Florida Department of Environmental Protection

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PERMITTEE

Santa Rosa Energy Center, LLC
Calpine Operating Services Company, Inc.
717 Texas Avenue, Suite 1000
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Authorized Representative:
Jason M. Goodwin, P.E.
Director - Environmental, Health & Safety

Air Permit No. 1130168-012-AC (PSD-FL-253C)
Minor Air Construction / PSD Permit Revision
Santa Rosa Energy Center
Minor Permit Modifications

PROJECT

This is the final air construction permit, which revises permit No. 1130168-009-AC (PSD-FL-253B) to: clarify the excess emissions conditions resulting from startup, shutdown, and malfunction according to Rules 62-210.700(1), F.A.C. and 62-210.700(5), F.A.C.; include additional language in the Continuous Emissions Monitoring System (CEMS) Quality assurance requirements according to 40 CFR 60 Subpart GG; and include CEMS data exclusion during combustor tuning according to Rule 62-4.070(3), F.A.C. No allowable limits or actual emissions will be affected by these revisions. Santa Rosa Energy Center is an existing electrical power plant categorized under Standard Industrial Classification No. 4911. The existing facility is located in Santa Rosa County at 5001 Sterling Way, Pace, Florida. The UTM coordinates are Zone 16, 488.970 km East and 3381.350 km North; and, Latitude: 30° 33' 58" North and Longitude: 87° 06' 54" West.

This final permit is organized into the following sections: Section 1 (General Information) and Section 2 (Permit Revisions). As noted in the Final Determination provided with this final permit, only minor changes and clarifications were made to the draft permit.

STATEMENT OF BASIS

This air pollution construction permit is issued under the provisions of: Chapter 403 of the Florida Statutes (F.S.) and Chapters 62-4, 62-204, 62-210, 62-212, 62-296 and 62-297 of the Florida Administrative Code (F.A.C.). This project is subject to the general preconstruction review requirements in Rule 62-212.300, F.A.C. and is subject to the preconstruction review requirements for major stationary sources in Rule 62-212.400, F.A.C. for the Prevention of Significant Deterioration (PSD) of Air Quality. A copy of this permit modification shall be filed with the referenced permit and shall become part of the permit.

Upon issuance of this final permit, any party to this order has the right to seek judicial review of it under Section 120.68 of the Florida Statutes by filing a notice of appeal under Rule 9.110 of the Florida Rules of Appellate Procedure with the clerk of the Department of Environmental Protection in the Office of General Counsel (Mail Station #35, 3900 Commonwealth Boulevard, Tallahassee, Florida, 32399-3000) and by filing a copy of the notice of appeal accompanied by the applicable filing fees with the appropriate District Court of Appeal. The notice must be filed within 30 days after this order is filed with the clerk of the Department.

Executed in Tallahassee, Florida

for Jeffery F. Koerner, Program Administrator
Office of Permitting and Compliance
Division of Air Resource Management

CERTIFICATE OF SERVICE

The undersigned duly designated deputy agency clerk hereby certifies that this Final Air Permit package (including the Final Determination and Final Permit Revision) was sent by electronic mail, or a link to these documents made available electronically on a publicly accessible server, with received receipt requested before the close of business on the date indicated below to the following persons.

Mr. Jason M. Goodwin, P.E., Calpine Operating Services Company, Inc.: jgoodwin@calpine.com
Ms. Heidi M. Whidden, Calpine Operating Services Company, Inc.: hwhidden@calpine.com
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Ms. Lynn Scearce, DEP OPC: lynn.scearce@dep.state.fl.us

Clerk Stamp

FILING AND ACKNOWLEDGMENT FILED, on this date, pursuant to Section 120.52(7), Florida Statutes, with the designated agency clerk, receipt of which is hereby acknowledged.

FACILITY DESCRIPTION

The existing facility is a cogeneration plant and consists of one natural gas-fired nominal 167 megawatt combined-cycle combustion turbine-electrical generator with an unfired heat recovery steam generator, one 200-foot exhaust stack, an unregulated wet cooling tower, and a small natural gas preheater. The combustion turbine unit is equipped with General Electric's Dry Low-NO_X combustion for natural gas. Emissions from the combustion turbine are also controlled by the use of pipeline natural gas and good combustion techniques. Drift eliminators are installed on the cooling tower to reduce particulate emissions. The facility is classified as a Title V major source, a Title IV acid rain source and a major stationary source subject to the Prevention of Significant Deterioration (PSD) of Air Quality.

FACILITY REGULATORY CLASSIFICATION

- The facility is not a major source of hazardous air pollutants (HAP).
- The facility operates units subject to the acid rain provisions of the Clean Air Act (CAA).
- The facility is a Title V major source of air pollution in accordance with Chapter 213, F.A.C.
- The facility is a major stationary source in accordance with Rule 62-212.400(PSD), F.A.C.
- The facility operates units subject to the New Source Performance Standards (NSPS) of 40 Code of Federal Regulations (CFR) 60.
- The facility operates units subject to the Clean Air Interstate Rule (CAIR) set forth in Rule 62-296.470, F.A.C.

PROPOSED PROJECT

Calpine Operating Services Company, Inc., on behalf of Santa Rosa Energy Center, LLC, requests revisions to Santa Rosa Energy Center's PSD permit No. 1130168-009-AC (PSD-FL-253B) to clarify the excess emissions conditions resulting from startup, shutdown, and malfunction according to Rules 62-210.700(1), F.A.C. and 62-210.700(5), F.A.C.; revisions of PSD Permit No. 1130168-001-AC (PSD-FL-253) to include additional language in the Continuous Emissions Monitoring System (CEMS) Quality assurance requirements according to 40 CFR 60 Subpart GG; and revisions of PSD Permit No. 1130168-009-AC (PSD-FL-253B) to include CEMS data exclusion during combustor tuning according to Rule 62-4.070(3), F.A.C.

SECTION 2. PERMIT REVISIONS

The following permit conditions are revised as indicated. ~~Strikethrough~~ is used to denote the deletion of text. Double-underlines are used to denote the addition of text. All changes are emphasized with yellow highlight.

1. **Excess Emissions Modification**
   Permit Being Modified: Permit No. 1130168-009-AC (PSD-FL-253B)
   Affected Emissions Units: EU-001

   Section 2, Specific Condition 4: To clarify the excess emissions conditions resulting from startup, shutdown, and malfunction, the language below will replace PSD-FL-253b, Specific Condition 4.

   Excess Emissions Allowed. Excess emissions resulting from startup, shutdown, or malfunction shall be permitted provided that best operational practices are adhered to and the duration of excess emissions shall be minimized. Excess emissions occurrences shall in no case exceed two hours (120 minutes) in any operating day. The following exception provisions apply for excess emissions under different start-up modes, shut-down, and documented malfunctions:

   a. During a cold start-up to Mode 6 operation, up to four hours (240 minutes) of excess emissions are allowed in any operating day. Cold start-up is defined as a start-up to Mode 6 operation following flame out of the combustion turbine with no Mode 6 operation in the interim for a minimum of 48 hours (2,880 minutes).
   b. During a warm start up to Mode 6 operation, up to three hours (180 minutes) of excess emissions are allowed in any operating day. Warm start-up is defined as a startup to Mode 6 operation following flame out of the combustion turbine with no Mode 6 operation in the interim for a minimum of 8 hours (480 minutes) up to 48 hours (2,880 minutes).
   c. During a hot start-up to Mode 6 operation, up to two hours (120 minutes) of excess emissions are allowed in any operating day. Hot start-up is defined as a start-up to Mode 6 operation following flame out of the combustion turbine with no Mode 6 operation in the interim for less than 8 hours (480 minutes).
   d. During a shut-down from Mode 6 operation, up to three hours (180 minutes) of excess emissions are allowed in any operating day.
   e. Due to documented malfunction, up to three additional hours (180 minutes) of excess emissions are allowed in any operating day. A malfunction is any unavoidable mechanical and/or electrical failure of air pollution control equipment or process equipment or of a process (on or off site) resulting in operation in an abnormal or unusual manner including but not limited to a restart due to turbine trip, natural gas pressure drop, or grid swing. A documented malfunction means a malfunction that is documented within one working day of detection by contacting the Compliance Authority by telephone, facsimile transmittal, or electronic mail.

   An operating day is defined as a day (midnight to midnight) that includes operation.

   Allowable Excess Emissions Convenience Summary for information only:

Method of Operation	**Excess Emissions Conditions**	**Period Authorized for Excess Emissions**
Hot Start-up	Shutdown of CT-HRSG lasting < 8 hours	≤ 2 hours/start-up
Cold STG Start-up	Shutdown of CT-HRSG lasting > 48 hours	≤ 4 hours /start-up
Warm CT-HRSG Start-up	Shutdown of CT-HRSG lasting <48 hours and > 8 hours	≤ 3 hours/start-up
Shutdown	Shutdown	≤ 3 hours/shutdown
Documented Malfunctions	Malfunctions	≤ 3 hours in any 24-hour block

1130168-001-AC, Specific Condition 27; and, 1130168-009-AC, (PSD-FL-253B), Specific Condition 4.]

2. Excess Emissions During Combustor Tuning
Permit Being Modified: Permit No. 1130168-001-AC (PSD-FL-253)
Affected Emissions Units: EU-001

Section III, Specific Condition 27: Per applicant's request, the specific condition below will be incorporated into this facility's permit operating conditions.

CEMS Data Exclusion – Combustor Tuning: CEMS data collected during major DLN tuning sessions shall be excluded from the CEMS compliance demonstration for short term emissions standards provided the tuning session is performed in accordance with the manufacturer's specifications. A "major tuning session" would occur after completion of a combustor change-out, a major repair or maintenance to a combustor, or other similar circumstances. Prior to performing any major tuning session, the permittee shall provide the Department's Northwest District Compliance Authority with advance notice that details the activity and proposed tuning schedule. The notice may be by telephone, facsimile transmittal, or electronic mail. [Rule 62-4.070(3), F.A.C.]

3. Continuous Monitoring System Reports
Permit Being Modified: Permit No. 1130168-009-AC (PSD-FL-253B)
Affected Emissions Units: EU-001

Section 2, Specific Condition 6: To clarify the quality assurance requirements for the CEMS, this condition is revised as follows:

Continuous Monitoring System Reports: The monitoring devices shall comply with the certification requirements of each device and quality assurance, and any other applicable requirements of Rule 62-297.520, F.A.C., 40 CFR 60.13, including certification of each device in accordance with 40 CFR 60, Appendix B, Performance Specifications and 40 CFR 60.7(a)(5) or 40 CFR Part 75. Quality assurance procedures must conform to all applicable sections of 40 CFR 60, Appendix F or 40 CFR 75, as applicable. A valid hourly emission rate shall be calculated for each hour in which at least two measurements are obtained at least 15-minutes apart. The monitoring plan, consisting of data on CEM equipment specifications, manufacturer, type, calibration and maintenance needs, and its proposed location shall be provided to the DEP Emissions Monitoring Section Administrator and EPA for review no later than 45 days prior to the first scheduled certification test pursuant to 40 CFR 75.62. [1130168-001-AC, Specific Condition 44]