City of Homestead
Gordon W. Ivey Power Plan

Title V Air Operation Permit Renewal
Permit No. 0250013-004-AV

APPLICANT

The applicant for this project is City of Homestead. The applicant's responsible official and mailing address are: Mr. Kenneth J. Konkol, Utilities Assistant Director, City of Homestead, Gordon W. Ivey Power plant, 790 North Homestead Boulevard, Homestead, Florida 33030.

FACILITY DESCRIPTION

The applicant operates the existing Gordon W. Ivey Power Plant, which is located in Miami-Dade County at 675 North Flagler Avenue, Homestead, Florida.

The existing facility consists of ten regulated compression ignition (CI) reciprocating internal combustion engines (RICE), one emergency backup diesel engine driven emergency generator and various insignificant fuel oil and miscellaneous storage tanks.

Emissions Units (EUs) 002, 003, 013, 014, 015, 016, 017, 019, 020 and 021 are CI RICE units each connected to an electrical generator to provide electricity to the local power grid for the City of Homestead. These CI RICE units are dual fuel-fired generator engines that are started on 100% ultra low sulfur fuel oil (ULSFO) until the proper operating temperature is achieved, which is usually 5 to 10 minutes. As soon as the proper temperature is reached, the engines are then switched over to a dual fuel firing mode, which under normal operation conditions is a blend of approximately 95 percent (%) natural gas and 5% (ULSFO). Each of these engines were recently equipped with an oxidation catalyst, continuous monitoring systems and a crankcase ventilation system to reduce carbon monoxide (CO) emissions, as required by the National Emissions Standards for Hazardous Air Pollutants (NESHAP) for RICE in 40 CFR 63, Subpart ZZZZ. Subpart ZZZZ was effective on April 1, 2013 with a compliance date of May 3, 2013. As predominantly natural gas-fired dual fueled units, these engines are not subject to the Reasonably Available Control Technology (RACT) Requirements for Major Volatile Organic Compounds (VOC) - and Nitrogen Oxides (NO_X) - Emitting Facilities specified in Rule 62-296.570(4)(b)7, F.A.C., for oil-fired diesel generators.

EUs 002, 003, 013, 014, 015, 016 and 017 are identical units, each consisting of a Fairbanks-Morse engine/generator package unit Model No. 38TDD8-1/8. These units are rated to produce 2,880 brake horsepower (BHP), 2,070 KW, and have a nominal rating of 2 megawatt (MW) each, which may vary due to engine performance. The stack for each of these units has an internal diameter of 1.7 feet.

EU 019 consists of a Cooper Bessemer engine/generator package unit Model No. DGSRV-20-4. This unit is rated to produce 12,207 BHP, 8,800 KW, and has a nominal rating of 9 MW, which may vary due to engine performance. The stack for this unit has an internal diameter of 4.65 feet.

EUs 020 and 021 are identical units each consisting of a Colt Pielstick engine/generator package unit Model No. 18PC2.3, manufactured by Fairbanks-Morse. These units are rated to produce 9,000 BHP, 6,485 KW and a nominal rating of 6 MW each, which may vary due to engine performance. The stacks for these units are identical with an internal diameter of 2.3 feet.

EU 024 consists of a John Deere, Model No. 4045HF285, emergency backup diesel engine driven emergency generator. This unit is rated to produce 158 BHP (100 KW).

EUs 019, 020 and 021 were successfully tested on February 13, 2013 to meet the test requirements for compliance. A test report dated March 7, 2013 was submitted to the Miami-Dade County-Department of Regulatory and Economic Resources (Miami-Dade RER).

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EUs 002, 013 and 017 were successfully tested on December, 2013 to meet the test requirements for compliance. A test report dated January 10, 2014 was submitted to the Miami-Dade RER.

EUs 003, 014, 015 and 016 have not yet demonstrated initial compliance with the NESHAP, Subpart ZZZZ requirements. These engines will remain out of service until the initial compliance demonstration can be performed, as specified in Appendix CP-1, Compliance Plan for Emissions Units 003, 014, 015 and 016, attached to the permit.

EUs 008, 009, 010, 011,012 and 018 were permanently retired on May 3, 2013; these units are not capable of being operated and have been permanently taken out of service.

This facility also includes miscellaneous insignificant emissions units and/or activities.

PROJECT DESCRIPTION

The purpose of this permitting project is to renew the existing Title V air operation permit for the above referenced facility.

PROCESSING SCHEDULE AND RELATED DOCUMENTS

Application for a Title V Air Operation Permit Renewal received October 4, 2013.

Additional Information Request dated November 25, 2013.

Additional Information Response received February 19, 2014.

PRIMARY REGULATORY REQUIREMENTS

Standard Industrial Classification (SIC) Code: 4911 - Electrical Generation.

North American Industry Classification System (NAICS): 221112 - Fossil Fuel Electric Power Generation.

Title III: The facility is not identified as a major source of hazardous air pollutants (HAP).

Title V: The facility is a Title V major source of air pollution in accordance with Chapter 62-213, Florida Administrative Code (F.A.C.).

NSPS: The facility operates units subject to the New Source Performance Standards (NSPS) of 40 Code of Federal Regulations (CFR) 60.

NESHAP: The facility operates units subject to the National Emissions Standards for Hazardous Air Pollutants (NESHAP) of 40 CFR 63.

CAM: Compliance Assurance Monitoring (CAM) does not apply to any of the units at the facility.

GHG: The facility is not identified as a major source of green house gas (GHG) pollutants.

PROJECT REVIEW

The following changes/revisions were made as part of this renewal, the key differences compared with the previous Title V air operation permit are:

1. Modification of the summary of emission units table to list EUs 002, 003, 013 - 017 and 019 - 021 as regulated emission units, since these units are now subject to the federal requirements for non-emergency reciprocating internal combustion engines, NESHAP, Subpart ZZZZ requirements, which was effective on April 1, 2013.
2. Removal of EUs 008 - 012 and EU 018 from the permit, these units was taken out of service on May 3, 2013.
3. Removal of EU 022 (the cooling tower for EU 018) from Appendix I – List of Insignificant Emissions Units. The cooling tower is retired and will not be put back in service.
4. Creation of a new Subsection III. - Emissions Units and Specific Conditions, consisting of Subsection A, to establish applicable requirements for Emissions Unit Nos. 002, 003, 013, 014, 015, 016, 017, 019, 020 and

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021 pursuant to 40 CFR 63, Subpart ZZZZ and Subsection B, to establish applicable requirements for Emissions Unit No.024 pursuant to 40 CFR 60, Subpart IIII.

5. Removal of the fuel oil day tanks for EUs 002 through 012 from Appendix I – List of Insignificant Emissions Units. The tanks have been taken out of service and will be removed from facility.
6. Removal of the oil/water separator located adjacent to plant on north wall from Appendix I – List of Insignificant Emissions Units. The separator still exists on-site, but is not in service.
7. Replacement of Appendix TV, Title V General Conditions, Appendix TR, Facility-wide Testing Requirements and Appendix RR, Facility-wide Reporting Requirements with the newest versions.
8. Deletion of Appendix U - List of Unregulated Emissions Units and/or Activities.
9. Inclusion of a new Appendix CP, Compliance Plan for Emissions Units 003, 014, 015 and 016 into the appendices section to provide enforceable requirements to submit the initial compliance performance test for these units.

These documents along with all other associated documents related to this project can be accessed by entering the permit number listed above into the permit number field at the following web link: http://www.dep.state.fl.us/air/emission/apds/default.asp

CONCLUSION

This project renews Title V air operation permit No. 0250013-003-AV, which was effective on May 19, 2009. This Title V air operation permit renewal is issued under the provisions of Chapter 403, Florida Statues (F.S.), and Chapters 62-4, 62-210 and 62-213, F.A.C. In accordance with the terms and conditions of this permit, the above named permittee is hereby authorized to operate the facility as shown on the application and approved drawings, plans, and other documents, on file with the permitting authority.

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