



**Michigan Department of Environmental Quality  
Air Quality Division – Permit Section**

**Applicability Criteria for Propane or Natural Gas-Fired Boilers  
With a Maximum Heat Input of 100 MMBtu**

Boilers are used for a variety of applications such as providing process steam; providing hot water or steam for space heating; or generating high-temperature, high-pressure steam for producing electricity. Portable units are used on a temporary basis during maintenance or repairs of permanent units.

The following state and federal requirements are applicable to propane or natural gas-fired boilers with a maximum rated heat input of 100 million Btu per hour and were considered in the development of the general permit to install. These requirements are addressed in the Special Conditions of the permit.

<u>Citation</u>	<u>Description</u>
R 336.1205	State rule that requires enforceable emission limits as a practical matter.
R 336.1224	State rule that applies to sources of air toxics. This rule requires the application of Best Available Control Technology for toxics (T-BACT) to sources emitting air toxics, and requires that emissions from the process meet the allowed impact levels. In the case of a propane or natural gas-fired boiler proposed to be covered by this general permit to install, limiting the type and amount of fuel burned, and restricting the Nitrogen Oxide (NO <sub>x</sub> ) emission rate is considered T-BACT.
R 336.1225	State rule that prohibits the emissions of a Toxic Air Contaminant (TAC) in excess of a rate that results in a maximum ambient impact which is more than a health-based screening level. Based on MDEQ experience, a propane or natural gas-fired boiler meeting the fuel use limits with a minimum stack height of one and one half times the building height (from ground level to point of discharge), meets the requirements of this rule. However, in the event that evidence indicates a failure to meet the requirements of Rule 225, the MDEQ maintains the authority to require corrective action pursuant to Rule 901.
R 336.2803 R 336.2804 & 40 CFR Part 52.21(c) & (d)	Federal Prevention of Significant Deterioration (PSD) of Air Quality and the National Ambient Air Quality Standards (NAAQS). This regulation requires compliance with ambient air increment concentration limits for clean areas and the NAAQS. The boiler exhaust stack restrictions ensure that the impacts of the federally regulated pollutants including particulates, sulfur dioxide, and nitrogen dioxide meet the applicable federal air quality standards.
40 CFR Part 60 Subparts A & Dc	Federal New Source Performance Standards (NSPS) for Small Industrial-Commercial-Institutional Steam Generating Units with a maximum design heat input capacity of 100 million Btu per hour or less, but greater than or equal to 10 million Btu per hour, for which construction is commenced after June 9, 1989 and General Provisions for monitoring, recording, and reporting of emissions and operating information.

**APPLICABILITY CRITERIA**

To qualify for the general permit to install, each propane or natural gas-fired boiler must meet the following criteria:

- The general permit to install shall apply to propane or natural-gas fired boilers used for electric generation, industrial or commercial use, each with a maximum rated heat input of 100 million Btu

per hour. The boiler(s) may not burn or process slag, asbestos tailings, asbestos containing waste materials or medical waste materials.

- The general permit to install may be used for multiple propane or natural gas-fired boilers at a stationary source. A separate Process Information form (EQP5783) must be completed for each boiler to be covered by the general permit. Each boiler must meet the criteria set forth in this general permit to install and must comply with all terms and conditions of this general permit.
- Nitrogen oxide (NO<sub>x</sub>) emissions shall not exceed 0.05 pound of NO<sub>x</sub> per million Btu of heat input.
- A properly operated low-NO<sub>x</sub> burner must be used to meet the requirements of this general permit. A demonstration that the low-NO<sub>x</sub> burner can meet the emission limit must be submitted with the application. (i.e., manufacturer's guarantee, test data, etc.)
- The exhaust from each propane or natural gas-fired boiler must be located a minimum of 50 feet from the nearest property line and 150 feet from any residential or commercial establishment or place of public assembly.
- The exhaust gases from the propane or natural gas-fired boiler(s) shall be discharged unobstructed vertically upwards to the ambient air from stack(s) with an exit point not less than one and one half times the building height (from ground level to point of discharge).
- The total combined fuel use for all propane or natural gas-fired boilers covered by this general permit shall not exceed 1400 million standard cubic feet per 12-month rolling time period.
- The facility shall have no outstanding unresolved violations of any of the Michigan Department of Environmental Quality Air Pollution Control rules, orders, or permits; or Federal air quality regulations.
- The general permit shall not apply to a source, process or process equipment that is covered by an existing permit to install pursuant to Rule 201 and is further referenced in an outstanding consent order or consent judgment.

### **PERMIT CONDITIONS**

Attachment A lists the terms and special conditions of the general permit to install. These terms and conditions prescribe the applicable emission limits, material usage limits, process/operational limits, testing requirements, monitoring requirements, recordkeeping requirements, and stack restrictions which are necessary to ensure that a propane or natural gas-fired boiler subject to a general permit to install will comply with all state and federal applicable requirements.

**ATTACHMENT A  
GENERAL CONDITIONS**

1. The process or process equipment covered by this general permit to install shall not be reconstructed, relocated, or modified unless a Permit to Install pursuant to Rule 201 authorizing such action is issued by the Department, or an application for coverage under a General Permit to Install pursuant to Rule 201a, is submitted to and approved by the Department. For the purpose of a general permit to install, the permittee is defined as any person who owns or operates a process or process equipment at the source for which coverage under the general permit has been granted.
2. Operation of any process or process equipment shall not result in the emission of an air contaminant which causes injurious effects to human health or safety, animal life, plant life of significant economic value, or property, or which causes unreasonable interference with the comfortable enjoyment of life and property. **(R 336.1901)**
3. Operation of this equipment shall not interfere with the attainment or maintenance of the air quality standard for any air contaminant. **(R 336.1207(1)(b))**
4. The permittee shall provide notice of an abnormal condition, start-up, shutdown, or malfunction that results in emissions of a hazardous or toxic air pollutant which continue for more than one hour in excess of any applicable standard or limitation, or emissions of any air contaminant continuing for more than two hours in excess of an applicable standard or limitation, as required in Rule 912, to the Department. The notice shall be provided not later than two business days after start-up, shutdown, or discovery of the abnormal condition or malfunction. Written reports, if required, must be filed with the Department within 10 days after the start-up or shutdown occurred, within 10 days after the abnormal conditions or malfunction has been corrected, or within 30 days of discovery of the abnormal conditions or malfunction, whichever is first. The written reports shall include all of the information required in Rule 912(5).
5. Coverage under this general permit to install does not exempt the permittee from complying with any future regulation, which may be promulgated under Part 55 of 1994 PA 451.
6. Coverage under this general permit to install does not obviate the necessity of obtaining such permits or approvals from other units of government as required by law.
7. The permittee shall notify any public utility of any excavation, tunneling and discharging of explosives or demolition of buildings which may affect said utility's facilities in accordance with Act 53 of the Public Acts of 1974, being sections 460.701 to 460.718 of the Michigan Compiled laws and comply with each of the requirements of that Act.
8. The restrictions and conditions of this general permit to install shall apply to any person or legal entity which now or shall hereafter own or operate the equipment for which coverage under this general permit to install is issued. A written request to the Department for a change in ownership or operational control of the process or process equipment shall be made pursuant to Rule 219.
9. If the installation of the equipment for which coverage under this general permit to install has been issued, has not commenced within, or has been interrupted for, 18 months, then the general permit to install shall become void unless otherwise authorized by the Department as a condition of the permit. Furthermore, the permittee shall notify the Department via the Supervisor, Permit Section, Air Quality Division, Michigan Department of Environmental Quality, P.O. Box 30260, Lansing, Michigan 48909, if it is decided not to pursue the installation or construction of the equipment allowed by this general permit to install. **(R 336.1201(4))**

10. Except as provided in subrules (2) and (3) or unless the special conditions of the general permit to install include an alternate opacity limit established pursuant to subrule (4) of R 336.1301, the permittee shall not cause or permit to be discharged into the outer air from a process or process equipment a visible emission of a density greater than the most stringent of the following. The grading of visible emissions shall be determined in accordance with R 336.1303. **(R 336.1301(1))**
  - a) A six-minute average of 20 percent opacity, except for one six-minute average per hour of not more than 27 percent opacity.
  - b) A visible emission limit specified by an applicable federal new source performance standard.
  - c) A visible emission limit specified as a condition of this general permit to install.
11. Collected air contaminants shall be removed as necessary to maintain the equipment at the required operating efficiency. The collection and disposal of air contaminants shall be performed in a manner so as to minimize the introduction of contaminants to the outer air. Transport of collected air contaminants in Priority I and II areas requires the use of material handling methods specified in R 336.1370(2). **(R 336.1370)**
12. The Department may require the permittee to conduct acceptable performance tests, at the permittee's expense, in accordance with R 336.2001 and R 336.2003, under any of the conditions listed in R 336.2001. **(R 336.2001)**
13. Any required testing protocol shall conform to a format acceptable to the AQD. **(R 336.2003(1))**
14. Any required test results, which must be submitted to the AQD, shall conform to a format acceptable to the AQD. **(R 336.2001(4))**
15. Any air cleaning device shall be installed, maintained, and operated in a satisfactory manner and in accordance with the Michigan Air Pollution Control rules and existing law. **(R 336.1910)**
16. For a stationary source that becomes a major source, as defined by R 336.1211(1)(a), upon receipt of approval for coverage under this general permit to install, an administratively complete application for a renewable operating permit shall be submitted not more than 12 months after the stationary source commences operation as a major source. Commencing operation as a major source occurs upon commencement of trial operation of the new or modified process or process equipment that increased the potential to emit of the stationary source to more than or equal to the applicable major source definition specified in R 336.1211(1)(a).
17. For a stationary source that is already a major source with an existing renewable operating permit, the source shall notify the Department of the installation of the process or process equipment covered by this general permit, pursuant to R 336.1215(3) or apply for a modification pursuant to R 336.1216(2) prior to commencing operation. The notification or application to modify the renewable operating permit shall be made using a form approved by the Department.

**ATTACHMENT A  
SPECIAL CONDITIONS**

**FLEXIBLE GROUP SUMMARY TABLE**

The descriptions provided below are for informational purposes and do not constitute enforceable conditions.

<b>Flexible Group ID</b>	<b>Description / Emission Unit(s) Included in Group</b>
FG-BOILERS	One or more propane or natural gas-fired boilers, each with a maximum rated heat input of 100 million Btu per hour, and each controlled by a low-NO <sub>x</sub> burner.
Changes to the equipment described in this table are subject to the requirements of R 336.1201, except as allowed by R 336.1278 to R 336.1290.	

**The following conditions apply to FG-BOILERS**

**I. EMISSION LIMITS**

<b>Pollutant</b>	<b>Limit</b>	<b>Time Period</b>	<b>Equipment</b>	<b>Testing/ Monitoring Method</b>	<b>Applicable Requirement</b>
1. NO <sub>x</sub>	0.05 lb/MMBtu	Test Method	FG-BOILERS	SC V.1, SC VI.3	R 336.1205(1)(a)

lb/MMBtu = pound per million Btu

**II. MATERIAL LIMITS**

1. The permittee shall burn only propane or natural gas in FG-BOILERS. **(R 336.1205(1)(a))**
2. The fuel use for FG-BOILERS covered by this general permit shall not exceed 1400 million standard cubic feet per 12-month rolling time period as determined at the end of each calendar month. **(R 336.1224, R 336.1225, R 336.1205(1)(a))**

**III. PROCESS/OPERATIONAL RESTRICTIONS**

1. The permittee shall operate FG-BOILERS in accordance with manufacturer's recommendations for safe and proper operation to minimize emissions during periods of startup, shutdown and malfunction. **(R 336.1912)**

**IV. DESIGN/EQUIPMENT PARAMETERS** Not Applicable (N/A)

**V. TESTING/SAMPLING**

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. Verification of the NO<sub>x</sub> emission limit (0.05 pound of NO<sub>x</sub> emitted per million Btu of heat input), by testing at owner's expense, in accordance with Department requirements may be required. No less than 60 days prior to testing, a complete test plan shall be submitted to the AQD. The final plan must be approved by the AQD prior to testing. Verification of the emission factor includes the submittal of a complete report of the test results to the AQD within 60 days following the last date of the test. **(R 336.1205(1)(a), R 336.2001, R 336.2003, R 336.2004)**

## **VI. MONITORING/RECORDKEEPING**

Records shall be maintained on file for a period of five years. **(R 336.1201(3))**

1. The permittee shall install, calibrate, maintain and operate in a satisfactory manner a device to monitor and record the fuel use for FG-BOILERS on a daily basis. **(R 336.1205(1)(a))**
2. The permittee shall keep, in a satisfactory manner, daily, monthly and 12-month rolling time period fuel use records for FG-BOILERS. The records must indicate the total amount of fuel used in FG-BOILERS. All records shall be kept on file and made available to the Department upon request. **(R 336.1205(1)(a), 40 CFR 60.48c(g))**
3. The permittee shall keep on file, a demonstration that the low-NO<sub>x</sub> burner is designed to emit no more than 0.05 pound of NO<sub>x</sub> per million Btu of heat input. (i.e., manufacturer's guarantee, test data, etc.) **(R 336.1205(1)(a))**
4. The permittee shall keep, in a satisfactory manner, records of the date, duration, and description of any malfunction of the control equipment, any maintenance performed and any testing results for FG-BOILERS. All records shall be kept on file and made available to the Department upon request. **(R 336.1702(a), R 336.1910)**

## **VII. REPORTING**

1. The permittee shall submit the following notifications to the AQD District Supervisor in accordance with 40 CFR 60.48c: **(40 CFR Part 60 Subparts A & Dc)**
  - a) A notification of the date when construction was commenced, submitted no later than 30 calendar days after such date.
  - b) A notification of the actual date of startup of the source, submitted within 30 calendar days after such date.

## **VIII. STACK/VENT RESTRICTIONS**

1. The exhaust gases from FG-BOILERS shall be discharged unobstructed vertically upwards to the ambient air from stack(s) with an exit point not less than one and one half times the building height (from ground level to point of discharge). **(R 336.1225, R 336.2803, R 336.2804, 40 CFR 52.21 (c) & (d))**

## **IX. OTHER REQUIREMENTS**

1. The permittee shall not replace or modify any portion of FG-BOILERS, including control equipment, nor install additional boilers to FG-BOILERS, unless all of the following conditions are met: **(R 336.1201)**
  - a) The permittee shall update the general permit by submitting a new Process Information Form (EQP5783) to the Permit Section and District Supervisor, identifying the existing and new equipment a minimum of 10 days before the replacement, modification, or installation of new equipment.
  - b) The permittee shall continue to meet all general permit to install applicability criteria after the replacement, modification or installation of new equipment is complete.
  - c) The permittee shall keep records of the date and description of the replacement, modification, or installation of new equipment at the source. All records shall be kept on file for a period of at least five years and made available to the Department upon request.