

**Texas Commission on Environmental Quality
Readily Available Permit – Simple Cycle Turbine
Qualification Criteria**

The following qualification criteria must be met in order to submit an application for the Readily Available Permit – Simple Cycle Turbine (RAP-SCT). If the facility meets the conditions of this permit, the answer should be “Yes” to each of these criteria.

If the qualifying criteria are not met, or if the applicant does not agree with the RAP-SCT conditions, the applicant will receive notice that the application has been voided. If the application is voided for these reasons, the application should seek a different type of authorization as appropriate.

I. General Requirements:

The project is for an electric utility simple cycle turbine facility.

The project is at a greenfield site.

The project is a minor source.

The customer has a compliance history classification of Satisfactory or High.

- Further information on compliance history classifications can be found at: www.tceq.texas.gov/compliance/enforcement/compliance-history/about.html.
- Details on obtaining a compliance history report can be found at: www.tceq.texas.gov/compliance/enforcement/compliance-history/get_report.html.

The facility will comply with the [RAP-SCT](#) conditions.

The emission sources included in this RAP are limited to:

- Two (2) simple cycle turbines;
- One (1) fire water pump;
- Two (2) dew point heaters;
- Two (2) lube oil vents;
- Six (6) tanks; and
- One (1) emergency generator engine.
- Fugitive emissions
- Maintenance, Startup and Shutdown (MSS) activities

The setback distance requirements from the property line to the closest emission point vary depending on the county in which the site is located.

- El Paso County setback requirement is 300 meters.
- Harris County setback requirement is 420 meters.
- All other counties have a setback requirement of 150 meters.

II. Equipment Criteria:

Simple Cycle Turbine

Each turbine is limited to operating 2500 hours per year.

Each individual simple cycle turbine must meet the following discharge parameters:

- The release height must be a minimum of 80 feet (ft.);
- The temperature must be a minimum of 756 degrees Fahrenheit (°F); and
- The diameter must be a minimum of 15 ft.;
- The velocity must be a minimum of 52.4 feet per second (fps).

The following practices and controls represent Best Available Control Technology (BACT) for each unit:

- NO_x: 9 ppmvd at 15% O₂ during steady state operations using dry low NO_x (DLN). Installing a selective catalytic reduction (SCR) would not be economically reasonable given the limited annual operating hours.
- CO: 9 ppmvd at 15% O₂ using DLN and good combustion practices. An oxidation catalyst would not be economically reasonable given the limited annual operating hours.
- VOC: 2.0 ppmvd at 15% O₂ using good combustion practices, good burner design, and firing pipeline-quality natural gas.
- SO₂ and H₂SO₄: Firing pipeline-quality natural gas with a sulfur content not exceeding 2.0 grains total sulfur per 100 dry standard cubic feet (dscf) on an hourly basis, and 0.25 grains total sulfur per 100 dscf on an annual basis.
- PM/ PM₁₀ / PM_{2.5}: Firing pipeline-quality natural gas and good combustion practices.
- MSS: Conducted in accordance with manufacturer's recommendations, minimizing the duration of the events (as required by the Special Conditions), and meeting the emission limitations on the maximum allowable emission rate table (MAERT).

Fire Water Pump

The fire water pump must meet the following discharge parameters:

- The release height must be a minimum of 7 ft.;
- The diameter must be a minimum of 0.33 ft.;
- The temperature must be a minimum of 821°F; and
- The velocity must be a minimum of 90 fps.

The fire water pump must meet the following input parameters:

- The rated brake power of the engine may not exceed 184.22 horsepower (hp).

The following practices and controls represent BACT for this unit:

- Meeting the requirements of 40 CFR Part 60, Subpart IIII.
- Firing ultra-low sulfur diesel fuel (no more than 15 parts per million (ppm) sulfur by weight).
- Limited to 100 hrs/yr of non-emergency operation.
- Have a non-resettable runtime meter.

Dew Point Heater

Each individual dew point heater must meet the following discharge parameters:

- The release height must be a minimum of 20 ft.;
- The diameter must be a minimum of 0.67 ft.;
- The temperature must be a minimum of 700°F; and
- The velocity must be a minimum of 40 fps.

Each individual dew point heater must meet the following input parameters:

- The design firing rate of the heater may not exceed 5.99 million British thermal units per hour (MMBtu/hr).

The following practices and controls represent BACT for each unit:

- Low NO_x burners limited to 0.06 lb. NO_x/MMBtu higher heating value (HHV basis).
- Firing pipeline-quality natural gas.

Lube Oil Vent

Each individual lube oil vent must meet the following discharge parameters:

- The release height must be a minimum of 20 ft.

The following practices and controls represent BACT for each unit:

- Lube oil mist shall be minimized through the use of a mist elimination system which is designed to achieve 99% or greater reduction of fine particulate matter (PM_{2.5}).

Tank

Each tank must store diesel or lube oil.

Each individual tank must meet the following discharge parameters:

- The release height must be a minimum of 3 ft.

The following practices and controls represent BACT for each unit:

- Painted white.
- Submerged fill.

Emergency Engine

The emergency engine must meet the following discharge parameters:

- The release height must be a minimum of 10 ft.;
- The diameter must be a minimum of 0.32 ft.;
- The temperature must be a minimum of 859 °F; and
- The velocity must be a minimum of 73.5 fps.

The emergency generator engine must meet the following input parameters:

- The rated brake power of the engine may not exceed 1234 hp.

The following practices and controls represent BACT for this unit:

- Meeting the requirements of 40 CFR 60, Subpart IIII.
- Firing ultra-low sulfur diesel fuel (no more than 15 ppm sulfur by weight).
- Limited to 100 hrs/yr of non-emergency operation.
- Have a non-resettable runtime meter.

Fugitive Emissions

The fugitive emissions must meet the following discharge parameters:

- The release height must be a minimum of 3 ft.

The following practices and controls represent BACT for these emissions:

- Repair leaks as soon as possible.

Maintenance Activities

Maintenance activities must meet the following discharge parameters:

- The release height of the filter and CEMS maintenance activities must be a minimum of 15 ft.
- Other maintenance activities included in EPN MAINT do not have a minimum stack height requirement.

The following practices and controls represent BACT for these emissions:

- Limiting the duration of events.
- Use good practices for minimizing emissions.