



**New York State Department of Environmental Conservation  
Permit Review Report**

**Permit ID: 2-6204-00059/00001**

**Renewal Number: 3**

**05/13/2019**

**Facility Identification Data**

Name: MOUNT SINAI HOSPITAL

Address: 1 GUSTAVE L LEVY PL|1450 MADISON AVE  
NEW YORK, NY 10029

**Owner/Firm**

Name: MOUNT SINAI MEDICAL CENTER

Address: 1 GUSTAVE L LEVY PL  
NEW YORK, NY 10029-6504, USA

Owner Classification: Corporation/Partnership

**Permit Contacts**

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**Permit Description**

**Introduction**

The Title V operating air permit is intended to be a document containing only enforceable terms and conditions as well as any additional information, such as the identification of emission units, emission points, emission sources and processes, that makes the terms meaningful. 40 CFR Part 70.7(a)(5) requires that each Title V permit have an accompanying "...statement that sets forth the legal and factual basis for the draft permit conditions". The purpose for this permit review report is to satisfy the above requirement by providing pertinent details regarding the permit/application data and permit conditions in a more easily understandable format. This report will also include background narrative and explanations of regulatory decisions made by the reviewer. It should be emphasized that this permit review report, while based on information contained in the permit, is a separate document and is not itself an enforceable term and condition of the permit.

**Summary Description of Proposed Project**

Application for renewal of Air Title V Facility.

The facility operates 6 boilers (Emission Unit U-B0001) and 16 emergency diesel generator engines of



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various capacity and age.

This project consists of the facility adding four (4) new Caterpillar CAT 3512C electric generators participating in the Coordinated Demand Response Program (CDRP) and each is limited to operating 200 hrs/yr, and removing four (4) Caterpillar D-399 1308 HP (976 KW) emergency generators (#1, 2, 3 & 4) out of the 16 emergency generators from the Annenberg Pavilion Building. Each of the four new Caterpillar CAT 3512C electric generator is rated at 2206 bhp-hr or 1500 electrical kilowatts (EKW) and is a 2018 model year with Tier II emission rates. These new generators will fire ultra-low sulfur diesel fuel oil (Process ENG). Considered emergency power generating units for emergency response incidents, the facility plans to enroll each engine in a Coordinated Demand Response Program (CDRP). Consequently, the new engines are not considered emergency power generating units per 6 NYCRR Part 201-3.2 (c) and NYCRR Part 200.1 (cq). The four new generators (Emission Sources: ENG01, ENG02, ENG03 & ENG04) are defined in new Emission Unit U-CDRP, each generator's emissions will exhaust through its own stack, identified as Emission Points: EPTG1, EPTG2, EPTG3 & EPTG4 after firing diesel fuel oil (Process ENG).

While the facility is committing to operate each new electric generator no more than 200 hours annually, the facility plans to register the four (4) new electric generators in the CDRP (Coordinated Demand Response Program). Therefore, the four (4) new engines are identified as an additional emission unit (U-CDRP) with four (4) emission sources identified as ENG01, ENG02, ENG03 & ENG04.

The four (4) new electrical generators will be installed on the roof of the Klingenstein Clinical Center (KCC) building inside an outdoor enclosure located at 1450 Madison Avenue, New York, NY 10029. The KCC building is about 100 feet above grade with nine floors above ground level. The generators will be capable of providing power to the contiguous building of the Mount Sinai Medical Center (MSMC). Each generator will have its own stack for emitting flue gases to the atmosphere. The height of each stack exit will be about 25 feet above the KCC building roof elevation, approximately 125 feet above grade level.

Initial construction for the engines is conceptually planned for September 1, 2018 with initial operation about July 31, 2019.

Each of the four (4) new Caterpillar 3512C electrical generators of the CDRP engine is classified as a compression ignition (CI) 4-stroke lean-burn stationary reciprocating internal combustion engine - CI 4S LB RICE and 2018 Model year. Each engine has 12 cylinders; and each cylinder is 4.317 liters. The cylinders are 6.7 inch bore X 7.5 inches stroke, and the displacement is less than 10 liters per cylinder.

Each engine is classified as Tier 2 emission ratings as follows:

CO - 2.6 grams per bhp-hr,  
NMHC + NO<sub>x</sub> 4.8 grams per bhp-hr, and  
PM - 0.15 grams per bhp-hr.

The two EPA NSPS regulations applicable to MSMC's new electric generator engines are 40 CFR 60 Subpart III and 40 CFR 63 Subpart ZZZZ. Subpart III, 60.4204 (non-emergency engines), stipulates a Tier 2 emission rate for 2007 model engines and later engines and later engines with displacement less than 30 liters per cylinder. The MSMC is subject to Subpart ZZZZ as an area source. According to 60.6590, the installation of the Caterpillar engines is new because the construction date is after June 12, 2006; and meets the requirements of Subpart ZZZZ by meeting the requirements of Subpart III.

Since a peak shaving/CDRP unit is not an emergency power generator unit, it is not an exempt source. NYSDEC regulation 6 NYCRR 227-2.4 (f), Control Requirements for Stationary internal combustion



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engines, stipulates the presumptive NO<sub>x</sub> RACT emission limit of 2.3 grams per brake horsepower-hour (bhp-hr), for engines with a maximum mechanical output rating equal to or greater than 200 bhp in a severe ozone non-attainment area or a rating equal to or greater than 400 bhp outside a severe ozone non-attainment area. NYS DEC regulation 6 NYCRR 227-2.3 (c) provides for a case-by-case RACT proposal NYS DEC Regulation 6 NYCRR 227-2.5 Compliance options, (c) allows demonstration that the presumptive RACT emission limit is not economically or technically feasible and a request for a higher specific limit may be submitted. The application includes alternate post combustion technology of selective catalytic reduction (SCR) for enhanced NO<sub>x</sub> emission reduction. Based upon this NO<sub>x</sub> RACT analysis, MSMC is not considering the installation of SCR control technology because the lowest cost-effectiveness is about \$25,000 per ton of NO<sub>x</sub> emission reduction, which exceeds the current threshold of \$8,500 per ton of NO<sub>x</sub> emission reduction.

These engines are subject to the NO<sub>x</sub> RACT, 6 NYCRR 227-2. The facility has submitted a NO<sub>x</sub> RACT analysis in accordance with Part 227-2.5 and a proposal for an alternative compliance option, with a NO<sub>x</sub> emission limit of 5.48 grams per bhp-hr instead of 2.3 grams per bhp-hr based upon unfavorable economics associated with the NO<sub>x</sub> emission reduction of SCR. This project is not applicable to New Source Review, 6 NYCRR 231-2 based upon limiting the operating hours of each engine to 200 hours annually.

Mount Sinai Hospital is proposing an alternative NO<sub>x</sub> RACT emission limit of 5.48 grams per brake horsepower-hr instead of the presumptive 2.3 grams per brake horsepower-hour (bhp-hr), for engines with a maximum mechanical output rating equal to or greater than 200 bhp in a severe ozone non-attainment area.

The Caterpillar Model 3512C Generator Set performance data, lists the NO<sub>x</sub> emission rate at 100% load, and nominal rated engine speed at 1800 rpm at 5.48 grams per bhp-hr. At 75% load, the NO<sub>x</sub> emission rate is stated at 3.68 grams per bhp-hr. The Caterpillar 3512C specification sheet states the engine's emissions are equivalent to US EPA's Tier 2 rates.

The permit renewal addresses the requirements of Subpart 231-6 with the inclusion of a "netting analysis: required by 6 NYCRR 231-6.2. The Part 231 analysis is included as part of the application. The Part 231 analysis for the air contaminant of concern is NO<sub>x</sub>. The NEI (based on PTE calculations) is 10.65 tons per year, which is less than the SNEIT of 25 tons per year. Therefore, New Source Review is not applicable (Work sheet WS-3B). LAER and emission off-sets are not required. The PEP/NEI NO<sub>x</sub> emission rate for the four electric generators is achieved based on the manufacturer's stipulated NO<sub>x</sub> emission rate of 5.48 grams of NO<sub>x</sub> per bhp-hr by limiting the annual hours of operation for each engine to 200.

MSMC currently operates its six (6) boilers under Renewal #2 Title V facility air permit that is due to expire on 5/12/2019. The permit identifies two emission units, U-B0001 and U-C0001. Emission Unit U-B0001 consists of six (6) Victory Energy Voyager Series boilers. These are newly constructed boilers replacing the old five (5) boilers in Emission Unit U-C0001, four of which were Combustion Engineering boilers. In September, 2014, the facility notified NYSDEC concerning the installation of another emergency generator (755 Hp). The facility currently operates sixteen (16) emergency generators. The emergency generators are exempt combustion sources from permitting according to 6 NYCRR 201-3.2 (c) (6), which defines an exempt activity as "emergency power generation stationary internal combustion engines as defined in 6 NYCRR 200.1 (cq): Emergency power generating stationary internal combustion engine is a stationary internal combustion engines that operates only when the supply of power is unavailable and operates no more than 500 hours per year. The 500 hours of annual operation for the engine include operation during emergency situations, routine maintenance, and routine exercising (for example, test firing the engine for one hour weakly to ensure reliability). A stationary internal combustion engine use for peak shaving generation or in a coordinated demand response program (CDRP is not an



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emergency power unit).

**Attainment Status**

MOUNT SINAI HOSPITAL is located in the town of MANHATTAN in the county of NEW YORK. The attainment status for this location is provided below. (Areas classified as attainment are those that meet all ambient air quality standards for a designated criteria air pollutant.)

Criteria Pollutant	Attainment Status
Particulate Matter (PM)	ATTAINMENT
Particulate Matter < 10µ in diameter (PM10)	MODERATE NON-ATTAINMENT
Sulfur Dioxide (SO2)	ATTAINMENT
Ozone*	SEVERE NON-ATTAINMENT
Oxides of Nitrogen (NOx)**	ATTAINMENT
Carbon Monoxide (CO)	ATTAINMENT

\* Ozone is regulated in terms of the emissions of volatile organic compounds (VOC) and/or oxides of nitrogen (NOx) which are ozone precursors.

\*\* NOx has a separate ambient air quality standard in addition to being an ozone precursor.

**Facility Description:**

Mount Sinai Hospital, located at 1 Gustave Levy Place in New York, New York, is a complete research and teaching hospital and consists of the Mount Sinai Hospital and Mount Sinai School of Medicine. The Industrial Classification Code (SIC) for this facility is 8062 - Medical facility. The facility operates six (6) Victory Energy steam boilers (Emission Sources BLR01, BLR02, BLR03, BLR04, BLR05 & BLR06) in Emission Unit U-B0001. All six boilers are capable of firing natural gas (Processes G41 for boilers 1, 2, 3 and 4 & G65 for boilers 5 and 6) as the primary fuel or #2 fuel oil (Process O41 for boilers B1, B2, B3 and B4 & Process O65 for boilers B5 and B6) as backup fuel. Four of the boilers, identified as Emission Sources BLR01, BLR02, BLR03 & BLR04) in Emission Unit U-B0001, are each rated at 60 MM Btu of heat input per hour and 50,000 lbs of steam per hour. The other two boilers, identified as Emission Sources BLR05 & BLR06, are each rated at 95 MM Btu heat input per hour and 80,000 lbs of steam per hour. All six (6) Victory Energy boilers will be complete with low NOx burners (LNB) and flue gas recirculation (FGR) for NOx emission reduction. These six boilers comply with NOx RACT Part 227-2.6 (a) (3) (i) and Part 227-2.6 (a) (3) (c) with a NOx RACT limit of 0.08 pounds per million Btu per hour for boilers operating on distillate oil/natural gas. All of the old boilers in Emission Unit U-C0001 have been removed.

All six boilers and their common stack (Emission point B0001) are located in the Annenberg Building. The stack has a continuous opacity monitor (COMS).

The installation of the new/refurbished boilers, BLR01, BLR02, BLR03, BLR04, BLR05 & BLR06, with LNB and FGR is associated with a manufacturer's guarantee of maximum NOx emission rate for compliance with 6 NYCRR Part 227-2 NOx RACT regulation for "Mid-size" boilers firing either distillate oil or natural gas on or after July 1, 2014 of 0.08 lbs NOx per million Btu heat input. A "mid-size" boiler is defined as a boiler with a maximum heat input capacity greater than 25 million Btu per hour and equal to



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or less than 100 million Btu per hour. These six boilers comply with NO<sub>x</sub> RACT Part 227-2.6 (a) (3) (i) and Part 227-2.6 (a) (3) (c).

The 6 boilers are subject to 6 NYCRR 227-2.4 (c) (1) (ii), Reasonably Available Control Technology (RACT), for oxides of nitrogen for mid-size boilers. The 6 new boilers will comply with NO<sub>x</sub> RACT emission limit of 0.08 lb NO<sub>x</sub> per million Btu heat input per hour when firing either natural gas (Process G41 for boilers B1, B2, B3 and B4 & Process G65 for boilers B5 and B6) or distillate #2 fuel oil (Process O41 for boilers B1, B2, B3 and B4 & Process O65 for boilers B5 and B6).

Each of the new boilers (Emission Sources BLR01, BLR02, BLR03, BLR04, BLR05 & BLR06) is equipped with a low NO<sub>x</sub> burner (LNB) and flue gas recirculation (FGR) and the secondary fuel is distillate #2 fuel oil. These features support the manufacturer's NO<sub>x</sub> emission rate guarantee of 0.08 lbs NO<sub>x</sub> per million Btu heat input.

The maximum annual natural gas fuel consumption of each of Boilers B2, B2, B3 & B4 is 500.5 million cubic feet based on the assumption of 1,050 Btu per cubic foot. The other two boilers (refurbished) of Emission Unit U-B0001, designated as Emission Sources BLR05 & BLR06, are refurbished Victory Energy Voyager Series boilers, each rated at 95 MM Btu of heat input per hour to generate 80,000 lbs of steam per hour at 125 psig. The maximum annual natural gas fuel consumption of each of these two boilers, Boilers B5 & B6) is 792.57 million cubic feet (1,050 Btu per cubic foot). The Mount Sinai Medical Center power plant is based upon a hospital industry "N + 1" boiler design, which demands a spare boiler to be installed. The steam generation system can not handle the maximum rated steam capacity from six boilers. It can handle the maximum rated capacity from five boilers. Consequently, the facility's PTE rates are calculated based upon the operation of five of the six boilers, the sixteen emergency generators at the site, and the four new Caterpillar generators.

The facility is subject to the provisions for fuel sulfur content limitations per 6 NYCRR 225-1.2. The current Title V permit describes these limits for the sulfur dioxide contaminant - sulfur content of distillate #2 fuel oil utilized throughout the facility is 0.0015% by weight. The Emission Point B0001 is subject to the particulate and smoke emission and corrective action requirements of 6 NYCRR 227, Stationary Combustion Installations, 6 NYCRR 227.2(b)(1), 0.10 lbs/MM BTU as a two-hour average.

The facility is removing 4 emergency generators (#1, 2, 3 & 4) out of the 16 emergency generators. The facility campus will have twelve (12) diesel generators, which are used as an emergency backup power source and can fire distillate fuel oil (#2 fuel oil). Each emergency generator is exempt from permitting requirements as an emission source provided restrictive operation is maintained. The restrictive operation of each designated emergency generator is less than 500 hours annually and that each generator is not associated with a Coordinated Demand Response Program (CDRP). The facility keeps records to demonstrate that each emergency generator operates less than 500 hours annually. Each engine burns diesel fuel (distillate fuel oil), which must not contain more than 0.0015% by weight sulfur according to 6 NYCRR 225-1.2 (h). The facility campus contains nine (9) distillate fuel oil storage tanks with storage capacities ranging between 800 and 50,000 gallons (<300,000 barrels), and three hundred and three (303) laboratory fume hoods.

Internal combustion engines, constructed or re-constructed on or after June 12, 2006, are required to meet the requirements of 40 CFR 60 Subpart IIII or subpart JJJJ in addition to meeting the requirements of 40 CFR 63 subpart ZZZZ. Facilities that have stationary compression ignition internal combustion engines must comply with applicable portions of 40 CFR 60 Subpart IIII. Facilities that have a reciprocating internal combustion engines must comply with applicable portions of 40 CFR 63 subpart ZZZZ. The eleven (11) emergency generators at this facility are subject to the 40 CFR Part 60, Subpart IIII and 40 CFR Part 63, Subpart ZZZZ.



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The facility campus has one fuel tank, Tank #006 (Emission Source TK006), which is a 20,000 gallons distillate fuel oil storage tank, for which the facility is required to have available the tank dimensions and an analysis showing the capacity of the tank to comply with New Source Performance Standards (NSPS) of 40 CFR Part 60, Subpart Kb. The rest of the eight (8) tanks at the facility were constructed before the applicability dates of Subpart K, Ka, and Kb or are smaller in capacity than the applicability capacity (volume).

Regulatory Applicability of New Source Review in a Non-Attainment area to the Mount Sinai Hospital:

The facility is adding 4 new Caterpillar CAT 3512C electric generators (Emission Sources: ENG01, ENG02, ENG03 & ENG04) participating in the CDRP and each is limited to operating 200 hrs/yr, and removing 4 Caterpillar D399 emergency generators (#1, 2, 3 & 4) out of the 16 emergency generators in the Annenberg Pavillion Building. Each of the 4 new Caterpillar CAT 3512C is 2206 brp-hr or 1500 electrical kilowatts (EKW) and will fire diesel fuel oil (Process ENG) in Emission Unit U-CDRP. Each of the 4 new Caterpillar CAT 3512C electric generators will have its own stack, Emission Points EPT1, EPT2, EPT3 & EPT4; respectively.

The project is to start construction as soon as this permit is issued (about 12/15/2018) and start operation on 1/15/2019. The contemporaneous period is defined from 1/15/2015 to 1/15/2019. For the last 5 years, the facility has been installing new boilers with low NOx burners, flue gas recirculation, and conversion from #6 fuel oil to #2 fuel oil as part of its NOx RACT program, which reduced the facility's NOx emissions compared with the operation of the old boilers. The NEI is the sum of the PEP Project Emission Potential) and contemporaneous period sum of NOx emission increases and decreases.

**Permit Structure and Description of Operations**

The Title V permit for MOUNT SINAI HOSPITAL

is structured in terms of the following hierarchy: facility, emission unit, emission point, emission source and process. A facility is defined as all emission sources located at one or more adjacent or contiguous properties owned or operated by the same person or persons under common control. The facility is subdivided into one or more emission units (EU). Emission units are defined as any part or activity of a stationary facility that emits or has the potential to emit any federal or state regulated air pollutant. An emission unit is represented as a grouping of processes (defined as any activity involving one or more emission sources (ES) that emits or has the potential to emit any federal or state regulated air pollutant). An emission source is defined as any apparatus, contrivance or machine capable of causing emissions of any air contaminant to the outdoor atmosphere, including any appurtenant exhaust system or air cleaning device. [NOTE: Indirect sources of air contamination as defined in 6 NYCRR Part 203 (i.e. parking lots) are excluded from this definition]. The applicant is required to identify the principal piece of equipment (i.e., emission source) that directly results in or controls the emission of federal or state regulated air pollutants from an activity (i.e., process). Emission sources are categorized by the following types:

- combustion - devices which burn fuel to generate heat, steam or power
- incinerator - devices which burn waste material for disposal
- control - emission control devices
- process - any device or contrivance which may emit air contaminants that is not included in the above categories.

MOUNT SINAI HOSPITAL is defined by the following emission unit(s):

Emission unit UB0001 - Emission Unit U-B0001 consists of a total of six (6) Victory Energy Voyager Series boilers, four are identical boilers (Emission Sources BLR01, BLR02, BLR03 & BLR04) and the other two are identical boilers (Emission Sources BLR05 & BLR06). All six boilers have corresponding



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Low NOx Burners (LNB), Flue Gas Recirculation (FGR) Emission Controls - BRLC1, BLRC2, BLRC3 BLRC4, BLRC5 & BLRC6; respectively to meet the new lower NOx emission limit of 0.08 lb NOx per million BTU heat input for "midsize" boilers firing distillate oil or natural gas on or after July 1, 2014 under the NOx RACT 6 NYCRR 227-2. The first four boilers (Emission Sources BLR01, BLR02, BLR03 & BLR04) are identical and are replacement boilers with a nominal rated heat input capacity of 60 MM Btu/hr and 50,000 pounds/hr of steam each. The other two boilers (Emission Sources BLR05 & BLR06) are identical boilers, with a nominal rated heat input capacity of 95 MM Btu/hr and 80,000 pounds/hr of steam each, that are being refurbished. The old six boilers (Emission Unit U-C0001) are being replaced or refurbished with six boilers (Emission Unit U-B0001) that comply with the new lower emission rates under the NOx RACT 6 NYCRR 227-2. Boilers #1, 2, 3 and #4 will burn natural gas (Process G41) as the primary fuel, and #2 fuel oil (Process O41) as the back-up fuel. Also, Boiler #5 & #6 will burn natural gas (Process G65) as the primary fuel, and #2 fuel oil (Process O65) as the back-up fuel. Emissions from all of the six boilers are exhausted through one common stack, which is identified as Emission Point B0001, with a top elevation at the existing level as recent plume modeling indicated a 30 feet higher elevation is not necessary.

The installation of the new replacement Victory Energy Voyager Series boilers, Boilers #1, #2, #3 & #4 maintains the nominal capacity of each of these four boilers at 60.3 million Btu of heat input per hour when firing natural gas and 57.6 million Btus of heat input when firing distillate fuel oil. Each of these four boilers is designed for a maximum saturated steam flow rate of 50,000 pounds per hour at 125 psig. The modification of Boilers #5 and #6 maintains the nominal capacity of each existing boiler at 95 million Btus of heat input per hour and the maximum saturated steam flow rate of 80,000 pounds per hour at 125 psig.

During the term of the renewed permit, the facility will operate only the boilers in Emission Unit U-B0001. All of the old boilers comprising Emission Unit U-C0001 of the Title V renewal #2 have been removed from the site. The sixth and the last new Victory energy boiler with Low NOx Burners, Flue Gas Recirculation Emission Controls - BRLC1, BLRC2, BLRC3, BLRC4 & BLRC5 - Boiler #2 (Emission Source BLR02) rated at 60 MM Btu/hr heat input will be placed into operation in early 2019. All the other five boilers, Emission Sources BLR01, BLR03 & BLR04 (each rated at 60 MM Btu/hr heat input (50,000 lbs steam per hour); and Emission Sources BLR05 & BLR06 (each rated at 95 MM Btu/hr heat input (80,000 lbs steam per hour) with their corresponding Low NOx Burners, Flue Gas Recirculation Emission Controls as BLRC5 & BLRC6 are in operation.

After modification of Boilers #5 & #6, and the installation of the new replacement boilers, Boilers #1, #2, #3 & #4, the primary and secondary fuels will be natural gas and distillate fuel oil; respectively. The boiler plant design concept is the typical "N+1" for hospital facilities. The facility demand is met by Boilers #5 & #6 and three of the four boilers #1 - #4. The maximum total steam output from five of the six installed boilers is 310,000 lbs per hour and the corresponding maximum heat input is 370 MM Btu/hr.

Emission unit UB0001 is associated with the following emission points (EP):  
B0001

Process: G41 is located at Building ANNENBERG - Process G41 is the firing of natural gas in the operation of the four new identical boilers, Boilers # 1, #2, #3 & # 4 (Emission Sources BLR01, BLR02, BLR03 & BLR04) with their corresponding Low NOx Burners, Flue Gas Recirculation Emission Controls - BRLC1, BLRC2, BLRC3 & BLRC4; respectively, in Emission Unit U-B0001. Emission Sources BLR01, BLR02, BLR03 & BLR04 are four identical Victory Energy Voyager Series VS4-48 boilers with a nominal rated capacity of 60 MM Btu/hr heat input and 50,000 pounds per hour of steam output each. The maximum total heat input from these four boilers is 240 MM BTU/hr.

All of the four boilers supply both hot water and steam for the space heating and the air conditioning of the



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building. Emissions from all of the four boilers are exhausted through one common stack which is identified as Emission Point B0001.

Maximum natural gas consumption is 2,002 million cubic feet of per year for Boiler #1, Boiler #2, Boiler #3 & Boiler #4.

The installation of the Victory Energy Voyager boilers, Boilers #1, #2, #3 & #4 maintains the nominal capacity of each of these boilers at 60.3 million Btus of heat input per hour when firing natural gas and 57.6 million Btus of heat input when firing distillate fuel oil.

Process: G65 is located at Basement, Building ANNENBERG - Process G65 is the firing of natural gas in the operation of the two identical boilers, Boilers # 5 & # 6 (Emission Sources BLR05 & BLR06) with their corresponding Low NOX Burners, Flue Gas Recirculation Emission Controls - BLRC5 & BLRC6; respectively, in Emission Unit U-B0001. Emission Sources BLR05 & BLR06 are two identical Energy Voyager Series VS4-48 boilers with a nominal rated capacity of 95 MM Btu/hr heat input and 80,000 pounds per hour of steam output each at 125 psig. The maximum total heat input from these two boilers is 190 MM BTU/hr.

These two boilers supply both hot water and steam for the space heating and the air conditioning of the building. Emissions from these two boilers are exhausted through one common stack which is identified as Emission Point B0001.

Maximum natural gas consumption is 1,585 million cubic feet of gas per year for Boiler #5 & Boiler #6.

Boiler #6 (Emission Source B0006) has been already refurbished in 2012 and is now identified as Emission Source BLR06 with its corresponding Low NOX Burners, Flue Gas Recirculation Emission Controls - BLRC6 in Emission Unit U-B0001 as 95 MM Btu/hr Victory Energy Voyager-VS4-48 boiler.

Process: O41 is located at Basement, Building ANNENBERG - Process O41 is the firing of #2 fuel oil (distillate oil) in the operation of the four identical boilers, Boilers # 1, #2, #3 & #4 (Emission Sources BLR01, BLR02, BLR03 & BLR04) with their corresponding Low NOX Burners, Flue Gas Recirculation Emission Controls - BLRC1, BLRC2, BLRC3 & BLRC4; respectively, in Emission Unit U-B0001. Emission Sources BLR01, BLR02, BLR03 & BLR04 are four identical Victory Energy Voyager Series VS4-48 boilers with a nominal rated capacity of 60 MM Btu/hr heat input and 50,000 pounds per hour of steam output each. The maximum total heat input from these four boilers is 240 MM BTU/hr. Distillate fuel oil has heat capacity of 140,000 Btu/gal.

$$\{(240 \text{ MM BTU/hr}) \times (8,760 \text{ hrs/yr})\} \times 1/(140,000 \text{ Btu/gal}) = 15.017 \text{ MM gal/yr}$$

Maximum #2 fuel oil (distillate oil) consumption is 15.017 million gallons per year for Boiler #1, Boiler #2, Boiler #3 & Boiler #4.

All of the four boilers supply both hot water and steam for the space heating and the air conditioning of the building. Emissions from all of the four boilers are exhausted through one common stack which is identified as Emission Point B0001.

The installation of the Victory Energy boilers, Boilers #1, #2, #3 & #4 maintains the nominal capacity of each of these boilers at 60.3 million Btus of heat input per hour when firing natural gas and 57.6 million Btus of heat input when firing distillate fuel oil.

Process: O65 is located at Basement, Building ANNENBERG - Process O65 is the firing of #2 fuel oil





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(distillate oil) in the operation of the two identical boilers, Boilers # 5 & # 6 (Emission Sources BLR05 & BLR06) with their corresponding Low NOX Burners, Flue Gas Recirculation Emission Controls - BLRC5 & BLRC6; respectively in Emission Unit U-B0001. Emission Sources BLR05 & BLR06 are two identical Victory Energy Voyager Series VS4-48 boilers with a nominal rated capacity of 95 MM Btu/hr heat input and 80,000 pounds per hour of steam output each at 125 psig. The maximum total heat input from these two boilers is 190 MM BTU/hr. Distillate fuel oil has heat capacity of 140,000 Btu/gal.

$$\{(190 \text{ MM BTU/hr}) \times (8,760 \text{ hrs/yr})\} \times 1/(140,000 \text{ Btu/gal}) = 11.889 \text{ MM gal/yr}$$

Maximum #2 fuel oil consumption is 11.89 million gallons per year for Boilers #5 & Boiler #6.

These two boilers supply both hot water and steam for the space heating and the air conditioning of the building. Emissions from these two boilers are exhausted through one common stack which is identified as Emission Point B0001.

Boiler #6 (Emission Source B0006) has been already refurbished in 2013 and is now identified as Emission Source BLR06 with its corresponding Low NOX Burners, Flue Gas Recirculation Emission Controls - BLRC6 in Emission Unit U-B0001 as 95 MM Btu/hr Victory Energy Voyager-VS4-48 boiler.

Emission unit U-CDRP - Emission Unit U-CDRP consists of four 2206 bhp-hr or 1500 Kilowatts new electric generators that will be installed inside an outdoor enclosure on the roof of the Klingenstein Clinical Center (KCC) building located at 1450 Madison Avenue, New York, NY 10029. Each generator is a Caterpillar Model 3512C engine rated at 2206 brake horsepower (bhp-hr) and 1500 electrical kilowatts (EKW), and will fire distillate (diesel) fuel oil at 100 % load.

The generators will provide emergency power to the MSMC complex and be integrated into a Coordinated Demand Response Program (CDRP). The KCC building roof elevation is about 100 feet above grade level and each generator will have its own stack (Emission Points EPTG1, EPTG2, EPTG3 and EPTG4) with the exit about 25 feet above the roof level, about 125 feet above the ground level. Each engine will be restricted to operate only 200 hours per year. The four engines are identified as Emission Sources ENG01, ENG02, ENG03 and ENG04, and each generator will have its own stack, Emission Points (EPTG1, EPTG2, EPTG3 and EPTG4); respectively in Emission Unit U-CDRP. The calculated PTE rate is the total for the four engines.

EPTG1, EPTG2, EPTG3, EPTG4

Process: ENG is located at Roof, Building KCC - Process ENG is the firing of distillate (diesel) fuel



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oil at 100 % load in each of the four 2206 bhp-hr or 1500 Kilowatts electric rating Caterpillar CAT 3512C engines (Emission Sources ENG01, ENG02, ENG03 & ENG04) in Emission Unit U-CDRP. The total throughput rates are for the combined four engines. The quantity per year is based on each engine operating 200 hours annually at full (100%) load.

Each generator will have its own stack (Emission Points EPTG1, EPTG2, EPTG3 and EPTG4). The emissions of the four 2206 bhp-hr or 1500 Kilowatts electric rating Caterpillar CAT 3512C engines (Emission Sources ENG01, ENG02, ENG03 & ENG04) are exhausted through Emission Points EPTG1, EPTG2, EPTG3 and EPTG4; respectively.

**Title V/Major Source Status**

MOUNT SINAI HOSPITAL is subject to Title V requirements. This determination is based on the following information:

Mount Sinai Hospital is a major facility because the potential emissions of nitrogen oxides is greater than the major source thresholds, which is 25 tons per year for nitrogen oxides. All facilities utilizing this Title V Permit shall be considered major sources.

**Program Applicability**

The following chart summarizes the applicability of MOUNT SINAI HOSPITAL with regards to the principal air pollution regulatory programs:

Regulatory Program	Applicability
PSD	NO
NSR (non-attainment)	NO
NESHAP (40 CFR Part 61)	NO
NESHAP (MACT - 40 CFR Part 63)	YES
NSPS	YES
TITLE IV	NO
TITLE V	YES
TITLE VI	NO
RACT	YES
SIP	YES

**NOTES:**

PSD Prevention of Significant Deterioration (40 CFR 52, 6 NYCRR 231-7, 231-8) - requirements which pertain to major stationary sources located in areas which are in attainment of National Ambient Air Quality Standards (NAAQS) for specified pollutants.

NSR New Source Review (6 NYCRR 231-5, 231-6) - requirements which pertain to



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major stationary sources located in areas which are in non-attainment of National Ambient Air Quality Standards (NAAQS) for specified pollutants.

**NESHAP** National Emission Standards for Hazardous Air Pollutants (40 CFR 61, 6 NYCRR 200.10) - contaminant and source specific emission standards established prior to the Clean Air Act Amendments of 1990 (CAAA) which were developed for 9 air contaminants (inorganic arsenic, radon, benzene, vinyl chloride, asbestos, mercury, beryllium, radionuclides, and volatile HAP's).

**MACT** Maximum Achievable Control Technology (40 CFR 63, 6 NYCRR 200.10) - contaminant and source specific emission standards established by the 1990 CAAA. Under Section 112 of the CAAA, the US EPA is required to develop and promulgate emissions standards for new and existing sources. The standards are to be based on the best demonstrated control technology and practices in the regulated industry, otherwise known as MACT. The corresponding regulations apply to specific source types and contaminants.

**NSPS** New Source Performance Standards (40 CFR 60, 6 NYCRR 200.10) - standards of performance for specific stationary source categories developed by the US EPA under Section 111 of the CAAA. The standards apply only to those stationary sources which have been constructed or modified after the regulations have been proposed by publication in the Federal Register and only to the specific contaminant(s) listed in the regulation.

**Title IV Acid Rain Control Program** (40 CFR 72 thru 78, 6 NYCRR 201-6) - regulations which mandate the implementation of the acid rain control program for large stationary combustion facilities.

**Title VI Stratospheric Ozone Protection** (40 CFR 82, Subpart A thru G, 6 NYCRR 200.10) - federal requirements that apply to sources which use a minimum quantity of CFC's (chlorofluorocarbons), HCFC's (hydrofluorocarbons) or other ozone depleting substances or regulated substitute substances in equipment such as air conditioners, refrigeration equipment or motor vehicle air conditioners or appliances.

**RACT** Reasonably Available Control Technology (6 NYCRR Parts 212-3, 220-1.6, 220-1.7, 220-2.3, 220-2.4, 226, 227-2, 228, 229, 230, 233, 234, 235, 236) - the lowest emission limit that a specific source is capable of meeting by application of control technology that is reasonably available, considering technological and economic feasibility. RACT is a control strategy used to limit emissions of VOC's and NOx for the purpose of attaining the air quality standard for ozone. The term as it is used in the above table refers to those state air pollution control regulations which specifically regulate VOC and NOx emissions.

**SIP** State Implementation Plan (40 CFR 52, Subpart HH, 6 NYCRR 200.10) - as per the CAAA, all states are empowered and required to devise the specific combination of controls that, when implemented, will bring about attainment of ambient air quality standards established by the federal government and the individual state. This specific combination of measures is referred to as the SIP. The term here refers to those state regulations that are approved to be included in the SIP and thus are considered federally enforceable.

**Compliance Status**

Facility is in compliance with all requirements.

**SIC Codes**

SIC or Standard Industrial Classification code is an industrial code developed by the federal Office of Management and Budget for use, among other things, in the classification of establishments by the type of



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activity in which they are engaged. Each operating establishment is assigned an industry code on the basis of its primary activity, which is determined by its principal product or group of products produced or distributed, or services rendered. Larger facilities typically have more than one SIC code.

SIC Code	Description
8062	GENERAL MEDICAL & SURGICAL HOSPITALS

**SCC Codes**

SCC or Source Classification Code is a code developed and used" by the USEPA to categorize processes which result in air emissions for the purpose of assessing emission factor information. Each SCC represents a unique process or function within a source category logically associated with a point of air pollution emissions. Any operation that causes air pollution can be represented by one or more SCC's.

SCC Code	Description
1-02-004-02	EXTERNAL COMBUSTION BOILERS - INDUSTRIAL INDUSTRIAL BOILER - RESIDUAL OIL 10-100MMBTU/HR **
1-02-005-02	EXTERNAL COMBUSTION BOILERS - INDUSTRIAL INDUSTRIAL BOILER - DISTILLATE OIL 10-100MMBTU/HR **
1-02-006-02	EXTERNAL COMBUSTION BOILERS - INDUSTRIAL INDUSTRIAL BOILER - NATURAL GAS 10-100 MMBtu/Hr
2-02-001-02	INTERNAL COMBUSTION ENGINES - INDUSTRIAL INDUSTRIAL INTERNAL COMBUSTION ENGINE - DISTILLATE OIL(DIESEL) Reciprocating

**Facility Emissions Summary**

In the following table, the CAS No. or Chemical Abstract Service code is an identifier assigned to every chemical compound. [NOTE: Certain CAS No.'s contain a 'NY' designation within them. These are not true CAS No.'s but rather an identification which has been developed by the department to identify groups of contaminants which ordinary CAS No.'s do not do. As an example, volatile organic compounds or VOC's are identified collectively by the NY CAS No. 0NY998-00-0.] The PTE refers to the Potential to Emit. This is defined as the maximum capacity of a facility or air contaminant source to emit any air contaminant under its physical and operational design. Any physical or operational limitation on the capacity of the facility or air contamination source to emit any air contaminant, including air pollution control equipment and/or restrictions on the hours of operation, or on the type or amount or material combusted, stored, or processed, shall be treated as part of the design only if the limitation is contained in federally enforceable permit conditions. The PTE for each contaminant that is displayed represents the facility-wide PTE in tons per year (tpy) or pounds per year (lbs/yr). In some instances the PTE represents a federally enforceable emissions cap or limitation for that contaminant. The term 'HAP' refers to any of the hazardous air pollutants listed in section 112(b) of the Clean Air Act Amendments of 1990. Total emissions of all hazardous air pollutants are listed under the special NY CAS No. 0NY100-00-0. In addition, each individual hazardous air pollutant is also listed under its own specific CAS No. and is identified in the list below by the (HAP) designation.

Cas No.	Contaminant	PTE lbs/yr	PTE tons/yr	Actual lbs/yr	Actual tons/yr
0NY508-00-0	40 CFR 60 SUBPART IIII - NMHC + NOX	106660		21760	



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0NY750-00-0	CARBON DIOXIDE EQUIVALENTS	733658000	294100429
000630-08-0	CARBON MONOXIDE	334700	134173
007439-92-1	LEAD	1.5	0.6
0NY210-00-0	OXIDES OF NITROGEN	384301	98957
0NY075-00-0	PARTICULATES	83225	33362
0NY075-02-5	PM 2.5	77380	31021
0NY075-00-5	PM-10	83220	33362
007446-09-5	SULFUR DIOXIDE	6780	2715
0NY100-00-0	TOTAL HAP	6400	2568
0NY998-00-0	VOC	16112	6459

**NOTIFICATION OF GENERAL PERMITTEE OBLIGATIONS**

**Item A: Public Access to Recordkeeping for Title V Facilities - 6 NYCRR 201-1.10(b)**

The Department will make available to the public any permit application, compliance plan, permit, and monitoring and compliance certification report pursuant to Section 503(e) of the Act, except for information entitled to confidential treatment pursuant to 6 NYCRR Part 616 - Public Access to records and Section 114(c) of the Act.

**Item B: Timely Application for the Renewal of Title V Permits -6 NYCRR Part 201-6.2(a)(4)**

Owners and/or operators of facilities having an issued Title V permit shall submit a complete application at least 180 days, but not more than eighteen months, prior to the date of permit expiration for permit renewal purposes.

**Item C: Certification by a Responsible Official - 6 NYCRR Part 201-6.2(d)(12)**

Any application, form, report or compliance certification required to be submitted pursuant to the federally enforceable portions of this permit shall contain a certification of truth, accuracy and completeness by a responsible official. This certification shall state that based on information and belief formed after reasonable inquiry, the statements and information in the document are true, accurate, and complete.

**Item D: Requirement to Comply With All Conditions - 6 NYCRR Part 201-6.4(a)(2)**

The permittee must comply with all conditions of the Title V facility permit. Any permit non-compliance constitutes a violation of the Act and is grounds for enforcement action; for permit termination, revocation and reissuance, or modification; or for denial of a permit renewal application.

**Item E: Permit Revocation, Modification, Reopening, Reissuance or Termination, and Associated Information Submission Requirements - 6 NYCRR Part 201-6.4(a)(3)**

This permit may be modified, revoked, reopened and reissued, or terminated for cause. The filing of a request by the permittee for a permit modification, revocation and reissuance, or termination, or of a notification of planned changes or anticipated noncompliance does not stay any permit condition.



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**Item F: Cessation or Reduction of Permitted Activity Not a Defense - 6 NYCRR 201-6.4(a)(5)**

It shall not be a defense for a permittee in an enforcement action to claim that a cessation or reduction in the permitted activity would have been necessary in order to maintain compliance with the conditions of this permit.

**Item G: Property Rights - 6 NYCRR 201-6.4(a)(6)**

This permit does not convey any property rights of any sort or any exclusive privilege.

**Item H: Severability - 6 NYCRR Part 201-6.4(a)(9)**

If any provisions, parts or conditions of this permit are found to be invalid or are the subject of a challenge, the remainder of this permit shall continue to be valid.

**Item I: Permit Shield - 6 NYCRR Part 201-6.4(g)**

All permittees granted a Title V facility permit shall be covered under the protection of a permit shield, except as provided under 6 NYCRR Subpart 201-6. Compliance with the conditions of the permit shall be deemed compliance with any applicable requirements as of the date of permit issuance, provided that such applicable requirements are included and are specifically identified in the permit, or the Department, in acting on the permit application or revision, determines in writing that other requirements specifically identified are not applicable to the major stationary source, and the permit includes the determination or a concise summary thereof. Nothing herein shall preclude the Department from revising or revoking the permit pursuant to 6 NYCRR Part 621 or from exercising its summary abatement authority. Nothing in this permit shall alter or affect the following:

- i. The ability of the Department to seek to bring suit on behalf of the State of New York, or the Administrator to seek to bring suit on behalf of the United States, to immediately restrain any person causing or contributing to pollution presenting an imminent and substantial endangerment to public health, welfare or the environment to stop the emission of air pollutants causing or contributing to such pollution;
- ii. The liability of a permittee of the Title V facility for any violation of applicable requirements prior to or at the time of permit issuance;
- iii. The applicable requirements of Title IV of the Act;
- iv. The ability of the Department or the Administrator to obtain information from the permittee concerning the ability to enter, inspect and monitor the facility.

**Item J: Reopening for Cause - 6 NYCRR Part 201-6.4(i)**

This Title V permit shall be reopened and revised under any of the following circumstances:

- i. If additional applicable requirements under the Act become applicable where this permit's remaining term is three or more years, a reopening shall be completed not later than 18 months after promulgation of the applicable requirement. No such reopening is required if the effective date of the requirement is later than the date on which this permit is due to expire, unless



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the original permit or any of its terms and conditions has been extended by the Department pursuant to the provisions of Part 2 01-6.7 and Part 621.

ii. The Department or the Administrator determines that the permit contains a material mistake or that inaccurate statements were made in establishing the emissions standards or other terms or conditions of the permit.

iii. The Department or the Administrator determines that the Title V permit must be revised or reopened to assure compliance with applicable requirements.

iv. If the permitted facility is an "affected source" subject to the requirements of Title IV of the Act, and additional requirements (including excess emissions requirements) become applicable. Upon approval by the Administrator, excess emissions offset plans shall be deemed to be incorporated into the permit.

Proceedings to reopen and issue Title V facility permits shall follow the same procedures as apply to initial permit issuance but shall affect only those parts of the permit for which cause to reopen exists.

Reopenings shall not be initiated before a notice of such intent is provided to the facility by the Department at least thirty days in advance of the date that the permit is to be reopened, except that the Department may provide a shorter time period in the case of an emergency.

**Item K: Permit Exclusion - ECL 19-0305**

The issuance of this permit by the Department and the receipt thereof by the Applicant does not and shall not be construed as barring, diminishing, adjudicating or in any way affecting any legal, administrative or equitable rights or claims, actions, suits, causes of action or demands whatsoever that the Department may have against the Applicant for violations based on facts and circumstances alleged to have occurred or existed prior to the effective date of this permit, including, but not limited to, any enforcement action authorized pursuant to the provisions of applicable federal law, the Environmental Conservation Law of the State of New York (ECL) and Chapter III of the Official Compilation of the Codes, Rules and Regulations of the State of New York (NYCRR). The issuance of this permit also shall not in any way affect pending or future enforcement actions under the Clean Air Act brought by the United States or any person.

**Item L: Federally Enforceable Requirements - 40 CFR 70.6(b)**

All terms and conditions in this permit required by the Act or any applicable requirement, including any provisions designed to limit a facility's potential to emit, are enforceable by the Administrator and citizens under the Act. The Department has, in this permit, specifically designated any terms and conditions that are not required under the Act or under any of its applicable requirements as being enforceable under only state regulations.

**NOTIFICATION OF GENERAL PERMITTEE OBLIGATIONS**

**Item A: Emergency Defense - 6 NYCRR 201-1.5**

An emergency, as defined by subpart 201-2, constitutes an affirmative



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defense to penalties sought in an enforcement action brought by the Department for noncompliance with emissions limitations or permit conditions for all facilities in New York State.

(a) The affirmative defense of emergency shall be demonstrated through properly signed, contemporaneous operating logs, or other relevant evidence that:

- (1) An emergency occurred and that the facility owner or operator can identify the cause(s) of the emergency;
- (2) The equipment at the permitted facility causing the emergency was at the time being properly operated and maintained;
- (3) During the period of the emergency the facility owner or operator took all reasonable steps to minimize levels of emissions that exceeded the emission standards, or other requirements in the permit; and
- (4) The facility owner or operator notified the Department within two working days after the event occurred. This notice must contain a description of the emergency, any steps taken to mitigate emissions, and corrective actions taken.

(b) In any enforcement proceeding, the facility owner or operator seeking to establish the occurrence of an emergency has the burden of proof.

(c) This provision is in addition to any emergency or upset provision contained in any applicable requirement. item\_02

**Item B: General Provisions for State Enforceable Permit Terms and Condition - 6  
NYCRR Part 201-5**

Any person who owns and/or operates stationary sources shall operate and maintain all emission units and any required emission control devices in compliance with all applicable Parts of this Chapter and existing laws, and shall operate the facility in accordance with all criteria, emission limits, terms, conditions, and standards in this permit. Failure of such person to properly operate and maintain the effectiveness of such emission units and emission control devices may be sufficient reason for the Department to revoke or deny a permit.

The owner or operator of the permitted facility must maintain all required records on-site for a period of five years and make them available to representatives of the Department upon request. Department representatives must be granted access to any facility regulated by this Subpart, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations or law.

**Regulatory Analysis**

<b>Location Facility/EU/EP/Process/ES</b>	<b>Regulation</b>	<b>Condition</b>	<b>Short Description</b>
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FACILITY	ECL 19-0301	77	Powers and Duties of





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U-	40CFR 60-A	59	the Department with respect to air pollution control General provisions
B0001/B0001/G41/BLR01 FACILITY	40CFR 60-A.4	38	General provisions - Address
U-	40CFR 60-A.8(a)	61	Performance Tests
B0001/B0001/O41/BLR01 FACILITY	40CFR 60-Dc.40c	39	Steam generators 10-100 million Btu per hour
U-	40CFR 60-Dc.40c	62	Steam generators 10-100 million Btu per hour
B0001/B0001/O41/BLR01	40CFR 60-Dc.42c(h)	63	Exemption from Averaging Requirements
U-	40CFR 60-Dc.42c(i)	64	Standard for Sulfur Dioxide Period of Requirements.
B0001/B0001/O41/BLR01	40CFR 60-Dc.46c(d)(2)	40	Alternative sulfur dioxide emissions monitoring.
FACILITY	40CFR 60-Dc.46c(e)	65	Exemption from Emission Monitoring for Sulfur Dioxide.
U-	40CFR 60-Dc.48c(d)	66	Reporting and Recordkeeping Requirements.
B0001/B0001/O41/BLR01	40CFR 60-Dc.48c(e)(1)	67	
U-	40CFR 60-Dc.48c(e)(2)	68	
B0001/B0001/O41/BLR01	40CFR 60-Dc.48c(e)(3)	69	
U-	40CFR 60-Dc.48c(e)(4)	70	
B0001/B0001/O41/BLR01	40CFR 60-Dc.48c(e)(7)	71	
U-	40CFR 60-Dc.48c(f)(1)	72	Reporting and Recordkeeping Requirements (distillate oil).
B0001/B0001/O41/BLR01	40CFR 60-Dc.48c(g)	41	Reporting and Recordkeeping Requirements.
FACILITY	40CFR 60-Dc.48c(i)	73	Reporting and Recordkeeping Requirements.
U-	40CFR 60-IIII	42	Standards of Performance for Stationary Compression Ignition Internal Combustion Engines
B0001/B0001/O41/BLR01	40CFR 60-IIII.4204(b)	43	Emission standards - 2007 or later Non-emergency Stationary CI-IC Engines Displacing <30 liters/cylinder
FACILITY	40CFR 60-IIII.4204(b)	75	Emission standards - 2007 or later Non-emergency Stationary
U--	40CFR 60-IIII.4204(b)	75	
CDRP/EPTG1/ENG/ENG01			



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FACILITY	40CFR 60-IIII.4205(b)	44	CI-IC Engines Displacing <30 liters/cylinder Emission Standards - 2007 or later Emergency Non Fire Pump Stationary CI-IC Engines Displacing < 30 liters/cylinder
FACILITY	40CFR 60-IIII.4207(b)	45, 46, 47	Stationary Compression Ignition IC Engines - Fuel Requirements beginning October 1, 2010
FACILITY	40CFR 60-IIII.4211(a)	48	Stationary Compression Ignition Engines - Compliance Requirements
FACILITY	40CFR 60-IIII.4211(c)	49	Stationary Compression Ignition Engines - Compliance Demonstration
FACILITY	40CFR 60-IIII.4211(e)	50	Stationary Compression Ignition IC Engines - compliance demonstration
FACILITY	40CFR 63-ZZZZ	51	Reciprocating Internal Combustion Engine (RICE) NESHAP
FACILITY	40CFR 68	19	Chemical accident prevention provisions
U-- CDRP/EPTG1/ENG/ENG01	40CFR 80-I.510(b)	76	Motor vehicle diesel fuel: non road, locomotive and marine diesel fuel
FACILITY	40CFR 82-F	20	Protection of Stratospheric Ozone - recycling and emissions reduction
FACILITY	40CFR 89-B.112	52, 53, 54	Oxides of nitrogen, carbon monoxide, hydrocarbon, and particulate matter exhaust emission standards
FACILITY	6NYCRR 200.6	1	Acceptable ambient air quality.
FACILITY	6NYCRR 200.7	10	Maintenance of equipment.
FACILITY	6NYCRR 201-1.4	78	Unavoidable noncompliance and violations
FACILITY	6NYCRR 201-1.7	11	Recycling and Salvage
FACILITY	6NYCRR 201-1.8	12	Prohibition of reintroduction of collected contaminants to the air
FACILITY	6NYCRR 201-3.2(a)	13	Exempt Activities - Proof of eligibility
FACILITY	6NYCRR 201-3.2(c)	21	Exempt Activities - exempt activity list
FACILITY	6NYCRR 201-3.3(a)	14	Trivial Activities -



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FACILITY	6NYCRR 201-6	22, 55, 56	proof of eligibility Title V Permits and the Associated Permit Conditions
FACILITY	6NYCRR 201-6.4(a)(4)	15	General Conditions - Requirement to Provide Information
FACILITY	6NYCRR 201-6.4(a)(7)	2	General Conditions - Fees
FACILITY	6NYCRR 201-6.4(a)(8)	16	General Conditions - Right to Inspect
FACILITY	6NYCRR 201-6.4(c)	3	Recordkeeping and Reporting of
FACILITY	6NYCRR 201-6.4(c)(2)	4	Compliance Monitoring Records of
FACILITY	6NYCRR 201- 6.4(c)(3)(ii)	5	Monitoring, Sampling and Measurement Reporting
FACILITY	6NYCRR 201-6.4(d)(4)	23	Requirements - Deviations and Noncompliance
FACILITY	6NYCRR 201-6.4(e)	6	Compliance Schedules - Progress Reports
FACILITY	6NYCRR 201-6.4(f)(6)	17	Compliance Certification
FACILITY	6NYCRR 201-6.4(g)	24	Off Permit Changes
FACILITY	6NYCRR 201-7.1	25, 57, 58	Permit Shield
FACILITY	6NYCRR 202-1.1	18	Emission Capping in Facility Permits
FACILITY	6NYCRR 202-1.3	27	Required emissions tests.
FACILITY	6NYCRR 202-2.1	7	Acceptable procedures.
FACILITY	6NYCRR 202-2.5	8	Emission Statements - Applicability
FACILITY	6NYCRR 211.1	79	Emission Statements - record keeping requirements.
FACILITY	6NYCRR 211.2	28	General Prohibitions - air pollution prohibited
FACILITY	6NYCRR 215.2	9	General Prohibitions - visible emissions limited.
FACILITY	6NYCRR 225-1.2(h)	29	Open Fires - Prohibitions
U- B0001/B0001/O41/BLR01 FACILITY	6NYCRR 227.2(b)(1)	60	Sulfur-in-Fuel Limitations
U-- CDRP/EPTG1/ENG/ENG01 FACILITY	6NYCRR 227-1.3	30	Particulate emissions.
FACILITY	6NYCRR 227-1.3	74	Smoke Emission Limitations.
FACILITY	6NYCRR 227-1.4(b)	31	Smoke Emission Limitations.
FACILITY	6NYCRR 227- 2.4(c)(1)(ii)	32	Stack Monitoring
FACILITY	6NYCRR 227-2.4(f)(3)	33, 34	2010 NOx RACT presumptive limit.
FACILITY	6NYCRR 227-2.5(c)	35	Emission limit for distillate oil fired engines.
FACILITY	6NYCRR 227-2.6(a)	36	Alternative RACT option.
			Applicable testing and/or monitoring requirements.



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FACILITY

6NYCRR 227-2.6(c)

37

Stack Test  
Requirements.

**Applicability Discussion:**

Mandatory Requirements: The following facility-wide regulations are included in all Title V permits:

ECL 19-0301

This section of the Environmental Conservation Law establishes the powers and duties assigned to the Department with regard to administering the air pollution control program for New York State.

6 NYCRR 200.6

Acceptable ambient air quality - prohibits contravention of ambient air quality standards without mitigating measures

6 NYCRR 200.7

Anyone owning or operating an air contamination source which is equipped with an emission control device must operate the control consistent with ordinary and necessary practices, standards and procedures, as per manufacturer's specifications and keep it in a satisfactory state of maintenance and repair so that it operates effectively

6 NYCRR 201-1.4

This regulation specifies the actions and recordkeeping and reporting requirements for any violation of an applicable state enforceable emission standard that results from a necessary scheduled equipment maintenance, start-up, shutdown, malfunction or upset in the event that these are unavoidable.

6 NYCRR 201-1.7

Requires the recycle and salvage of collected air contaminants where practical

6 NYCRR 201-1.8

Prohibits the reintroduction of collected air contaminants to the outside air

6 NYCRR 201-3.2 (a)

An owner and/or operator of an exempt emission source or unit may be required to certify that it operates within the specific criteria described in this Subpart. All required records must be maintained on-site for a period of 5 years and made available to department representatives upon request. In addition, department representatives must be granted access to any facility which contains exempt emission sources or units, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations, or law.

6 NYCRR 201-3.3 (a)

The owner and/or operator of a trivial emission source or unit may be required to certify that it operates within the specific criteria described in this Subpart. All required records must be maintained on-site for a period of 5 years and made available to department representatives upon request. In addition, department representatives must be granted access to any facility which contains trivial emission sources or units subject to this Subpart, during normal operating hours, for the purpose of determining compliance with this and any other state and federal air pollution control requirements, regulations, or law.

6 NYCRR Subpart 201-6

This regulation applies to those terms and conditions which are subject to Title V permitting. It establishes the applicability criteria for Title V permits, the information to be included in all Title V permit applications as well as the permit content and terms of permit issuance. This rule also specifies the



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compliance, monitoring, recordkeeping, reporting, fee, and procedural requirements that need to be met to obtain a Title V permit, modify the permit and demonstrate conformity with applicable requirements as listed in the Title V permit. For permitting purposes, this rule specifies the need to identify and describe all emission units, processes and products in the permit application as well as providing the Department the authority to include this and any other information that it deems necessary to determine the compliance status of the facility.

6 NYCRR 201-6.4 (a) (4)

This mandatory requirement applies to all Title V facilities. It requires the permittee to provide information that the Department may request in writing, within a reasonable time, in order to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit or to determine compliance with the permit. The request may include copies of records required to be kept by the permit.

6 NYCRR 201-6.4 (a) (7)

This is a mandatory condition that requires the owner or operator of a facility subject to Title V requirements to pay all applicable fees associated with the emissions from their facility.

6 NYCRR 201-6.4 (a) (8)

This is a mandatory condition for all facilities subject to Title V requirements. It allows the Department to inspect the facility to determine compliance with this permit, including copying records, sampling and monitoring, as necessary.

6 NYCRR 201-6.4 (c)

This requirement specifies, in general terms, what information must be contained in any required compliance monitoring records and reports. This includes the date, time and place of any sampling, measurements and analyses; who performed the analyses; analytical techniques and methods used as well as any required QA/QC procedures; results of the analyses; the operating conditions at the time of sampling or measurement and the identification of any permit deviations. All such reports must also be certified by the designated responsible official of the facility.

6 NYCRR 201-6.4 (c) (2)

This requirement specifies that all compliance monitoring and recordkeeping is to be conducted according to the terms and conditions of the permit and follow all QA requirements found in applicable regulations. It also requires monitoring records and supporting information to be retained for at least 5 years from the time of sampling, measurement, report or application. Support information is defined as including all calibration and maintenance records and all original strip-chart recordings for continuous monitoring instrumentation, and copies of all reports required by the permit.

6 NYCRR 201-6.4 (c) (3) (ii)

This regulation specifies any reporting requirements incorporated into the permit must include provisions regarding the notification and reporting of permit deviations and incidences of noncompliance stating the probable cause of such deviations, and any corrective actions or preventive measures taken.

6 NYCRR 201-6.4 (d) (4)

This condition applies to every Title V facility subject to a compliance schedule. It requires that reports, detailing the status of progress on achieving compliance with emission standards, be submitted semiannually.

6 NYCRR 201-6.4 (e)

Sets forth the general requirements for compliance certification content; specifies an annual submittal frequency; and identifies the EPA and appropriate regional office address where the reports are to be sent.



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6 NYCRR 201-6.4 (f) (6)

This condition allows changes to be made at the facility, without modifying the permit, provided the changes do not cause an emission limit contained in this permit to be exceeded. The owner or operator of the facility must notify the Department of the change. It is applicable to all Title V permits which may be subject to an off permit change.

6 NYCRR 201-6.4 (g)

Permit Exclusion Provisions - specifies those actions, such as administrative orders, suits, claims for natural resource damages, etc that are not affected by the federally enforceable portion of the permit, unless they are specifically addressed by it.

6 NYCRR 202-1.1

This regulation allows the department the discretion to require an emission test for the purpose of determining compliance. Furthermore, the cost of the test, including the preparation of the report are to be borne by the owner/operator of the source.

6 NYCRR 202-2.1

Requires that emission statements shall be submitted on or before April 15th each year for emissions of the previous calENdAr year.

6 NYCRR 202-2.5

This rule specifies that each facility required to submit an emission statement must retain a copy of the statement and supporting documentation for at least 5 years and must make the information available to department representatives.

6 NYCRR 211.2

This regulation limits opacity from sources to less than or equal to 20 percent (six minute average) except for one continuous six-minute period per hour of not more than 57 percent opacity.

6 NYCRR 215.2

Except as allowed by section 215.3 of 6 NYCRR Part 215, no person shall burn, cause, suffer, allow or permit the burning of any materials in an open fire.

40 CFR Part 68

This Part lists the regulated substances and there applicability thresholds and sets the requirements for stationary sources concerning the prevention of accidental releases of these substances.

40 CFR Part 82, Subpart F

Subpart F requires the reduction of emissions of class I and class II refrigerants to the lowest achievable level during the service, maintenance, repair, and disposal of appliances in accordance with section 608 of the Clean Air Act AmENDments of 1990. This subpart applies to any person servicing, maintaining, or repairing appliances except for motor vehicle air conditioners. It also applies to persons disposing of appliances, including motor vehicle air conditioners, refrigerant reclaimers, appliance owners, and manufacturers of appliances and recycling and recovery equipment. Those individuals, operations, or activities affected by this rule, may be required to comply with specified disposal, recycling, or recovery practices, leak repair practices, recordkeeping and/or technician certification requirements.

**Facility Specific Requirements**



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In addition to Title V, MOUNT SINAI HOSPITAL has been determined to be subject to the following regulations:

40 CFR 60.4

This condition lists the USEPA Region 2 address for the submittal of all communications to the "Administrator". In addition, all such communications must be copied to NYSDEC Bureau of Quality Assurance (BQA).

40 CFR 60.40c

This regulation requires the source owner or operator to comply with the applicable General Provisions of 40 CFR 60 Subpart Dc. The facility owner is responsible for reviewing these general provisions in detail and complying with all applicable technical, administrative and reporting requirements.

40 CFR 60.4204 (b)

This regulation requires owners and/or operators of 2007 model year or later non-emergency stationary compression ignition internal combustion engines displacing less than 30 liters per cylinder to purchase engines that meet the emission standards referenced in 40 CFR 60.4201 and maintain those engines according to manufacturer's specifications.

40 CFR 60.4205 (b)

This requirement applies to owners and operators of 2007 model year and later emergency stationary CI IC engines with a displacement less than 30 liters/cylinder that are not fire pump engines. An applicable source must comply with the emission standards for new nonroad CI engines for all pollutants (HC, PM, NO<sub>x</sub>, NMHC + NO<sub>x</sub> and CO) for the same model year and maximum engine power as per 40 CFR 60.4202.

40 CFR 60.4207 (b)

These conditions states the fuel requirements beginning October 1, 2010 for compression ignition stationary IC engines with a displacement of less than 30 liters per cylinder.

40 CFR 60.4211 (a)

This regulation states that the owner or operator and must comply with the emission standards specified in 40 CFR 60 Subpart IIII and must operate and maintain the stationary compression ignition internal combustion engine and control device according to the manufacturer's written instructions.

40 CFR 60.4211 (c)

This regulation is an NSPS general provision and states that the owners or operators of a 2007 model year and later stationary Compression Ignition internal combustion engine and must comply with the emission standards specified in §60.4204(b) or §60.4205(b), or if you are an owner or operator of a CI fire pump engine that is manufactured during or after the model year that applies to your fire pump engine power rating in table 3 to this subpart and must comply



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with the emission standards specified in §60.4205(c), must comply by purchasing an engine certified to the emission standards in §60.4204(b), or §60.4205(b) or (c), as applicable, for the same model year and maximum (or in the case of fire pumps, NFPA nameplate) engine power.

The engine must be installed and configured according to the manufacturer's specifications.

The manufacturer's certification of compliance with the emission standards specified in 40 CFR 60 Subpart IIII for major pollutants will be sent to the Department prior to commencement of operation of the engines.

40 CFR 60.4211 (e)

This citation lists the compliance options for modified and reconstructed compression ignition engines that must comply with emission standards.

40 CFR 60.42c (h)

This regulation requires that compliance with emission limits and/or fuel oil sulfur limitations be based on a certification from the fuel supplier as stated in paragraph 40 CFR 60-Dc.48c(f)(1), (2), or (3) as applicable

40 CFR 60.42c (i)

This regulation requires that the sulfur dioxide emission limits, percentage reductions, and fuel oil sulfur limitations apply at all times, including periods of startup, shutdown, and malfunction.

40 CFR 60.46c (d) (2)

This regulation allows the owner or operator of an affected facility to determine the average sulfur dioxide emission rate by sampling the fuel prior to its combustion and calculating the emissions instead of installing and operating a continuous emissions monitor at the inlet of the control device

40 CFR 60.46c (e)

This regulation allows facilities subject to paragraphs 40 CFR 60-Dc.42c(h)(1), (2), or (3) who show compliance through vendor certification, to be exempt from the monitoring requirements of section 40 CFR 60-Dc.46c

40 CFR 60.48c (d)

This regulation requires the owner or operator of the facility subject to the SO<sub>2</sub> emission limits, fuel oil sulfur limits, or percent reduction requirements under §60.42c, to submit semi-annual reports to the EPA

40 CFR 60.48c (e) (1)

Reporting and recordkeeping provisions for facilities subject to a sulfur-in-fuel standard, sulfur dioxide emission limit, or percent reduction of sulfur dioxide emissions.





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40 CFR 60.48c (e) (2)

Reporting and recordkeeping provisions for facilities subject to a sulfur-in-fuel standard, sulfur dioxide emission limit, or percent reduction of sulfur dioxide emissions.

40 CFR 60.48c (e) (3)

Reporting and recordkeeping provisions for facilities subject to a sulfur-in-fuel standard, sulfur dioxide emission limit, or percent reduction of sulfur dioxide emissions.

40 CFR 60.48c (e) (4)

Reporting and recordkeeping provisions for facilities subject to a sulfur-in-fuel standard, sulfur dioxide emission limit, or percent reduction of sulfur dioxide emissions.

40 CFR 60.48c (e) (7)

Reporting and recordkeeping provisions for facilities subject to a sulfur-in-fuel standard, sulfur dioxide emission limit, or percent reduction of sulfur dioxide emissions.

40 CFR 60.48c (f) (1)

Fuel supplier certifications for distillate oil shall include the name of the oil supplier and a statement from the oil supplier that the oil complies with the specification under the definition of distillate oil in 40 CFR 60-Dc.41c

40 CFR 60.48c (g)

The owner or operator of each affected facility shall record and maintain records of the amount of each fuel combusted during each day.

40 CFR 60.48c (i)

This regulation requires the source owner or operator to retain all records for a minimum of two years for compliance with the NSPS. This does not supercede any requirement that is more stringent, including the Title V requirement to maintain records for for a minimum of 5 years.

40 CFR 60.8 (a)

This regulation contains the requirements for the completion date and reporting of Performance Testing (stack testing), at the facility. Within 60 days after achieving the maximum production rate at which the affected facility will be operated, but not later than 180 days after initial startup, the owner or operator of the facility must conduct performance test(s) and furnish a written report of the test results.

40 CFR 80.510 (b)

This regulation specifies the Sulfur content limit for non road and locomotive marine diesel fuel to be 15 parts per million by weight.



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40 CFR 89.112

This regulation sets forth the limits for oxides of nitrogen, carbon monoxide, hydrocarbon, and particulate matter from the exhaust of compression-ignition nonroad engines.

40 CFR Part 60, Subpart A

This regulation contains the General Provisions of 40 CFR 60. The facility owner is responsible for reviewing these general provisions in detail and complying with all applicable technical, administrative and reporting requirements

40 CFR Part 60, Subpart IIII

This regulation is for Standards of Performance for Stationary Compression Ignition Internal Combustion Engines.

Facilities that have stationary compression ignition internal combustion engines must comply with applicable portions of 40 CFR 60 Subpart IIII.



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40 CFR Part 63, Subpart ZZZZ

This regulation requires facilities that have a reciprocating internal combustion engines to comply with applicable portions of 40 CFR 63 subpart ZZZZ.

Internal combustion engines, constructed or re-constructed on or after June 12, 2006, that meet the requirements of 40 CFR 60 Subpart IIII or subpart JJJJ meet the requirements of 40 CFR 63 subpart ZZZZ.

6 NYCRR 201-3.2 (c)

This section lists the specific activities which may be exempt from the permitting provisions of this Part.

6 NYCRR 201-7.1

This section of Part 201-7 specifies the criteria that need to be met in order to restrict emissions to avoid Title V or other applicable requirements using federally enforceable permit conditions permit.

6 NYCRR 202-1.3

This regulation requires that any emission testing, sampling and analytical determination used to determine compliance must use methods acceptable to the department. Acceptable test methods may include but are not limited to the reference methods found in 40 CFR Part 60 appendix A and Part 61, appendix B. Alternate methods may be also be used provided they are determined to be acceptable by the department. Finally, unless otherwise specified, all emission test reports must be submitted within 60 days after completion of testing.

6 NYCRR 211.1

This regulation requires that no person shall cause or allow emissions of air contaminants to the outdoor atmosphere of such quantity, characteristic or duration which are injurious to human, plant or animal life or to property, or which unreasonably interfere with the comfortable enjoyment of life or property.



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6 NYCRR 225-1.2 (h)

Sulfur-in-fuel limitation for the firing of distillate oil on or after July 1, 2016.

6 NYCRR 227.2 (b) (1)

This regulation is from the 1972 version of Part 227 and still remains as part of New York's SIP. The rule establishes a particulate limit of 0.10 lbs/mmBtu based on a 2 hour average emission for any oil fired stationary combustion installation.

6 NYCRR 227-1.3

This regulation requires a limitation and compliance monitoring for opacity from a stationary combustion installation.

6 NYCRR 227-1.4 (b)

This regulation requires the specific contents of excess emissions reports for opacity from facilities that employ continuous opacity monitors (COMs).

6 NYCRR 227-2.4 (c) (1) (ii)

Future NO<sub>x</sub> RACT presumptive limit effective 7/1/14.

6 NYCRR 227-2.4 (f) (3)

Presumptive NO<sub>x</sub> RACT emission limit for distillate oil fired stationary internal combustion engines.

6 NYCRR 227-2.5 (c)

This provision allows the owner or operator to demonstrate that the applicable presumptive RACT emission limit in section 227-2.4 of this Subpart is not economically or technically feasible. Based on this determination the Department is allowed to set a higher emission source specific emission limit.

6 NYCRR 227-2.6 (a)

Applicable testing and/or monitoring requirements for emission sources subject to NO<sub>x</sub> RACT.



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6 NYCRR 227-2.6 (c)

**Non Applicability Analysis  
List of non-applicable rules and regulations:**

<b>Location Facility/EU/EP/Process/ES</b>	<b>Regulation</b>	<b>Short Description</b>
FACILITY	40 CFR 60.42c	Standard for Sulfur Dioxide
<p>Reason: 40 CFR 60-Dc.42c, NSPS, which limits the sulfur content in the distillate fuel oil to 0.50 percent by weight, is not applicable to Emission Sources BLR01, BLR02, BLR03 or BLR04 (the four 60 MM Btu/hr Victory energy VS-4-48 replacement boilers) or to Emission Sources BLR05 &amp; BLR06 (the two refurbished 95 MM Btu/hr Erie City/16M Keystone boilers) or to this facility. This regulation is overruled by regulations 6 NYCRR 225-1.2 (g) &amp; (h), which limits the sulfur content in the distillate fuel oil (#2 oil) to 0.20 percent by weight to facilities in the severe ozone non-attainment area such as New York City through June 30, 2014, and to 0.0015 percent beginning July 1, 2014.</p> <p>Mount Sinai Hospital must comply with the 0.20 percent by weight and the 0.0015 percent sulfur content limits as per 6 NYCRR 225-1.2 (b), (g) &amp; (h), which are more stringent limits for New York City than 40 CFR 60-Dc.42c, NSPS.</p>		
FACILITY	6 NYCRR Subpart 231-6	Mods to Existing Major Facilities in Nonattainment and Attainment Areas of the State in the OTR

Reason: Regulatory Applicability of New Source Review in a Non-Attainment area to the Mount Sinai Hospital:

The project is to start construction as soon as this permit is issued (7/15/2018) and start operation on 1/15/2019. The contemporaneous period is defined from 1/15/1015 to 1/15/2019. The NEI is the sum of the PEP (Project Emission Potential) and contemporaneous period sum of NOx emission increases and decreases.

The facility is adding 4 new Caterpillar CAT 3512C electric generators (Emission Sources: ENG01, ENG02, ENG03 & ENG04) participating in the CDRP and each is limited to operating 200 hrs/yr, and removing 4



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Caterpillar D399 emergency generators (#1, 2, 3 & 4) out of the 16 emergency generators in the Annenberg Pavillion Building. Each of the 4 new Caterpillar CAT 3512C is 2206 brp-hr or 1500 electrical kilowatts (EKW).

The NOx actual emissions from the removal of 4 emergency generators =  

$$\{[(4) (0.32 \text{ lb/MM Btu}) \times [(3.3 \text{ MM Btu/hr}) \times (500 \text{ hrs/yr})] / 2000 \text{ lbs/ton}\} = 10.66 \text{ tpy}$$

Based on NOx emissions of 5.48 grams/bhp-hr and 2206 hp, the NOx PTE based on the new added engine manufacturer and 200 hrs/yr operation cap = (4) (2.665 tpy) = 10.65 tpy NOx

The PTE NOx rates for the new Victory boilers (8760 hrs/yr) is 129.65 tpy . The NOx rate is based upon the New NOx RACT presumptive rate for "mid-size" boilers firing natural gas and distillate fuel oil, which is 0.08 lbs/MM Btu heat input rating of the Victory boilers.

The facility's existing PTE rates encompass emissions from the new boilers, the last of which being installed in 2018 and 16 emergency generators.

The composite PTE NOx rate for the 16 emergency generators is 52 tpy, which is based on EPA AP-42 emission factors and the ratings of the engines.

PTE of NOx in EU:U-B0001 + PTE of NOx of 16 Emergency generators = 129.6 tpy + 52 tpy = 181.5 tpy

The facility's existing PTE rate for NOx = 181.5 tpy

The Facility's Emission Potential Calculations of NOx:

The Project's NOx PTE emissions is the sum of the PTE for the 4 new Caterpillar CAT 3512C electric generators based on 200 hrs/yr and the Victory boiler, minus the NOx PTE of the 4 Caterpillar D399 emergency generators based on 500 hrs/yr.

The Net Emission Increase (NEI) has to be < Significant Emission increase (SNEIT) of 25 tpy NOx for this project.  
 NEI = NOx emissions from the 4 Caterpillar CAT 3512C CDRP engines - NOx emissions from the 4 Caterpillar D-399 1308 HP (976 KW) emergency generators (#1, 2, 3 & 4) =

$$(4) (2.665 \text{ tpy}) - \{[(4) (0.32 \text{ lb/MM Btu}) \times [(3.3 \text{ MM Btu/hr}) \times (500 \text{ hrs/yr})] / 2000 \text{ lbs/ton}\} =$$

$$10.65 \text{ tpy} - 10.66 \text{ tpy} = -0.01 \text{ tpy} < 25 \text{ tpy}$$

NEI for NOx = PEP + contemporaneous emission increase/decrease = 10.65 + (-10.66) = - 0.01 tpy of NOx



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**CONCLUSION:**

Based on the NOx emission factor of 5.48 grams per brake-horsepower-hr for the 4 Caterpillar CAT 3512C CDRP engines and operating 200 hrs/yr, and the NOx emissions for the 4 Caterpillar D-399 1308 HP (976 KW) emergency generators (#1, 2, 3 & 4) , which is 10.66 tpy (based on 500 hrs/yr operation) =

$$\begin{aligned} \text{NOx PTE for CAT 3512C} &- \text{NOx PTE for CAT D-399} = \\ 10.65 \text{ tpy} &- 10.66 \text{ tpy} \\ = &-0.01 \text{ tpy of NOx, which is } < 25 \text{ tpy} \end{aligned}$$

Based on the Subpart 231-2 Netting Analysis, since the Net Emission Increase (NEI) for NOx is -0.01 tpy for all of the four new Caterpillar CAT 3512C CDRP engines, which is < 25 tpy for the Significant Net Emission Increase (SNEIT), the facility is NOT subject to Subpart 231-2.

NOTE: Non-applicability determinations are cited as a permit condition under 6 NYCRR Part 201-6.4(g). This information is optional and provided only if the applicant is seeking to obtain formal confirmation, within an issued Title V permit, that specified activities are not subject to the listed federal applicable or state only requirement. The applicant is seeking to obtain verification that a requirement does not apply for the stated reason(s) and the Department has agreed to include the non-applicability determination in the issued Title V permit which in turn provides a shield against any potential enforcement action.

**Compliance Certification  
Summary of monitoring activities at MOUNT SINAI HOSPITAL:**

<b>Location Facility/EU/EP/Process/ES</b>	<b>Cond No.</b>	<b>Type of Monitoring</b>
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FACILITY	39	record keeping/maintenance procedures
FACILITY	40	monitoring of process or control device parameters as surrogate
U-B0001/B0001/O41/BLR01	66	record keeping/maintenance procedures
U-B0001/B0001/O41/BLR01	67	record keeping/maintenance procedures
U-B0001/B0001/O41/BLR01	68	record keeping/maintenance procedures
U-B0001/B0001/O41/BLR01	69	record keeping/maintenance procedures
U-B0001/B0001/O41/BLR01	70	record keeping/maintenance procedures
U-B0001/B0001/O41/BLR01	71	record keeping/maintenance procedures
U-B0001/B0001/O41/BLR01	72	record keeping/maintenance procedures
FACILITY	41	record keeping/maintenance procedures
U-B0001/B0001/O41/BLR01	73	record keeping/maintenance procedures
FACILITY	42	record keeping/maintenance procedures
FACILITY	43	intermittent emission testing
U--CDRP/EPTG1/ENG/ENG01	75	record keeping/maintenance procedures
FACILITY	44	record keeping/maintenance procedures
FACILITY	45	work practice involving specific operations
FACILITY	46	work practice involving specific operations



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FACILITY	47	work practice involving specific operations
FACILITY	48	record keeping/maintenance procedures
FACILITY	49	record keeping/maintenance procedures
FACILITY	50	monitoring of process or control device parameters as surrogate
FACILITY	51	record keeping/maintenance procedures
U--CDRP/EPTG1/ENG/ENG01	76	monitoring of process or control device parameters as surrogate
FACILITY	52	work practice involving specific operations
FACILITY	53	work practice involving specific operations
FACILITY	54	work practice involving specific operations
FACILITY	21	work practice involving specific operations
FACILITY	5	record keeping/maintenance procedures
FACILITY	6	record keeping/maintenance procedures
FACILITY	26	work practice involving specific operations
FACILITY	7	record keeping/maintenance procedures
FACILITY	29	work practice involving specific operations
U-B0001/B0001/O41/BLR01	60	intermittent emission testing
FACILITY	30	continuous emission monitoring (cem)
U--CDRP/EPTG1/ENG/ENG01	74	record keeping/maintenance procedures
FACILITY	31	continuous emission monitoring (cem)
FACILITY	32	intermittent emission testing
FACILITY	33	record keeping/maintenance procedures
FACILITY	34	intermittent emission testing
FACILITY	35	intermittent emission testing
FACILITY	36	record keeping/maintenance procedures
FACILITY	37	intermittent emission testing

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**Basis for Monitoring**

This facility is subject to the requirements of Title V. The facility is required, under the provisions of 6 NYCRR Subpart 201-6, to submit semiannual compliance reports and an annual Compliance Certification. This facility has to comply with the following monitoring conditions:

- 1. Condition # 5 for 6 NYCRR 201-6.4 ( c ) (3) (ii):** This is a facility-wide Record Keeping/Maintenance Procedures condition. This condition specifies any reporting requirements incorporated into the permit must include provisions regarding the notification and reporting of permit deviations and incidences of noncompliance stating the probable cause of such deviations, and any corrective actions or preventive measures taken.
  
- 2. Condition # 6 for 6 NYCRR 201-6.4 (e):** This is a facility-wide Record Keeping/Maintenance Procedures condition. This condition specifies the overall permit requirements for compliance certification, including emission limitations, standards or work practices.
  
- 3. Condition # 7 for 6 NYCRR 202-2.1:** This is a facility-wide Record Keeping/Maintenance Procedures condition. This condition sets forth the applicability criteria for submitting an annual statement of emissions. The criteria is based on annual emission threshold quantities and ozone attainment designation.





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This condition applies to all Title V facilities and these facilities must submit an annual emission statement by April 15th of each year.

**4. Condition # 21 for 6 NYCRR 201-3.2 ( c):** This condition is an emission unit level, emission point level, process level and emission source/control level condition that applies to Emission Unit: U-CDRP, Emission Points: EPTG1, EPTG2, EPTG3 & EPTG4, Process ENG, and Emission Sources/Controls: ENG01, ENG02, ENG03 & ENG04 for Work Practice Involving Specific Operations condition for hours per year operation limit of 200 hours/year for Oxides of Nitrogen for the four (4) new Caterpillar Model 3512C electric engine generators participating in the CDRP.

This condition lists the specific activities which may be exempt from the permitting provisions of this Part. The regulatory limit is 500 hours per year for each of the four (4) new Caterpillar Model 3512C electric engine generators, but in order to avoid triggering New Source Review for NO<sub>x</sub>, the facility is taking a cap at 200 hours per year for each of the four (4) new Caterpillar Model 3512C electric engine generators participating in the CDRP.

The limit of the hours of operation for each of the four (4) new Caterpillar Model 3512C electric engine generators is 200 per year.

**5. Condition # 26 for 6 NYCRR 201-7.1, Capping out of 6 NYCRR 231-2:** This condition is an emission unit level, emission point level, process level and emission source/control level condition that applies to Emission Unit: U-CDRP, Emission Points: EPTG1, EPTG2, EPTG3 & EPTG4, Process ENG, and Emission Sources/Controls: ENG01, ENG02, ENG03 & ENG04 for Work Practice Involving Specific Operations condition for hours per year operation limit of 200 hours/year for Oxides of Nitrogen for the four (4) new Caterpillar Model 3512C electric engine generators participating in the CDRP.

This section of Part 201-7 specifies the criteria that need to be met in order to restrict emissions to avoid Title V or other applicable requirements using federally enforceable permit conditions permit. In order to avoid triggering New Source Review for NO<sub>x</sub>, the facility is taking a cap at 200 hours per year for each of the four (4) new Caterpillar Model 3512C electric engine generators participating in the CDRP.

**6. Condition # 29 for 6 NYCRR 225-1.2 (h):** This is a facility-wide Work Practice Involving Specific Operations condition for Sulfur content in the distillate fuel oil. The distillate fuel oil firing is limited to 0.0015 percent sulfur by weight on or after July 1, 2016. Compliance with this limit will be based on vendor certifications.

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**7. Condition # 30 for 6 NYCRR 227-1.3:** This condition is an emission unit level, emission point level, process level and emission source/control level. This condition that applies to EUs: U-B0001 & U-C0001, Emission Point: B0001, Processes: O41 & O65, and Emission Sources: BLR01, BLR02, BLR03, BLR04, BLR05 & BLR06 for Continuous Emission Monitoring for Particulates for Opacity. This condition requires a limitation and compliance monitoring for opacity from a stationary combustion installation. This condition is for monitoring continuously the visible emissions using a Continuous Opacity Monitor (COM).

This condition requires stack opacity not exceed 20 percent (six minute average), except for one six-minute period per hour of not more than 27 percent opacity. Compliance with this standard will be determined by Continuous Opacity Monitoring System (COMS) data, and/or any other credible evidence. The owner shall install, operate in accordance with manufacturer's instructions, and properly maintain, a COMS in the stack satisfying the criteria Appendix B of 40 CFR Part 60.

The owner shall submit an accurate excess emissions and monitoring system performance report to the Department for each calendar year quarter. All reports shall be certified by a responsible corporate official as true, accurate and complete and postmarked by the 60th day following the end of each calendar year quarter. The quarterly excess emissions report shall be submitted in a form acceptable to the Department.

**8. Condition # 31 for 6 NYCRR 227-1.4 (b):** This condition is an emission unit level, emission point level, process level and emission source/control level. This condition that applies to EUs: U-B0001 & U-C0001, Emission Point: B0001, Processes: O41 & O65, and Emission Sources: BLR01, BLR02, BLR03, BLR04, BLR05 & BLR06 for Continuous Emission Monitoring for Particulates for Opacity. This condition requires a limitation and compliance monitoring for opacity from a stationary combustion installation. This condition is for monitoring continuously the visible emissions using a Continuous Opacity Monitor (COM).

This condition requires stack opacity not exceed 20 percent (six minute average), except for one six-minute period per hour of not more than 27 percent opacity. Compliance with this standard will be determined by Continuous Opacity Monitoring System (COMS) data, and/or any other credible evidence. The owner shall install, operate in accordance with manufacturer's instructions, and properly maintain, a COMS in the stack satisfying the criteria Appendix B of 40 CFR Part 60.

The owner shall submit an accurate excess emissions and monitoring system performance report to the Department for each calendar year quarter. All reports shall be certified by a responsible corporate official as true, accurate and complete



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and postmarked by the 60th day following the end of each calendar year quarter. The quarterly excess emissions report shall be submitted in a form acceptable to the Department.

This condition requires the specific contents of excess emissions reports for opacity from facilities that employ continuous opacity monitors (COMs).

The owner or operator of a stationary combustion installation which utilizes a continuous opacity monitoring system (COMS) shall include the following in their quarterly excess emission reports:

- 1) Magnitude, date, and time of each exceedance;
- 2) For each period of excess emissions, specific identification of the cause and corrective action taken;
- 3) Date, time, and duration of each period of COMS downtime, and the corrective action for each period of downtime;
- 4) Total time the COMS is required to record data during the reporting period;
- 5) The total number of exceedances and the duration of exceedances expressed as a percentage of the total time in which the COMS are required to record data; and
- 6) Such other requirements as the Department may deem necessary in order to enforce Article 19 of the Environmental Conservation Law (ECL).

**9. Condition # 32 for 6 NYCRR 227-2.4 (c) (1) (ii):** This condition is an emission unit level, emission point level, process level and emission source/control level This condition that applies to EU: U-B0001, Emission Point: B0001, Processes: G41, G65, O41 & O65, and Emission Sources: BLR01, BLR02, BLR03, BLR04, BLR05 & BLR06. This condition is for Intermittent Emission Testing for Oxides of Nitrogen for mid-size boilers. This condition applies to all mid-size boilers (Emission Sources BLR01, BLR02, BLR03, BLR04, BLR05 & BLR06) operating on natural gas (Processes G41 & G65) and on distillate fuel oil (Processes O41 & O65). On or after July 1, 2014, the NO<sub>x</sub> RACT emission limit is 0.08 pounds per million Btus for mid-size boilers operating on distillate oil/natural gas. A “mid-size” boiler is defined as a boiler with a maximum heat input capacity greater than 25 million Btu per hour and equal to or less than 100 million Btu per hour.

**10. Condition # 33 for 6 NYCRR 227-2.4 (f) (3):** This condition is an emission unit level, emission point level, process level and emission source/control level condition that



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applies to Emission Unit: U-CDRP, Emission Points: EPTG1, EPTG2, EPTG3 & EPTG4, Process ENG, and Emission Sources/Controls: ENG01, ENG02, ENG03 & ENG04 for Record Keeping/Maintenance Procedures for Oxides of Nitrogen for the four (4) new Caterpillar Model 3512C electric engine generators participating in the CDRP.

This condition specifies the normal engine-maintenance program in order to ensure that the engines run at optimum conditions and stays in compliance with the presumptive NOx RACT emission limit for distillate oil fired stationary internal combustion engines. The normal engine-maintenance program periodic maintenance will be performed in accordance with manufacturer's specifications. These specific procedures are outlined in the manufacturer's specification manual for the unit. Other components of the periodic maintenance program for the unit include those actions necessitated by the results of monitoring the following data: diagnostic data obtained after a set number of operating hours, engine gas analysis, and fuel consumption versus power output of the unit.

**11. Condition # 34 for 6 NYCRR 227-2.4 (f) (3):** This condition is an emission unit level, emission point level, process level and emission source/control level condition that applies to Emission Unit: U-CDRP, Emission Points: EPTG1, EPTG2, EPTG3 & EPTG4, Process ENG, and Emission Sources/Controls: ENG01, ENG02, ENG03 & ENG04 for Intermittent Emission Testing for Oxides of Nitrogen for the four (4) new Caterpillar Model 3512C electric engine generators participating in the CDRP.

This condition is for the presumptive NOx RACT emission limit of 2.3 grams per brake horsepower-hour for distillate oil fired stationary internal combustion engines. But, based on the June 1, 2018 NOx RACT Compliance Plan for the four engines participating in the CDRP, the facility demonstrated that it is not economically or technically feasible to meet the regulatory NOx emission limit of 2.3 grams per brake horsepower-hour. However; the Department is allowing to set a higher emission source specific emission limit, which is the manufacturer's guarantee of 5.48 grams per brake horsepower-hour as an alternative compliance option NOx emission limit.

**12. Condition # 35 for 6 NYCRR 227-2.5 (c):** This condition is an emission unit level, emission point level, process level and emission source/control level condition that applies to Emission Unit: U-CDRP, Emission Points: EPTG1, EPTG2, EPTG3 & EPTG4, Process ENG, and Emission Sources/Controls: ENG01, ENG02, ENG03 & ENG04 for Intermittent Emission Testing for Oxides of Nitrogen for the four (4) new Caterpillar Model 3512C electric engine generators participating in the CDRP.

This condition allows the owner or operator to demonstrate that the applicable presumptive RACT emission limit in section 227-2.4 of this Subpart is not economically or technically feasible. Based on this determination the Department is allowed to set a higher emission source specific emission limit, which is the manufacturer's guarantee of



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5.48 grams per brake horsepower-hour instead of the regulatory 2.3 grams per brake horsepower-hour.

**13. Condition # 36 for 6 NYCRR 227-2.6 (a):** This condition is an emission unit level, emission point level, process level and emission source/control level This condition that applies to EUs: U-B0001 & U-C0001, Emission Points: B0001 & C0001, Processes: G41, G65, G55, O41, O65 & O55, and Emission Sources: B0001, B0002, B0003, BLR04, BLR05 & BLR06. This condition is for Intermittent Emission Testing for Oxides of Nitrogen for mid-size boilers. This condition applies to all mid-size boilers (Emission Sources BLR01, BLR02, BLR03, BLR04, BLR05, BLR06 & B0005) operating on natural gas (Processes G41, G65 & G55) and on distillate fuel oil (Processes O41, O65 & O55). The NO<sub>x</sub> RACT for mid-size boilers operating on distillate oil/natural gas is a limit of 0.12 pounds per million Btu per hour prior to July 1, 2014 and a limit of 0.08 pounds per million Btu per hour on or after July 1, 2014. A “mid-size” boiler is defined as a boiler with a maximum heat input capacity greater than 25 million Btu per hour and equal to or less than 100 million Btu per hour

**14. Condition # 37 for 6 NYCRR 227-2.6 (c):** This condition is an emission unit level, emission point level, process level and emission source/control level This condition that applies to EU: U-B0001, Emission Point: B0001, Processes: G41, G65, O41 & O65, and Emission Sources: BLR01, BLR02, BLR03, BLR04, BLR05 & BLR06. This condition is for Intermittent Emission Testing for Oxides of Nitrogen for mid-size boilers. This condition applies to all mid-size boilers (Emission Sources BLR01, BLR02, BLR03, BLR04, BLR05 & BLR06) operating on natural gas (Processes G41 & G65) and on distillate fuel oil (Processes O41 & O65). The NO<sub>x</sub> RACT for mid-size boilers operating on distillate oil/natural gas is a limit of 0.08 pounds per million Btu per hour on or after July 1, 2014. A “mid-size” boiler is defined as a boiler with a maximum heat input capacity greater than 25 million Btu per hour and equal to or less than 100 million Btu per hour.

The owner or operator of mid-size boilers (source) is required to conduct an emission test (stack test) to verify NO<sub>x</sub> emissions and to demonstrate compliance with 6 NYCRR 227-2.6(a). The facility is required to follow monitoring and reporting requirements. The stack testing for NO<sub>x</sub> emission requires the facility to:

1. Submit a compliance test protocol to the department for approval at least 90 days prior to emission testing. The condition of the testing and the locations of the sampling devices must be acceptable to the department; and
2. Utilize procedures set forth in 40 CFR Part 60, Appendix A or any other method acceptable to the department and EPA for determining compliance with the



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appropriate NO<sub>x</sub> limit in section 227-2.4 of this Subpart, and shall follow the procedures set forth in Part 202 of this Title.

i. For mid-size boilers (> 25 and equal to or <100 MM Btu/hr) boilers, utilize Method 7, 7E, or 19 from 40 CFR Part 60, Appendix A or another reference method approved by the department.

3. Submit a compliance test report containing the results of the emission test to the department no later than 60 days after completion of the emission test.

**15. Condition # 39 for 40 CFR 60.40c, NSPS Subpart Dc:** This condition is an emission unit level, emission point level, process level and emission source/control level This condition that applies to EU: U-B0001, Emission Point: B0001, Processes: G41, G65, O41 & O65, and Emission Sources: BLR01, BLR02, BLR03, BLR04, BLR05 & BLR06. This condition is for Intermittent Emission Testing for Oxides of Nitrogen for mid-size boilers. This condition applies to all mid-size boilers (Emission Sources BLR01, BLR02, BLR03, BLR04, BLR05 & BLR06) operating on natural gas (Processes G41 & G65) and on distillate fuel oil (Processes O41 & O65). A “mid-size” boiler is defined as a boiler with a maximum heat input capacity greater than 25 million Btu per hour and equal to or less than 100 million Btu per hour.

This condition requires the source owner or operator to comply with the applicable General Provisions of 40 CFR 60 Subpart Dc. The facility owner is responsible for reviewing these general provisions in detail and complying with all applicable technical, administrative and reporting requirements.

40 CFR 60-Dc.40c, NSPS which limits the sulfur content in the distillate oil to 0.5 percent by weight is superseded by regulation 6 NYCRR 225-1.2, which limits the sulfur content in the distillate oil to 0.20 percent by weight to facilities in the severe ozone non-attainment area such as New York City until June 30, 2014 and 0.0015 percent by weight thereafter.

Mount Sinai Hospital must comply with the 0.20 percent by weight sulfur content limit in distillate oil as per 6 NYCRR 225-1.2 until June 30, 2014 and 0.0015 percent by weight thereafter which has more stringent limit for New York City than 40 CFR 60-Dc.40c, NSPS.

**16. Condition # 40 for 40 CFR 60.40c (d)(2), NSPS Subpart Dc:** This condition is an emission unit level, emission point level, process level and emission source/control level This condition that applies to EU: U-B0001, Emission Point: B0001, Processes: O41 & O65, and Emission Sources: BLR01, BLR02, BLR03, BLR04, BLR05 & BLR06. This condition is for Record Keeping/Maintenance



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Procedures for all six boilers, Boilers BLR01, BLR02, BLR03, BLR04, BLR05 & BLR06. This condition is for Monitoring of Process or Control device Parameters as Surrogate for sulfur dioxide for the sulfur content of 0.20 percent by weight in the distillate oil.

This condition allows the owner or operator of an affected facility to determine the average sulfur dioxide emission rate by sampling the fuel prior to its combustion and calculating the emissions instead of installing and operating a continuous emissions monitor at the inlet of the control device.

40 CFR 60-Dc.46c(d)(2), NSPS which limits the sulfur content in the distillate oil to 0.5 percent by weight is superseded by regulation 6 NYCRR 225-1.2, which limits the sulfur content in the distillate oil to 0.20 percent by weight to facilities in the severe ozone non-attainment area such as New York City until June 30, 2014, and 0.0015 percent by weight thereafter.

Mount Sinai Hospital must comply with the 0.20 percent by weight sulfur content limit until June 30, 2014, and 0.0015 percent by weight thereafter in distillate oil as per 6 NYCRR 225-1.2, which has more stringent limit for New York City than 40 CFR 60-Dc.46c(d)(2), NSPS.

**17. Condition # 41 for 40 CFR 60.48c (g), NSPS Subpart Dc:** This condition is an emission unit level, emission point level, process level and emission source/control level. This condition that applies to EU: U-B0001, Emission Point: B0001, Processes: O41 & O65, and Emission Sources: BLR01, BLR02, BLR03, BLR04, BLR05 & BLR06. This condition is for Record Keeping/Maintenance Procedures for all six boilers, Boilers BLR01, BLR02, BLR03, BLR04, BLR05 & BLR06.

The owner or operator of each affected facility shall record and maintain records of the amount of each fuel combusted during each day.

**18. Condition # 42 for 40 CFR 60, NSPS Subpart IIII:** This condition is Record Keeping/Maintenance Procedures for Oxides of Nitrogen for the eleven (11) emergency generators. These engines are classified as stationary compression ignition internal combustion engines.

This condition is for the Applicability of Standards of Performance for Stationary Compression Ignition Internal Combustion Engines.

Facilities that have stationary compression ignition internal combustion engines must comply with applicable portions of 40 CFR 60 Subpart IIII.



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**19. Condition # 44 for 40 CFR 60.4205(b), NSPS Subpart III:** This condition is an emission unit level, emission point level, process level and emission source/control level condition that applies to Emission Unit: U-CDRP, Emission Points: EPTG1, EPTG2, EPTG3 & EPTG4, Process ENG, and Emission Sources/Controls: ENG01, ENG02, ENG03 & ENG04 for Record Keeping/Maintenance Procedures for each of the four (4) new Caterpillar Model 3512C electric engine generators participating in the CDRP.

This condition applies to owners and operators of 2007 model year and later emergency stationary CI IC engines with a displacement less than 30 liters/cylinder that are not fire pump engines. An applicable source must comply with the emission standards for new nonroad CI engines for all pollutants (HC, PM, NO<sub>x</sub>, NMHC + NO<sub>x</sub> and CO) for the same model year and maximum engine power as per 40 CFR 60.4202.

**20. Condition # 45 for 40 CFR 60.4207(b), NSPS Subpart III:** This condition is an emission unit level, emission point level, process level and emission source/control level condition that applies to Emission Unit: U-CDRP, Emission Points: EPTG1, EPTG2, EPTG3 & EPTG4, Process ENG, and Emission Sources/Controls: ENG01, ENG02, ENG03 & ENG04 for Work Practice Involving Specific Operations condition for Sulfur Content in the ultra-low sulfur diesel fuel oil fired in each of the four (4) new Caterpillar Model 3512C electric engine generators participating in the CDRP.

This condition states the fuel requirements beginning October 1, 2010 for compression ignition stationary IC engines with a displacement of less than 30 liters per cylinder. The Sulfur Content shall not exceed 15 parts per million or 0.0015% by weight in the ultra-low-sulfur diesel fuel fired in each of the four (4) new Caterpillar Model 3512C electric engine generators (Emission Sources ENG01, ENG02, ENG03 & ENG04) in Emission Unit U-CDRP.

**21. Condition # 46 for 40 CFR 60.4207(b), NSPS Subpart III:** This condition is an emission unit level, emission point level, process level and emission source/control level condition that applies to Emission Unit: U-CDRP, Emission Points: EPTG1, EPTG2, EPTG3 & EPTG4, Process ENG, and Emission Sources/Controls: ENG01, ENG02, ENG03 & ENG04 for Work Practice Involving Specific Operations condition for the Centane Combustion Index in the ultra-low sulfur diesel fuel oil fired in each of the four (4) new Caterpillar Model 3512C electric engine generators participating in the CDRP.

This condition states the fuel requirements beginning October 1, 2010 for compression ignition stationary IC engines with a displacement of less than 30 liters per cylinder. The Centane Combustion Index is not to fall below a ratio of 40 in the ultra-low sulfur diesel fuel oil fired in each of the four (4) new Caterpillar Model 3512C electric engine generators (Emission Sources ENG01, ENG02, ENG03 & ENG04) in Emission Unit U-CDRP.





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**22. Condition # 47 for 40 CFR 60.4207(b), NSPS Subpart III:** This condition is an emission unit level, emission point level, process level and emission source/control level condition that applies to Emission Unit: U-CDRP, Emission Points: EPTG1, EPTG2, EPTG3 & EPTG4, Process ENG, and Emission Sources/Controls: ENG01, ENG02, ENG03 & ENG04 for Work Practice Involving Specific Operations condition for the Aromatic Content in the ultra-low sulfur diesel fuel oil fired in each of the four (4) new Caterpillar Model 3512C electric engine generators participating in the CDRP.

This condition states the fuel requirements beginning October 1, 2010 for compression ignition stationary IC engines with a displacement of less than 30 liters per cylinder. The Aromatic Content is not to exceed 35% in the ultra-low sulfur diesel fuel oil fired in each of the four (4) new Caterpillar Model 3512C electric engine generators (Emission Sources ENG01, ENG02, ENG03 & ENG04) in Emission Unit U-CDRP.

**23. Condition # 48 for 40 CFR 60.4211(a), NSPS Subpart III:** This condition is an emission unit level, emission point level, process level and emission source/control level condition that applies to Emission Unit: U-CDRP, Emission Points: EPTG1, EPTG2, EPTG3 & EPTG4, Process ENG, and Emission Sources/Controls: ENG01, ENG02, ENG03 & ENG04 for Record Keeping/Maintenance Procedures.

This condition states that the owner or operator and must comply with the emission standards specified in 40 CFR 60 Subpart III and must operate and maintain the stationary compression ignition internal combustion engine and control device according to the manufacturer's written instructions.

**24. Condition # 49 for 40 CFR 60.4211(c), NSPS Subpart III:** This condition is an emission unit level, emission point level, process level and emission source/control level condition that applies to Emission Unit: U-CDRP, Emission Points: EPTG1, EPTG2, EPTG3 & EPTG4, Process ENG, and Emission Sources/Controls: ENG01, ENG02, ENG03 & ENG04 for Record Keeping/Maintenance Procedures.

This conditions' regulation is an NSPS general provision and states that the owners or operators of a 2007 model year and later stationary Compression Ignition internal combustion engine and must comply with the emission standards specified in §60.4204(b) or §60.4205(b), or if you are an owner or operator of a CI fire pump engine that is manufactured during or after the model year that applies to your fire pump engine power rating in table 3 to this subpart and must comply with the emission standards specified in §60.4205(c), must comply by purchasing an engine certified to the emission standards in §60.4204(b), or §60.4205(b) or (c), as applicable, for the same model year and maximum (or in the case of fire pumps, NFPA nameplate) engine power.



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The engine must be installed and configured according to the manufacturer's specifications.

The manufacturer's certification of compliance with the emission standards specified in 40 CFR 60 Subpart IIII for major pollutants will be sent to the Department prior to commencement of operation of the engines.

**25. Condition # 50 for 40 CFR 60.4211(e), NSPS Subpart IIII:** This condition is an emission unit level, emission point level, process level and emission source/control level condition that applies to Emission Unit: U-CDRP, Emission Points: EPTG1, EPTG2, EPTG3 & EPTG4, Process ENG, and Emission Sources/Controls: ENG01, ENG02, ENG03 & ENG04 for Monitoring of Process or Control device Parameters As Surrogate.

This condition lists the compliance options for modified and reconstructed compression ignition engines that must comply with emission standards.

This condition allows the emergency stationary ICE to be operated for the purpose of maintenance checks and readiness testing, provided that the tests are recommended by Federal, State, or local government, the manufacturer, the vendor, or the insurance company associated with the engine.

This condition limits the maintenance checks and readiness testing of such units to 100 hours per year for each engine. There is no time limit on the use of emergency stationary ICE in emergency situations.

**26. Condition # 51 for 40 CFR 60, NSPS Subpart ZZZZ:** This condition is Record Keeping/Maintenance Procedures for Oxides of Nitrogen for the eleven (11) emergency generators. These engines are classified as stationary compression ignition internal combustion engines.

This requirement is for internal combustion engines, constructed or re-constructed on or after June 12, 2006, that meet the requirements of 40 CFR 60 Subpart IIII or Subpart JJJJ meet the requirements of 40 CFR 63 Subpart ZZZZ.

Facilities that have reciprocating internal combustion engines must comply with applicable portions of 40 CFR 63 subpart ZZZZ.

**27. Condition # 53 for 40 CFR 89.112, Subpart B:** This condition is an emission unit level, emission point level, process level and emission source/control level condition that applies to Emission Unit: U-CDRP, Emission Points: EPTG1, EPTG2, EPTG3 & EPTG4, Process ENG, and Emission Sources/Controls: ENG01, ENG02, ENG03 &



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ENG04 for Work Practice Involving Specific Operations condition for 40 CFR 60 Subpart IIII – NMHC + NOX.

This condition is for motor vehicle diesel fuel: non-road, locomotive and marine diesel fuel for the four new electric generators (Emission Sources ENG01, ENG02, ENG03 & ENG04) that will be installed on the roof of the Klingenstein Clinical Center (KCC) building. Each generator is a Caterpillar Model 3512C engine rated at 2206 brake horsepower (bhp-hr) and 1500 electrical kilowatts (EKW), and will fire distillate (diesel) fuel oil at 100 % load. Each of the four new Caterpillar CAT 3512C electric generator is a 2018 model year with Tier II emission rates.

This condition lists the compliance options for all Tier II engines Model 2007 and later model compression ignition engines that must comply with emission standards.

This regulation sets forth the limits for oxides of nitrogen, carbon monoxide, hydrocarbon, and particulate matter from the exhaust of compression-ignition nonroad engines.

This condition sets forth the limits for 40 CFR 60 Subpart IIII – NMHC + NO<sub>x</sub> as 6.4 grams per kilowatt hour maximum in diesel oil from the exhaust of compression-ignition nonroad engines.

**28. Condition # 54 for 40 CFR 89.112, Subpart B:** This condition is an emission unit level, emission point level, process level and emission source/control level condition that applies to Emission Unit: U-CDRP, Emission Points: EPTG1, EPTG2, EPTG3 & EPTG4, Process ENG, and Emission Sources/Controls: ENG01, ENG02, ENG03 & ENG04 for Work Practice Involving Specific Operations condition for Carbon Monoxide.

This condition is for motor vehicle diesel fuel: non-road, locomotive and marine diesel fuel for the four new electric generators (Emission Sources ENG01, ENG02, ENG03 & ENG04) that will be installed on the roof of the Klingenstein Clinical Center (KCC) building. Each generator is a Caterpillar Model 3512C engine rated at 2206 brake horsepower (bhp-hr) and 1500 electrical kilowatts (EKW), and will fire distillate (diesel) fuel oil at 100 % load. Each of the four new Caterpillar CAT 3512C electric generator is a 2018 model year with Tier II emission rates.

This condition lists the compliance options for all Tier II engines Model 2007 and later model compression ignition engines that must comply with emission standards.

This regulation sets forth the limits for oxides of nitrogen, carbon monoxide, hydrocarbon, and particulate matter from the exhaust of compression-ignition nonroad engines.



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This condition sets forth the limits for Carbon Monoxide as 3.5 grams per kilowatt hour maximum in diesel oil from the exhaust of compression-ignition nonroad engines.

**29. Condition # 55 for 40 CFR 89.112, Subpart B:** This condition is an emission unit level, emission point level, process level and emission source/control level condition that applies to Emission Unit: U-CDRP, Emission Points: EPTG1, EPTG2, EPTG3 & EPTG4, Process ENG, and Emission Sources/Controls: ENG01, ENG02, ENG03 & ENG04 for Work Practice Involving Specific Operations condition for Particulates.

This condition is for motor vehicle diesel fuel: non-road, locomotive and marine diesel fuel for the four new electric generators (Emission Sources ENG01, ENG02, ENG03 & ENG04) that will be installed on the roof of the Klingenstein Clinical Center (KCC) building. Each generator is a Caterpillar Model 3512C engine rated at 2206 brake horsepower (bhp-hr) and 1500 electrical kilowatts (EKW), and will fire distillate (diesel) fuel oil at 100 % load. Each of the four new Caterpillar CAT 3512C electric generator is a 2018 model year with Tier II emission rates.

This condition lists the compliance options for all Tier II engines Model 2007 and later model compression ignition engines that must comply with emission standards.

This regulation sets forth the limits for oxides of nitrogen, carbon monoxide, hydrocarbon, and particulate matter from the exhaust of compression-ignition nonroad engines.

This condition sets forth the limits for Particulates as 0.2 grams per kilowatt hour maximum in diesel oil from the exhaust of compression-ignition nonroad engines.

**30. Condition # 60 for 6 NYCRR 227.2(b)(1):** This condition is an emission unit level, emission point level, process level and emission source/control level This condition that applies to EU: U-B0001, Emission Point: B0001, Processes: O41 & O65, and Emission Sources: BLR01, BLR02, BLR03, BLR04, BLR05 & BLR06. This condition is for Intermittent Emission Testing for Particulates for Particulates for all six boilers, Boilers BLR01, BLR02, BLR03, BLR04, BLR05 & BLR06. This regulation is from the 1972 version of Part 227 and still remains as part of New York's SIP. This condition establishes a particulate limit of 0.10 pounds per million Btus based on a 2 hour average emission for the referenced emission sources, and is required once during the term of the permit.

**31. Condition # 66 for 40 CFR 60.48c (d), NSPS Subpart Dc:** This condition is an emission unit level, emission point level, process level and emission source/control level condition that applies to EU: U-B0001, Emission Point: B0001, Processes: O41 & O65, and Emission Sources: BLR01, BLR02, BLR03, BLR04, BLR05 & BLR06. This condition is for Record Keeping/Maintenance Procedures for all six boilers, Boilers



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BLR01, BLR02, BLR03, BLR04, BLR05 & BLR06. This condition is for reporting and recordkeeping for sulfur dioxide. This condition requires the owner or operator of the facility subject to the SO<sub>2</sub> emission limits, fuel oil sulfur limits, or percent reduction requirements under §60.42c, to submit semi-annual reports to the EPA.

**32. Condition # 67 for 40 CFR 60.48c (e) (1), NSPS Subpart Dc:** This condition is an emission unit level, emission point level, process level and emission source/control level condition that applies to EU: U-B0001, Emission Point: B0001, Processes: O41 & O65, and Emission Sources: BLR01, BLR02, BLR03, BLR04, BLR05 & BLR06. This condition is for Record Keeping/Maintenance Procedures for all six boilers, Boilers BLR01, BLR02, BLR03, BLR04, BLR05 & BLR06. This condition is for reporting and recordkeeping provisions for facilities subject to a sulfur-in-fuel standard, sulfur dioxide emission limit, or percent reduction of sulfur dioxide emissions.

**33. Condition # 68 for 40 CFR 60.48c (e) (2), NSPS Subpart Dc:** This condition is an emission unit level, emission point level, process level and emission source/control level condition that applies to EU: U-B0001, Emission Point: B0001, Processes: O41 & O65, and Emission Sources: BLR01, BLR02, BLR03, BLR04, BLR05 & BLR06. This condition is for Record Keeping/Maintenance Procedures for all six boilers, Boilers BLR01, BLR02, BLR03, BLR04, BLR05 & BLR06. This condition is for reporting and recordkeeping provisions for facilities subject to a sulfur-in-fuel standard, sulfur dioxide emission limit, or percent reduction of sulfur dioxide emissions.

**34. Condition # 69 for 40 CFR 60.48c (e) (3), NSPS Subpart Dc:** This condition is an emission unit level, emission point level, process level and emission source/control level condition that applies to EU: U-B0001, Emission Point: B0001, Processes: O41 & O65, and Emission Sources: BLR01, BLR02, BLR03, BLR04, BLR05 & BLR06. This condition is for Record Keeping/Maintenance Procedures for all six boilers, Boilers BLR01, BLR02, BLR03, BLR04, BLR05 & BLR06. This condition is for reporting and recordkeeping provisions for facilities subject to a sulfur-in-fuel standard, sulfur dioxide emission limit, or percent reduction of sulfur dioxide emissions.

**35. Condition # 70 for 40 CFR 60.48c (e) (4), NSPS Subpart Dc:** This condition is an emission unit level, emission point level, process level and emission source/control level condition that applies to EU: U-B0001, Emission Point: B0001, Processes: O41 & O65, and Emission Sources: BLR01, BLR02, BLR03, BLR04, BLR05 & BLR06. This condition is for Record Keeping/Maintenance Procedures for all six boilers, Boilers BLR01, BLR02, BLR03, BLR04, BLR05 & BLR06. This condition is for reporting and recordkeeping provisions for facilities subject to a sulfur-in-fuel standard, sulfur dioxide emission limit, or percent reduction of sulfur dioxide emissions.



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**36. Condition # 71 for 40 CFR 60.48c (e) (7), NSPS Subpart Dc:** This condition is an emission unit level, emission point level, process level and emission source/control level condition that applies to EU: U-B0001, Emission Point: B0001, Processes: O41 & O65, and Emission Sources: BLR01, BLR02, BLR03, BLR04, BLR05 & BLR06. This condition is for Record Keeping/Maintenance Procedures for all six boilers, Boilers BLR01, BLR02, BLR03, BLR04, BLR05 & BLR06. This condition is for reporting and recordkeeping provisions for facilities subject to a sulfur-in-fuel standard, sulfur dioxide emission limit, or percent reduction of sulfur dioxide emissions.

**37. Condition # 72 for 40 CFR 60.48c (f) (1), NSPS Subpart Dc:** This condition is an emission unit level, emission point level, process level and emission source/control level condition that applies to EU: U-B0001, Emission Point: B0001, Processes: O41 & O65, and Emission Sources: BLR01, BLR02, BLR03, BLR04, BLR05 & BLR06. This condition is for Record Keeping/Maintenance Procedures for Sulfur Dioxide. Fuel supplier certifications for distillate oil shall include the name of the oil supplier and a statement from the oil supplier that the oil complies with the specification under the definition of distillate oil in 40 CFR 60-Dc.41c.

**38. Condition # 73 for 40 CFR 60.48c (i), NSPS Subpart Dc:** This condition is an emission unit level, emission point level, process level and emission source/control level condition that applies to EU: U-B0001, Emission Point: B0001, Processes: O41 & O65, and Emission Sources: BLR01, BLR02, BLR03, BLR04, BLR05 & BLR06. This condition is for Record Keeping/Maintenance Procedures for all six boilers, Boilers BLR01, BLR02, BLR03, BLR04, BLR05 & BLR06. This condition requires the source owner or operator to retain all records for a minimum of two years for compliance with the NSPS. This does not supersede any requirement that is more stringent, including the Title V requirement to maintain records for a minimum of 5 years.

**39. Condition # 74 for 6 NYCRR 227-1.3:** This condition is an emission unit level, emission point level, process level and emission source/control level condition that applies to Emission Unit: U-CDRP, Emission Points: EPTG1, EPTG2, EPTG3 & EPTG4, Process ENG, and Emission Sources/Controls: ENG01, ENG02, ENG03 & ENG04 for Record Keeping/Maintenance Procedures.

This condition requires stack opacity not exceed 20 percent (six minute average), except for one six-minute period per hour of not more than 27 percent opacity. Compliance with this standard will be determined by any other credible evidence.

**40. Condition # 75 for 40 CFR 60.4204(b), NSPS Subpart III:** This condition is an emission unit level, emission point level, process level and emission source/control level condition that applies to Emission Unit: U-CDRP, Emission Points: EPTG1, EPTG2,



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EPTG3 & EPTG4, Process ENG, and Emission Sources/Controls: ENG01, ENG02, ENG03 & ENG04 for Record Keeping/Maintenance Procedures.

This condition requires owners and/or operators of 2007 model year or later non-emergency stationary compression ignition internal combustion engines displacing less than 30 liters per cylinder to purchase engines that meet the emission standards referenced in 40 CFR 60.4201 and maintain those engines according to manufacturer's specifications.

**41. Condition # 43 for 40 CFR 60.4204(b), NSPS Subpart III:** This condition is an emission unit level, emission point level, process level and emission source/control level condition that applies to Emission Unit: U-CDRP, Emission Points: EPTG1, EPTG2, EPTG3 & EPTG4, Process ENG, and Emission Sources/Controls: ENG01, ENG02, ENG03 & ENG04 for Intermittent Emission Testing for Oxides of Nitrogen.

This condition requires owners and/or operators of 2007 model year or later non-emergency stationary compression ignition internal combustion engines displacing less than 30 liters per cylinder to purchase engines that meet the emission standards referenced in 40 CFR 60.4201 and maintain those engines according to manufacturer's specifications. The NOx emission limit for each of the four new Caterpillar Model 3512C electric generators (Emission Sources ENG01, ENG02, ENG03 & ENG04) is 5.48 grams per brake horsepower-hour as per the manufacturer's guarantee.

**42. Condition # 76 for 40 CFR 80.510(b), Subpart I:** This condition is an emission unit level, emission point level, process level and emission source/control level condition that applies to Emission Unit: U-CDRP, Emission Points: EPTG1, EPTG2, EPTG3 & EPTG4, Process ENG, and Emission Sources/Controls: ENG01, ENG02, ENG03 & ENG04 for Monitoring of Process or Control device Parameters As Surrogate for Sulfur Dioxide.

This condition is for motor vehicle diesel fuel: non-road, locomotive and marine diesel fuel for the four new electric generators (Emission Sources ENG01, ENG02, ENG03 & ENG04) that will be installed on the roof of the Klingenstein Clinical Center (KCC) building. Each generator is a Caterpillar Model 3512C engine rated at 2206 brake horsepower (bhp-hr) and 1500 electrical kilowatts (EKW), and will fire distillate (diesel) fuel oil at 100 % load. Each of the four new Caterpillar CAT 3512C electric generator is a 2018 model year with Tier II emission rates.

This condition requires that beginning June 1, 2010: Except as otherwise specifically provided in 40 CFR 80 Subpart I, all nonroad and locomotive marine diesel fuel is subject to the following per-gallon standards for sulfur content: 15 ppm maximum for NR diesel fuel.



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This condition specifies the Sulfur content limit for non road and locomotive marine diesel fuel to be 15 parts per million by weight.