in tandem with the turbine to provide additional steam output. During periods of peak steam demand on Rikers Island, or when the cogeneration plant is undergoing maintenance, the existing dual-fired (natural gas and fuel oil) boilers are needed to supply steam. Under the existing New York State Department of Environmental Conservation (NYSDEC) Title V permit, the boilers cannot be operated as needed due to annual emission limits, especially during periods of peak demand or cogeneration plant maintenance conditions. For this reason, modifications to the Rikers Island facility's Title V air permit have been proposed to ensure that the facility has additional operating flexibility, and operates in compliance with the applicable regulations and permit conditions. These conditions include allowing the facility to operate the eight existing boilers as needed during periods of peak steam demand or when the cogeneration plant is undergoing maintenance.

Currently, the Title V permit has annual emission caps for nitrogen oxides (NO_x) and particulate matter less than 10 microns in diameter (PM₁₀) that limit boiler operations. The removal of these limitations on the boilers requires modifications to the Title V permit conditions. In addition, under the current Title V permit, certain internal combustion engines on Rikers Island that operate at the facility have the option of enrolling in a Peak Load Management (PLM) program. These engines are subject to a NO_x emissions cap of 22.5 tons/year outside use during regular testing and maintenance, as specified in the current Title V permit.

In addition, new NO_x emission limits will be established, which will require the cogeneration plant to meet a limit of 12 parts per million (ppm) when the combustion turbine is operating without additional natural gas-fired duct firing HRSGs. A NO_x emission limit of 15 ppm is proposed when the combustion turbine is operating with duct firing HRSGs. The annual NO_x emissions cap on the cogeneration plant is being revised to 52 tons per year (tpy).

The proposed Title V permit modification requires the approval of NYSDEC. No new equipment or physical modifications to the Rikers Island cogeneration plant, boilers, or engines are proposed.

CONSISTENCY OF THE PROPOSED PROJECT WITH WATERFRONT REVITALIZATION PROGRAM POLICIES

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 further below under Policy 6.2, the proposed permit modification would minimize the potential impacts of flooding and would be consistent with Policy 6.2; therefore the proposed permit modification would be consistent with Policy 2.5.

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.

The project site is not located within the 1% or 0.2% annual chance floodplains and is not at risk from coastal flooding under current conditions. Under Policy 6, the primary goal for projects in coastal areas is to reduce risks posed by current and future coastal hazards, particularly major storms that are likely to increase due to climate change and sea level rise. The proposed permit modification would not involve or require any new equipment or physical modifications to the Rikers Island cogeneration plant, boilers, or engines. The proposed permit modification would not result in changes to the site plan or surface elevation. Therefore, the proposed permit modification 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.

The project site is not located in the current 1% or 0.2% annual chance floodplains based the 2015 Preliminary Flood Insurance Rate Map (FIRM). The proposed permit modification would not involve or require any new equipment or physical modifications to the Rikers Island cogeneration plant, boilers, or engines. The proposed permit modification would not result in changes to the site plan or surface elevation. Therefore, the proposed permit modification would be consistent with Policy 6.2.