

FG{ID}
FLEXIBLE GROUP CONDITIONS
40 CFR Part 63, Subpart P PPPP – Engine Test Cells
covers major sources of HAPs.

Red text identifies options. Select the option that applies to the source and change the text to black. Delete red text that does not apply and renumber conditions if necessary.

Blue text is guidance or notes on the use of the template. Delete all blue text prior to issuing the final permit or submitting it with a permit application. Read through all conditions. If the permittee has control equipment or wants the option to add control equipment in the future, use all the conditions in this template, selecting the appropriate control type for the tables. If there is currently no control or no plans to add control, eliminate the conditions that reference use of control (red conditions).

If this template is being used for an ROP Reopening or Renewal, and the MACT conditions were established in a PTI, the appropriate footnotes which reference enforceability must be added to each applicable condition in the template.

The following information may be incorporated into the staff report as it applies to the source:

- An affected source is a new source if construction of the source commenced after May 14, 2002. (40 CFR 63.9290(a)(2))
- An affected source is reconstructed if it meets the criteria as defined in 40 CFR 63.2 and reconstruction commenced after May 14, 2002. (40 CFR 63.9290(a)(3))
- For an affected source that commences construction or reconstruction before the date that the area source becomes major, compliance with the emission limitations should be at the time that the source becomes major. (40 CFR 63.9295(b))

DESCRIPTION

Each new or reconstructed affected source containing engine test cells/stands used for testing uninstalled stationary or uninstalled mobile engines that are located at a major source of HAP emissions. An affected source is defined by Title 40 of the Code of Federal Regulations (CFR) 63.9290(a) as the collection of all equipment and activities associated with engine test cells/stands used for testing uninstalled stationary or uninstalled mobile engines located at a major source of HAP emissions. This section applies to engine test cells/stands that test internal combustion engines with a rated power of 25 horsepower or more.

Emission Units: {Enter Emission Units}

POLLUTION CONTROL EQUIPMENT

{Enter specific control equipment used by the facility or NA}

I. EMISSION LIMIT(S)

Pollutant	Limit	Time Period/Operating Scenario	Equipment	Monitoring/Testing Method	Underlying Applicable Requirements
1. CO or Total Hydrocarbons (THC)	20 ppmvd or less (corrected to 15% O ₂ content) --OR-- 96% reduction or more between the inlet and outlet concentrations (corrected to 15 percent O ₂ content)	4-hour rolling average	Each New or Reconstructed Engine Test Cell/Stand	SC V.1 - V.6, VI.1 – VI.6	40 CFR 63.9300, 40 CFR Part 63, Subpart P, Table 1

II. MATERIAL LIMIT(S)

NA

III. PROCESS/OPERATIONAL RESTRICTION(S)

- The permittee must operate and maintain any engine test cell/stand, air pollution control equipment, and monitoring equipment in a manner consistent with safety and good air pollution control practices for minimizing emissions at all times. The general duty to minimize emissions does not require the owner or operator to make any further efforts to reduce emissions if levels required by the applicable standard have been achieved. Determination of whether a source is operating in compliance with operation and maintenance requirements will be based on information available to the Administrator that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, review of operation and maintenance records, and inspection of the affected source. (40 CFR 63.9305(b))

IV. DESIGN/EQUIPMENT PARAMETER(S)

- For any controlled engine test cell/stand, the permittee must meet the operating limits specified in Table 2 of 40 CFR Part 63, Subpart P, as identified below. The permittee must establish the operating limits during the performance test according to the requirements in 40 CFR 63.9324. The operating limits must be met at all times after they are established. (40 CFR 63.9302(a), 40 CFR Part 63, Subpart P, Table 2)

Select the appropriate add-on control device and operating limit for the source.

Add-on Control Device	Operating Limit	Continuous Compliance Demonstration Method
Thermal oxidizer	a. The average combustion temperature in any 3-hour period must not fall below the combustion temperature limit established according to 40 CFR 63.9324(a).	i. Collect the combustion temperature data according to 40 CFR 63.9306(c); ii. Reduce the data to 3-hour block averages; and iii. Maintain the 3-hour average combustion temperature at or above the temperature limit.
Catalytic oxidizer	a. The average temperature measured just before the catalyst bed in any 3-hour period must not fall below the limit established according to 40 CFR 63.9324(b); and either	i. Collect the temperature data according to 40 CFR 63.9306(c); ii. Reduce the data to 3-hour block averages; and

Add-on Control Device	Operating Limit	Continuous Compliance Demonstration Method
	<p>b. Ensure that the average temperature difference across the catalyst bed in any 3-hour period does not fall below the temperature difference limit established according to 40 CFR 63.9324(b)(2); or</p> <p>c. Develop and implement an inspection and maintenance plan according to 40 CFR 63.9324(b)(3) and (4).</p>	<p>iii. Maintain the 3-hour average temperature before the catalyst bed at or above the temperature limit.</p> <p>i. Collect the temperature data according to 40 CFR 63.9306(c);</p> <p>ii. Reduce the data to 3-hour block averages; and</p> <p>iii. Maintain the 3-hour average temperature difference at or above the temperature difference limit.</p> <p>i. Comply with the inspection and maintenance plan developed according to 40 CFR 63.9324(b)(3) and (4).</p>
Emission capture system that is a PTE according to 40 CFR 63.9322(a)	<p>a. The direction of the air flow at all times must be into the enclosure; and either</p> <p>b. The average facial velocity of air through all-natural draft openings in the enclosure must be at least 200 feet per minute; or</p> <p>c. The pressure drop across the enclosure must be at least 0.007 inches H₂O, as established in Method 204 of Appendix M to 40 CFR Part 51.</p>	<p>i. Collect the direction of air flow, and either the facial velocity of air through all-natural draft openings according to 40 CFR 63.9306(d)(1) or the pressure drop across the enclosure according to 40 CFR 63.9306(d)(2); and</p> <p>ii. Maintain the facial velocity of air flow through all-natural draft openings or the pressure drop at or above the facial velocity limit or pressure drop limit and maintain the direction of air flow into the enclosure at all times.</p>
Emission capture system that is <u>not</u> a PTE according to 40 CFR 63.9322(a)	<p>a. The average gas volumetric flow rate or duct static pressure in each duct between a capture device and add-on control device inlet in any 3-hour period must not fall below the average volumetric flow rate or duct static pressure limit established for that capture device according to 40 CFR 63.9306(d).</p>	<p>i. Collect the gas volumetric flow rate or duct static pressure for each capture device according to 40 CFR 63.9306(d);</p> <p>ii. Reduce the data to 3-hour block averages; and</p> <p>iii. Maintain the 3-hour average gas volumetric flow rate or duct static pressure for each capture device at or above the gas volumetric flow rate or duct static pressure limit.</p>

V. TESTING/SAMPLING

Records shall be maintained on file for a period of five years. (R 336.1213(3)(b)(ii), 40 CFR 63.9360)

Permit staff – Change above UAR to Rule 201(3) if using in a PTI.

1. Within 180 calendar days after initial startup, for each engine test cell/stand complying with the CO or THC outlet concentration emission limitation, the permittee shall demonstrate initial compliance with the applicable emission limitation using USEPA Methods 3A and 10 of Appendix A of 40 CFR Part 60 for CO measurement or USEPA Method 25A of Appendix A of 40 CFR Part 60 for THC measurement, according to the procedures in 40 CFR 63.9320 and the requirements in Table 3 of 40 CFR Part 63, Subpart P. This initial demonstration shall consist of the first 4-hour rolling average after a successful performance evaluation. The outlet concentration of CO or THC emissions shall be corrected to 15% O₂ content. (40 CFR 63.9310, 40 CFR 63.9320(c), 40 CFR 63.9321, 40 CFR Part 63, Subpart P, Table 3)

OR

1. Within 180 calendar days after initial startup, for each engine test cell/stand complying with the CO or THC outlet concentration emission limitation, the permittee shall demonstrate initial compliance with the applicable emission limitation using a CEMS at the outlet of the engine test cell/stand or emission control device, according to the procedures in 40 CFR 63.9320 and the requirements in Table 3 of 40 CFR Part 63, Subpart P. This initial demonstration shall be conducted immediately following a successful performance evaluation of the CEMS as required in 40 CFR 63.9320(b) and shall consist of the first 4-hour rolling average of measurements. The CO or THC concentration must be corrected to 15% O₂ content, dry basis using Equation 1 in 40 CFR 63.9320. **(40 CFR 63.9310, 40 CFR 63.9320(c), 40 CFR 63.9321, 40 CFR Part 63, Subpart P, Table 3)**
2. Within 180 calendar days after initial startup, for each engine test cell/stand complying with the CO or THC percent reduction emission limitation, the permittee shall conduct an initial performance test to determine the capture and control efficiencies of the equipment and to establish operating limits to be achieved on a continuous basis. This initial demonstration shall use the first 4-hour rolling average after a successful performance evaluation. The inlet and outlet measurements shall be on a dry basis and corrected to 15% O₂ content. **(40 CFR 63.9310, 40 CFR 63.9320(c), 40 CFR 63.9321, 40 CFR Part 63, Subpart P, Table 3)**

OR

2. Within 180 calendar days after initial startup, for each engine test cell/stand complying with the CO or THC percent reduction emission limitation, the permittee shall demonstrate initial compliance with the applicable emission limitation using a CEMS at both the inlet and outlet of the emission control device. This initial demonstration shall be conducted immediately following a successful performance evaluation of the CEMS as required in 40 CFR 63.9320(b) and shall consist of the first 4-hour rolling average of measurements. The inlet and outlet CO or THC concentration must be corrected to 15% O₂ content, using Equation 1 in 40 CFR 63.9320. The reduction in CO or THC is calculated using Equation 2 in 40 CFR 63.9320. **(40 CFR 63.9310, 40 CFR 63.9320(c), 40 CFR 63.9321, 40 CFR Part 63, Subpart P, Table 3)**
3. The permittee must conduct each performance test of an emission capture system according to the requirements in 40 CFR 63.9322. The permittee must conduct each performance test of an add-on control device according to the requirements in 40 CFR 63.9323. **(40 CFR 63.9321(b))**
4. The permittee must establish the operating limits required by 40 CFR 63.9302 during the performance test required by 40 CFR 63.9310, according to **{select the appropriate control(s)}**
 - 40 CFR 63.9324(a)(1) and (2) for a thermal oxidizer,
 - 40 CFR 63.9324(b)(1) and (2) or (b)(3) and (4) for a catalytic oxidizer,
 - 40 CFR 63.9324(c)(1) and (2) for either the gas volumetric flow rate or duct static pressure for each capture device that is not part of a PTE that meets the criteria of 40 CFR 63.9322(a),
 - the operating limit specified in Table 3 of 40 CFR Part 63, Subpart P for a PTE. **(40 CFR 63.9324)**
5. The permittee must demonstrate continuous compliance with each applicable CO or THC concentration emission limitation by: **(40 CFR 63.9340)**
 - a. Collecting the CPMS data according to 40 CFR 63.9306(a), and reducing the measurements to 1-hour averages; or
 - b. Collecting the CEMS data according to 40 CFR 63.9307(a), reducing the measurements to 1-hour averages, and correcting them to 15% O₂ content, dry basis, according to 40 CFR 63.9320.

OR

5. The permittee must demonstrate continuous compliance with the CO or THC percent reduction emission limitation by: **(40 CFR 63.9340)**
 - a. Collecting the CPMS data according to 40 CFR 63.9306(a), and reducing the measurements to 1-hour averages; or
 - b. Collecting the CEMS data according to 40 CFR 63.9307(b), reducing the measurements to 1-hour averages, correcting them to 15% O₂ content, dry basis, and calculating the CO or THC percent reduction according to 40 CFR 63.9320.

See Appendix 5

VI. MONITORING/RECORDKEEPING

Records shall be maintained on file for a period of five years. **(R 336.1213(3)(b)(ii), 40 CFR 63.9360)**

Permit staff – Change above UAR to Rule 201(3) if using in a PTI.

40 CFR 63.9301 requires that the permittee use continuous parameter monitoring systems (CPMS) or continuous emission monitors (CEMS). Choose the applicable permit conditions from 1-4 below if you use a CPMS or choose the applicable permit conditions from 5-6 below if you use a CEMS.

1. For each engine test cell/stand using a thermal oxidizer for control, the permittee shall install, operate, and maintain a gas temperature monitor in the firebox of the thermal oxidizer or in the duct immediately downstream of the firebox before any substantial heat exchange occurs. The monitor shall meet the requirements of 40 CFR 63.9306(a)(1) through (7) and each gas temperature monitoring device shall meet the requirements in 40 CFR 63.9306(c)(3)(i) through (vii). **(40 CFR 63.9306(c)(1) and (3))**
2. For each engine test cell/stand using a catalytic oxidizer for control, the permittee shall install, operate, and maintain a gas temperature monitor as follows:
 - a. If operating limits are established pursuant to 40 CFR 63.9324(b)(1) and (2), install gas temperature monitors both immediately upstream and downstream of the catalyst bed to measure the temperature difference across the bed. **(40 CFR 63.9306(c)(2))**
 - b. If operating limits are established pursuant to 40 CFR 63.9324(b)(3) and (4), install a gas temperature monitor immediately upstream the catalyst bed. **(40 CFR 63.9306(c)(2))**
 - c. The monitor shall meet the requirements of 40 CFR 63.9306(a)(1) through (7) and each gas temperature monitoring device shall meet the requirements in 40 CFR 63.9306(c)(3)(i) through (vii). **(40 CFR 63.9306(c)(2) and (3))**
3. For each engine test cell/stand using an emission capture system for control, the permittee shall install, operate, and maintain the following monitoring devices:
 - a. A flow measurement device which meets the requirements in 40 CFR 63.9306(a) and 40 CFR 63.9306(d)(1)(i) through (d)(1)(iv). **(40 CFR 63.9306(d)(1))**

OR

- b. A pressure drop measurement device which meets the requirements in 40 CFR 63.9306(a) and 40 CFR 63.9306(d)(2)(i) through (d)(2)(vi). **(40 CFR 63.9306(d)(2))**
4. For each engine test cell/stand using add-on control or emission capture system that contains a bypass line, the permittee shall meet the requirements of 40 CFR 63.9306(a)(3) through (5) and 40 CFR 63.9306(b)(1) and (2). **(40 CFR 63.9306(b))**
5. If a continuous emission monitoring system (CEMS) is used, it must be installed, operated and maintained to monitor carbon monoxide (CO) or total hydrocarbons (THC) and oxygen at the outlet of the exhaust system of the engine test cell/stand or at the outlet of the emission control device. The CEMS must be installed, operated and maintained according to the requirements in 40 CFR 63.9307(c)(1) through (4) and 40 CFR 63.9307(d)(1) and (2). **(40 CFR 63.9307(a))**
6. If a continuous emission monitoring system (CEMS) is used to comply with the carbon monoxide (CO) or total hydrocarbon (THC) percent reduction emission limitation, it shall be installed, operated and maintained to monitor the CO or THC and oxygen at both the inlet and the outlet of the emission control device. The CEMS must be installed, operated and maintained according to the requirements in 40 CFR 63.9307(c)(1) through (4) and 40 CFR 63.9307(d)(1) and (2). **(40 CFR 63.9307(b))**
7. The permittee must conduct all monitoring in continuous operation at all times the engine test cells/stands are operating, except for monitoring malfunctions, associated repairs, and required quality assurance or quality control activities as specified in 40 CFR 63.9335. **(40 CFR 63.9335)**

8. During the performance test, the permittee shall perform the applicable monitoring and recordkeeping in accordance with 40 CFR 63.9324 to establish the emission capture system and add-on control device operating limits. **(40 CFR 63.9324)**
9. The permittee must keep the following records:
Select appropriate conditions in red if use an add-on control device, a CPMS or a CEMS.
 - a. A copy of each notification and report that is submitted to comply with 40 CFR Part 63, Subpart P, including all documentation supporting any Initial Notification or Notification of Compliance Status that you submitted, according to the requirements in 40 CFR 63.10(b)(2)(xiv). **(40 CFR 63.9355(a)(1))**
 - b. Records of performance evaluations as required in 40 CFR 63.10(b)(2)(viii). **(40 CFR 63.9355(a)(2))**
 - c. Records of the occurrence and duration of each malfunction of air pollution control equipment, if applicable, as required in 40 CFR 63.9355. **(40 CFR 63.9355(a)(3))**
 - d. Records of all maintenance on the air pollution control equipment, if applicable, as required in 40 CFR 63.10(b)(iii). **(40 CFR 63.9355(a)(4))**
 - e. The calculation of the mass of organic HAP emission reduction by emission capture systems and add-on control devices. **(40 CFR 63.9355(a)(5))**
 - f. In the event that an affected unit fails to meet an applicable standard, record the number of failures. For each failure record the date, time, the cause, and duration of each failure. **(40 CFR 63.9355(a)(6))**
 - g. For each failure to meet an applicable standard, record and retain a list of the affected sources or equipment, an estimate of the quantity of each regulated pollutant emitted over any emission limit, and a description of the method used to estimate the emissions. **(40 CFR 63.9355(a)(7))**
 - h. Record actions taken to minimize emissions in accordance with 40 CFR 63.9305, and any corrective actions taken to return the affected unit to its normal or usual manner of operation. **(40 CFR 63.9355(a)(8))**
 - i. For each CPMS, records of the data and calculations used to establish the emission capture and add-on control device operating limits as specified in 40 CFR 63.9324 and to document compliance with each applicable operating limit specified in Table 2 of 40 CFR Part 63, Subpart P. **(40 CFR 63.9355(b)(3) and (7))**
 - j. For each capture system that is a PTE, the data and documentation used to support a determination that the capture system meets the criteria in Method 204 of Appendix M of 40 CFR Part 51 for a PTE and has a capture efficiency of 100%, as specified in 40 CFR 63.9322(a). **(40 CFR 63.9355(b)(4))**
 - k. For each capture system that is not a PTE, the data and documentation used to determine capture efficiency according to the requirements specified in 40 CFR 63.9321 and 40 CFR 63.9322(b) through (e), including the applicable records specified in 40 CFR 63.9355(b)(5)(i) and (ii). **(40 CFR 63.9355(b)(5))**
 - l. The records specified in 40 CFR 63.9355(b)(6)(i) and (ii) for each add-on control device organic HAP destruction efficiency determination as specified in 40 CFR 63.9323. **(40 CFR 63.9355(b)(6))**
 - m. For each deviation, records of whether the deviation occurred during a period of SSM of the control device and associated monitoring equipment. **(40 CFR 63.9355(b)(1))**
 - n. For each CEMS, records as described in 40 CFR 63.9355(c)(1) through (3) and (5). **(40 CFR 63.9355(c))**
 - o. The records required in Table 5 of 40 CFR Part 63, Subpart P, to show continuous compliance with each applicable emission limitation. **(40 CFR 63.9355(d), 40 CFR Part 63, Subpart P, Table 5)**
10. The permittee must maintain all applicable records in such a manner that they can be readily accessed and are suitable for inspection according to 40 CFR 63.10(b)(1). **(40 CFR 63.9360(a))**
 - a. As specified in 40 CFR 63.10(b)(1), the must keep each records for 5 years following the date of each occurrence, measurement, maintenance, corrective action, report, or record. **(40 CFR 63.9360(b))**
 - b. The permittee must retain records of the most recent 2 years on site, or the records must be accessible on site. The records of the remaining 3 years may be retained off site. **(40 CFR 63.9360(c))**
 - c. Any records required to be maintained that are submitted electronically via the EPA's CEDRI may be maintained in electronic format. This ability to maintain electronic copies does not affect the requirement for facilities to make records, data, and reports available upon request to a delegated air agency or the EPA as part of an on-site compliance evaluation. **(40 CFR 63.9360(d))**

See Appendices {Enter 3, 4, and/or 7}

VII. REPORTING

Permit Staff – SC VII.1, 2, and 3, references to Rule 213 are ROP only. Remove before putting into a PTI. Renumber as appropriate.

1. Prompt reporting of deviations pursuant to General Conditions 21 and 22 of Part A. **(R 336.1213(3)(c)(ii))**
2. Semiannual reporting of monitoring and deviations pursuant to General Condition 23 of Part A. The report shall be received by March 15 for reporting period July 1 to December 31 and September 15 for reporting period January 1 to June 30. **(R 336.1213(3)(c)(i))**
3. Annual certification of compliance pursuant to General Conditions 19 and 20 of Part A. The report shall be received by March 15 for the previous calendar year. **(R 336.1213(4)(c))**
4. The permittee must submit all applicable notifications specified in 40 CFR 63.8(e), 40 CFR 63.8(f)(4) and (6), 40 CFR 63.9(b), (g)(1) and (2), and (h), an Initial Notification and a Notification of Compliance Status according to 40 CFR 63.9(h)(2)(ii) by the dates specified. **(40 CFR 63.9330(b), 40 CFR 63.9345(a))**
5. The permittee shall submit all semiannual compliance reports and performance test reports by the applicable dates specified in 40 CFR 63.9350(a)(1) through (5) and (7). **(40 CFR 63.9350(a))**
6. If there is no deviation from the applicable emission limitation and the CEMS or CPMS was not out of control according to 40 CFR 63.8(c)(7), the semiannual compliance report must contain the information described in 40 CFR 63.9350(b)(1) through (4). **(40 CFR 63.9350(b))**
7. For each deviation from an emission limitation, the semiannual compliance report must include the information in 40 CFR 63.9350(b)(1) through (3) and (c)(1) through (5). **(40 CFR 63.9340, 40 CFR 63.9350(c))**
8. For each CEMS or CPMS deviation, the semiannual compliance report must include the information in 40 CFR 63.9350(b)(1) through (3) and (d)(1) through (11). **(40 CFR 63.9350(d))**

See Appendix 8 -Permit Staff: Remove if PTI since this is ROP only.

VIII. STACK/VENT RESTRICTION(S)

NA

IX. OTHER REQUIREMENT(S)

1. The permittee shall comply with all applicable provisions of the National Emission Standards for Hazardous Air Pollutants, as specified in 40 CFR Part 63, Subpart A and Subpart P for Engine Test Cells/Stands. **(40 CFR Part 63, Subparts A and P)**

Remove these footnotes if no PTIs are associated with this flexible group.

Footnotes:

¹This condition is state only enforceable and was established pursuant to Rule 201(1)(b).

²This condition is federally enforceable and was established pursuant to Rule 201(1)(a).