

DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY

AIR QUALITY DIVISION

AIR POLLUTION CONTROL

Filed with the secretary of state on

These rules become effective immediately after filing with the secretary of state unless adopted under section 33, 44, or 45a(9) of the administrative procedures act of 1969, 1969 PA 306, MCL 24.233, 24.244, or 24.245a. Rules adopted under these sections become effective 7 days after filing with the secretary of state.

(By authority conferred on the director of the department of environment, Great Lakes, and energy by sections 5503 and 5512 of the natural resources and environmental protection act, 1994 PA 451, MCL 324.5503 and 324.5512, and Executive Reorganization Order Nos. 1995-16, 2009-31, **2011-1**, and 201**9**-1, MCL 324.99903, 324.99919, and 324.99921, **and 324.99923**)

R 336.1801, R 336.1802, R 336.1803, R 336.1810, and R 336.1818 of the Michigan Administrative Code are amended, and R 336.1840, R 336.1841, R 336.1842, R 336.1843, R 336.1844, R 336.1845, and R 336.1846 are added, as follows:

PART 8. EMISSION LIMITATIONS AND PROHIBITIONS - OXIDES OF NITROGEN

R 336.1801 Emission of oxides of nitrogen (NO_x) from non-SIP call stationary sources.

Rule 801. (1) As used in this rule:

(a) "Btu" means a British thermal unit.

(b) "Capacity factor" means either of the following:

(i) The ratio of a unit's actual annual electric output, expressed in megawatt hour, to the unit's nameplate capacity times 8,760 hours.

(ii) The ratio of a unit's annual heat input, expressed in million Btu or equivalent units of measure, to the unit's maximum design heat input, expressed in million Btus per hour or equivalent units of measure, times 8,760 hours.

(c) "Electricity-generating utility unit" means a unit that produces electricity for sale.

(d) "Fossil fuel-fired" means the actual combustion of fossil fuel, which includes coke oven gas, alone or in combination with **another** ~~any other~~ fuel, where either of the following quantities are greater than 50% on an annual basis:

(i) Sum of the mass of fossil fuels combusted divided by the total mass of all fuels combusted.

(ii) Sum of the annual heat inputs for fossil fuels combusted divided by the total heat input for all fuels combusted. Annual heat inputs are on a Btu basis.

(e) "Low-NO_x burners" means 1 of several developing combustion technologies used to minimize the formation of emissions of nitrogen oxides. -As applicable to cement

kilns, low-NO_x burners means a type of cement kiln burner system designed to minimize ~~(NO_x)~~ formation by controlling flame turbulence, delaying fuel/air mixing, and establishing fuel-rich zones for initial combusting, that for firing of solid fuel in the burning end zone of a kiln's main burner includes an indirect firing system or comparable technique for the main burner in the burning end zone of the kiln to minimize the amount of primary air supplied through the burner. In an indirect firing system, 1 air stream is used to convey pulverized fuel from the grinding equipment and at least 1 or more other air streams are used to supply primary air to the burning end zone kiln burner of the kiln with the pulverized fuel, with intermediate storage of the fuel, and necessary safety and explosion prevention systems associated with the intermediate storage of fuel.

(f) "Mid-kiln system firing" means the secondary firing in a kiln system by injecting solid fuel at an intermediate point in the kiln system using a specially designed heat injection mechanism for the purpose of decreasing NO_x emissions through coal burning part of the fuel at lower temperatures and reducing conditions at the fuel injection point that may destroy some of the NO_x.

(g) "Non-SIP call source" means any stationary source of NO_x emissions that is not a NO_x budget source subject to R 336.1802.

(h) "NO_x" means oxides of nitrogen.

(i) "Ozone control period" means the period of May 1 through September 30.

(j) "Peaking unit" means an electricity-generating utility unit that has an average capacity factor of not more than 10% during the previous 3 calendar years and a capacity factor of not more than 20% in each of those calendar years.

(k) "Process heater" means any combustion equipment which is fired by a liquid fuel or a gaseous fuel, or both, and which is used to transfer heat from the combustion gases to a process fluid, superheated steam, or water.

(l) "SIP" means state implementation plan.

(m) "Unit" means a fossil fuel-fired combustion device.

(2) Except as provided in subrule (11) of this rule, any fossil fuel-fired unit that meets both of the following requirements is subject to this rule:

(a) A unit that has the potential to emit more than 25 tons of NO_x each ozone control period.

(b) A unit that has a maximum rated heat input capacity of more than 250 million Btu, per hour.

(3) An owner or operator of an emission unit subject to this rule shall comply with the following provisions, as applicable:

(a) An owner or operator of a fossil fuel-fired, electricity-generating utility unit that serves a generator that has a nameplate capacity of less than 25 megawatts shall comply with the appropriate NO_x emission limit in table 81 of this rule.

(b) An owner or operator of a fossil fuel-fired boiler or process heater shall meet the emission limits contained in table 81 of this rule.

(c) An owner or operator of a gas-fired boiler or process heater that fires gaseous fuel that contains more than 50% hydrogen by volume shall comply with an NO_x emission limit of 0.25 pounds per million Btu heat input.

(d) An owner or operator of a stationary internal combustion engine that is subject to the provisions of this rule and has a maximum rated heat input capacity that is the heat

input at 80 degrees Fahrenheit at sea level and takes into account inlet and exhaust losses shall comply with the following NOx emission limits, as applicable:

(i) For a natural gas-fired stationary internal combustion engine - 14 grams of NOx per brake horsepower hour at rated output.

(ii) For a diesel-fired stationary internal combustion engine - 10 grams of NOx per brake horsepower hour at rated output.

(e) An owner or operator of a cement kiln that is subject to the provisions of this rule shall reduce kiln NOx emissions by any of the following methods:

(i) Low-NOx burners.

(ii) Mid-kiln system firing.

(iii) A 25% rate-based reduction of NOx from 1995 levels. Compliance with this paragraph is based on calculations showing that the emission rate, on a pounds of NOx per ton of clinker produced basis, during each compliance ozone control period, has been reduced below the 1995 ozone control period emission rate by 25%.

(f) An owner or operator of a stationary gas turbine that is subject to the provisions of this rule and which has a maximum rated heat input capacity that is the heat input at 80 degrees Fahrenheit at sea level and takes into account inlet and exhaust losses shall comply with an emission limit of 75 parts per million, dry volume, corrected to 15% oxygen, at rated capacity.

(4) The method for determining compliance with the emission limits in subrule (3) of this rule is as follows:

(a) If the emission limit is in the form of pounds of NOx per million Btu, then the unit is in compliance if the sum of the mass emissions from the unit that occurred during the ozone control period, divided by the sum of the heat input from the unit that occurred during the ozone control period, is less than or equal to the limit in subrule (3) of this rule.

(b) For an emission unit not subject to subdivision (a) of this subrule, the method for determining compliance ~~shall~~**must** be a method acceptable to the department.

(5) The owner or operator of a boiler, process heater, stationary internal combustion engine, stationary gas turbine, cement kiln, or **another** ~~any other~~ stationary emission unit that is subject to the provisions of subrule (3) of this rule shall measure NOx emissions by any of the following:

(a) Performance tests described in subrule (6) of this rule.

(b) Through the use of a continuous emission monitor in accordance with the provisions of subrule (8) of this rule.

(c) According to a schedule and using a method acceptable to the department.

(6) An owner or operator of an emission unit that measures NOx emissions by performance tests as specified in subrule (5) of this rule shall do all of the following:

(a) Conduct an initial performance test not later than 90 days after the compliance deadline. For an emission unit that is not in service ~~on or~~ after the compliance deadline, the owner or operator shall contact the department and schedule an alternate initial performance test as agreed to by the department.

(b) After the initial performance test, conduct a compliance performance test each ozone control period or according to the following schedule:

(i) After 2 consecutive ozone control periods in which the emission unit demonstrates compliance, an owner or operator shall conduct performance tests at least once every 2 years during the ozone control period.

(ii) After a total of 4 consecutive ozone control periods in which the emission unit has remained in compliance, an owner or operator shall conduct performance tests at least once every 5 years during the ozone control period.

(c) If an emission unit is not in compliance at the end of an ozone control period, then the owner or operator shall conduct a compliance performance test each ozone control period, but may elect to use the alternative schedule specified in subdivision (b) of this subrule.

(d) An owner or operator shall submit 2 copies of each compliance performance test to the department within 60 days after completing the testing. The test results must be presented and include data as requested in the department format for submittal of source emission test plans and reports. All performance test reports must be kept on file at the plant and made available to the department upon request.

(7) An owner or operator of an emission unit that is required to conduct performance testing under subrule (5) of this rule shall submit a test plan to the department, not less than 30 days before the scheduled test date. To ensure proper testing, the plan must supply the information in the department format for submittal of source emission test plans and reports. The owner or operator shall give the department a reasonable opportunity to witness the tests.

(8) An owner or operator of an emission unit that measures NO_x emissions by a continuous emission monitoring system or an alternate method, as specified in subrule (5) of this rule, shall do either of the following:

(a) Use the procedures set forth in 40 CFR part 60, subpart A and appendix B, adopted by reference in R 336.1902 and comply with the quality assurance procedures in part 60, appendix F, adopted by reference in R 336.1902 or 40 CFR part 75, adopted by reference in R 336.1902 and associated appendices, as applicable and acceptable to the department.

(b) Use a previously installed continuous emission monitoring system to demonstrate compliance with this rule as long as the previously installed continuous emission monitoring system monitors NO_x pursuant to other applicable federal, state, or local rules, meets the installation, testing, operation, calibration, and reporting requirements specified by those federal, state, or local rules, and is acceptable to the department.

(9) The owner or operator of an emission unit that is subject to this rule shall submit a summary report, in an acceptable format, to the department within 60 days after the end of each ozone control period. The report must include all of the following information:

(a) The date, time, magnitude of emissions, and emission rates where applicable, of the specified emission unit.

(b) If emissions or emission rates exceed the emissions or rates allowed for in the ozone control period by the applicable emission limit, the cause, if known, and any corrective action taken.

(c) The total operating time of the emission unit during the ozone control period.

(d) For continuous emission monitoring systems, system performance information ~~shall~~**must** include the date and time of each period during which the continuous monitoring system was inoperative, except for zero and span checks, and the nature of the

system repairs or adjustments. When the continuous monitoring system has not been inoperative, repaired, or adjusted, the information must be stated in the report.

(10) Table 81 reads as follows:

TABLE 81

Boilers and process heaters with heat input capacity of 250 million Btu or more NO _x emission limitations (pounds NO _x per million Btu of heat input averaged over the ozone control period)	
Fuel type	Emission limit
Natural gas	0.20
Distillate oil	0.30
Residual oil	0.40
Coal	
(1) Coal spreader stoker	0.40
(2) Pulverized coal fired	0.40
Gas (other than natural gas) ¹	0.25
<p>For units operating with a combination of gas, oil, or coal, a variable emission limit calculated as the heat input weighted average of the applicable emission limits must be used. The emission limit is determined as follows:</p> <p>Emission limit = a(0.20) + b(applicable oil limit) + c(applicable coal limit) + d(0.25)</p> <p>Where:</p> <p>a = Is the percentage of total heat input from natural gas</p> <p>b = Is the percentage of total heat input from oil</p> <p>c = Is the percentage of total heat input from coal</p> <p>d = Is the percentage of total heat input from gas (other than natural gas)</p>	

¹ This may include a mixture of gases. In this case, natural gas may be part of the mixture.

(11) The provisions of this rule do not apply to the following emission unit or units:

(a) A unit that is subject to NO_x standards or a NO_x federal trading programs that ~~have~~ **has** been promulgated in **any of the following**:

(i) ~~a~~ Federal implementation plans under section 110(c) of the clean air act, 42 USC 7410,

(ii) **A federal implementation plan** required under section 126 of the clean air act, 42 USC 7426, ~~or~~.

(iii) ~~promulgated in a~~ Federal regulations under 40 CFR part 51, ~~part 60,~~ or part 97.

(iv) **Federal regulations under 40 CFR part 60, which are equally stringent or more stringent than this rule.**

(b) A unit that is subject to **another** ~~any other~~ rule included in this part.

(c) A peaking unit. The owner or operator shall retain records of capacity for a period of 5 years demonstrating that the unit meets the definition of a peaking unit. The unit becomes subject to the provisions of this rule on January 1 of the year following failure to meet the peaking unit definition.

(d) A stationary gas turbine that is subject to a new source performance standard contained in 40 CFR part 60, subpart GG or KKKK, adopted by reference in R 336.1902.

R 336.1802 Applicability under **the** oxides of nitrogen (NOx) budget ~~trading~~ program.

Rule 802. (1) This rule establishes the applicability for **a** NOx budget ~~units~~ **program** as described in these rules. Except as provided in subrule (2) of this rule, units that meet all of the following requirements are NOx budget units and are subject to the requirements of this rule and R 336.1810:

(a) Units that meet the definition of a NOx budget unit as defined in R 336.1803(~~qr~~).

(b) Units that are located in the Michigan fine grid zone.

(2) A unit described in subrule (1) of this rule is not a NOx budget unit, if the unit has a federally enforceable permit that includes the following requirements, **terms, and restrictions**:

(a) A restriction on the unit to burn only natural gas or fuel oil during ozone control periods.

(b) A restriction of the unit's operation during each ozone control period by 1 of the following methods such that the unit's potential NOx mass emissions for the ozone control period are limited to 25 tons or less:

(i) By restricting the mass emissions to 25 tons or less of NOx as measured by a certified ~~CEMS~~ **continuous emission monitoring system** in accordance with 40 CFR 75.70 to 75.75, or, alternatively, 40 CFR 60.13, adopted by reference in R 336.1902.

(ii) By restricting the unit's operating hours to no more than the number calculated by dividing 25 tons of potential ~~NOx~~ **NOx** mass emissions by the unit's maximum potential hourly ~~NOx~~ **NOx** mass emissions. The maximum potential hourly ~~NOx~~ **NOx** mass emissions are determined by multiplying a rate in either subparagraph (A) or (B) of this paragraph by the value in subparagraph (C) of this paragraph:

(A) The default ~~NOx~~ **NOx** emission rate in 40 CFR 75.19, table LM-2, that would otherwise be applicable assuming that the unit burns only the type of fuel, for example, only natural gas or fuel oil, that has the highest default ~~NOx~~ **NOx** emission factor of any type of fuel that the unit is allowed to burn under the fuel use restriction in subdivision (a) of this subrule.

(B) The maximum ~~NOx~~ **NOx** emission rate established in accordance with 40 CFR 75.19(c)(1)(iv), which is adopted by reference in R 336.1902.

(C) The unit's maximum rated hourly heat input. The owner or operator of the unit may petition the department to use a lower value for the unit's maximum rated hourly heat input than the value as defined in R 336.1803(~~km~~). The department may approve the lower value if the owner or operator demonstrates that the maximum hourly heat input specified by the manufacturer or the highest observed hourly heat input, or both, are not representative, and that the lower value is representative of the unit's current capabilities because modifications have been made to the unit limiting its capacity permanently.

(iii) By restricting the amount of fuel that can be used based on total heat input by dividing 25 tons by ~~an~~ NOx mass emission rate in either subparagraph (A) or (B) of

paragraph (ii) of this subdivision and multiplying by the fuel heat content using the highest default gross calorific value under **40 CFR 75.19**, table LM-5, and using a billing fuel flow meter to determine the quantity of fuel being used or other fuel flow monitoring method device approved by ~~AQD~~ **the department to determine the quantity of fuel being used**. ~~Title~~ **40 CFR part 75** is adopted by reference in R 336.1902.

(c) A requirement that the owner or operator of the unit shall retain records on site for a period of 5 years. The records must show hours of operation for units with the operating hours restriction, volumes of fuel burned and maximum default gross calorific values for units with the heat input restriction, ~~CEMS continuous emission monitoring system~~ **CEMS continuous emission monitoring system** data for units with the ~~CEMS continuous emission monitoring system~~ **CEMS continuous emission monitoring system** exemption, and all other information necessary to demonstrate that requirements of the permit related to these restrictions were met.

(d) A requirement that the owner or operator of the unit shall report the unit's hours of operation, heat input, or ~~CEMS continuous emission monitoring system~~ **CEMS continuous emission monitoring system** measured NO_x emissions to the department by November 1 of each year for which the unit is subject to the federally enforceable permit incorporating the provisions of R 336.1802(2). ~~If~~ the hours of operation are required to be reported, the owner or operator shall treat any partial hour of operation as a whole hour of operation.

(3) The department shall notify the United States Environmental Protection Agency, in writing, within 30 days ~~after~~ **of** either of the following scenarios:

(a) A unit is issued a federally enforceable permit under subrule (2) of this rule.

(b) Any of the following provisions apply to a unit's federally enforceable permit previously issued by the department under subrule (2) of this rule:

(i) The permit is revised to remove any restriction established pursuant subrule (2) of this rule.

(ii) The permit includes any restriction established pursuant to subrule (2) of this rule that is no longer applicable.

(iii) The permit conditions do not comply with any restriction.

(4) A unit ~~shall~~ **must** be treated as commencing operation, on September 30 of the ozone control period in which either of the following conditions apply:

(a) The fuel use restriction, operating hours, or emissions restriction is no longer applicable.

(b) The unit does not comply with the fuel use restriction, operating hours, or emissions restriction.

R 336.1803 Definitions **for the oxides of nitrogen (NO_x) budget program**.

Rule 803. As used in R 336.1802 to R 336.1810:

(a) "Administrator" means, for purposes of complying with reporting requirements in this part, both of the following:

(i) ~~The United States Environmental Protection Agency,~~ **USEPA** for sources using 40 CFR part 75 monitoring requirements to comply.

(ii) ~~The department of environment, Great Lakes, and energy,~~ for sources using 40 CFR part 60 or alternative monitoring requirements to comply.

(b) "Benchmark apportionment" means a point of reference against which the ozone control period NO_x emissions from a NO_x budget source ~~affected unit~~ will be compared ~~to~~ if the state exceeds its ozone season budget of 2,209 tons.

(c) “Commence operation” means to have begun any mechanical, chemical, or electronic process, including, with regard to a unit, start-up of a unit's combustion chamber. Except as provided in R 336.1802(2) for a unit that is a NO_x budget unit under R 336.1802(1) on the date of commencement of operation, the date remains the unit's date of commencement of operation even if the unit is subsequently modified, reconstructed, or repowered. Except as provided in R 336.1802(2), for a unit that is not a NO_x budget unit under R 336.1802(1) on the date of commencement of operation, the date the unit becomes a NO_x budget unit under R 336.1802(1) is the unit's date of commencement of operation.

(d) “Continuous Emission Monitoring System” (~~CEMS~~) means the equipment used to sample, analyze, measure, and provide, by means of readings taken at least once every 15 minutes, using an automated data acquisition and handling system, (~~DAHS~~), a permanent record of NO_x ~~emissions~~ **emission rate**, stack gas volumetric flow rate or stack gas moisture content, as applicable, in a manner consistent with 40 CFR part 75 or 40 CFR part 60, appendices B and F, as applicable.

(e) “Department” means the department of environment, Great Lakes, and energy.

(f) “Emissions” means air pollutants exhausted from a unit or source into the atmosphere, as measured, recorded, and reported to the administrator by the NO_x authorized account representative or responsible official.

~~(g) “EPA” means the United States environmental protection agency.~~

~~(hg)~~ “Fossil fuel” means natural gas, petroleum, coal, or any form of solid, liquid, or gaseous fuel derived from natural gas, petroleum, or coal.

~~(hi)~~ “Generator” means a device that produces electricity.

~~(ji)~~ “Heat input” means, with regard to a specified period to time, the product, in million Btu/time, of the gross calorific value of the fuel, in Btu/pound, divided by 1,000,000 Btu/million Btu and multiplied by the fuel feed rate into a combustion device, in pounds of fuel/time, as measured, recorded, and reported to the administrator by the NO_x authorized account representative or responsible official. Heat input does not include the heat derived from preheated combustion air, recirculated flue gases, or exhaust from other sources.

(j) “Life-of-the-unit, firm power contractual arrangement” means a unit participation power sales agreement under which a utility or industrial customer reserves, or is entitled to receive, a specified amount or percentage of nameplate capacity and associated energy from any specified unit, and pays its proportional amount of such unit’s total costs, pursuant to a contract for the duration of one of the following:

(i) The life of the unit.

(ii) A cumulative term of no less than 30 years, including contracts that allow an election for early termination.

(iii) A period equal to or greater than 25 years or 70% of the economic useful life of the unit determined as of the time the unit is built, with option rights to purchase or release some portion of the nameplate capacity and associated energy generated by the unit at the end of the period.

(k) “Maximum design heat input” means the ability of a unit to combust a stated maximum amount of fuel per hour, in million Btu/hour, on a steady state basis, as determined by the physical design and physical characteristics of the unit.

(l) "Maximum potential hourly heat input" means an hourly heat input, in million Btu/hour, used for reporting purposes when a unit lacks certified monitors to report heat input for any unit that uses 40 CFR part 75 to comply with this part. If the unit intends to use 40 CFR part 75, appendix D, to report heat input, this value should be calculated, in accordance with 40 CFR part 75, using the maximum fuel flow rate and the maximum gross calorific value. If the unit intends to use a flow monitor and a diluent gas monitor, this value should be reported, in accordance with 40 CFR part 75, using the maximum potential flowrate and either the maximum carbon dioxide concentration, in CO₂, or the minimum oxygen concentration, in percent O₂.

(m) "Maximum rated hourly heat input" means a unit-specific maximum hourly heat input, (in million Btu/hour,) which is the higher of the manufacturer's maximum rated hourly heat input or the highest observed hourly heat input.

(n) "Michigan fine grid zone" means the geographical area that includes all of the following counties:

- (i) Allegan.
- (ii) Barry.
- (iii) Bay.
- (iv) Berrien.
- (v) Branch.
- (vi) Calhoun.
- (vii) Cass.
- (viii) Clinton.
- (ix) Eaton.
- (x) Genesee.
- (xi) Gratiot.
- (xii) Hillsdale.
- (xiii) Ingham.
- (xiv) Ionia.
- (xv) Isabella.
- (xvi) Jackson.
- (xvii) Kalamazoo.
- (xviii) Kent.
- (xix) Lapeer.
- (xx) Lenawee.
- (xxi) Livingston.
- (xxii) Macomb.
- (xxiii) Mecosta.
- (xxiv) Midland.
- (xxv) Monroe.
- (xxvi) Montcalm.
- (xxvii) Muskegon.
- (xxviii) Newaygo.
- (xxix) Oakland.
- (xxx) Oceana.
- (xxxi) Ottawa.
- (xxxii) Saginaw.

- (xxxiii) Saint Clair.
- (xxxiv) Saint Joseph.
- (xxxv) Sanilac.
- (xxxvi) Shiawassee.
- (xxxvii) Tuscola.
- (xxxviii) Van Buren.
- (xxxix) Washtenaw.
- (xl) Wayne.

(o) "Monitoring system" means any monitoring system, including a ~~CEMS or an accepted~~ **excepted** monitoring system that meets the requirements of ~~40 CFR part 60 or 40 CFR part 75~~, **a continuous emissions monitoring system, an approvable monitoring system that meets the requirements of 40 CFR part 60**, or an alternative monitoring system that has been approved by the department.

(p) "Nameplate capacity" means the maximum electrical generating output, in Mwe, that a generator can sustain over a specified period of time when not restricted by seasonal or other deratings as measured in accordance with the United States Department of Energy standards.

(q) "NOx budget source" means any source that has 1 or more NOx budget units.

~~(qr)~~ "NOx budget unit" means the following:

(i) For units that commenced operation before January 1, 1997, a unit that has a maximum design heat input of more than 250,000,000 Btu's per hour and that did not serve during 1995 or 1996 a generator producing electricity for sale.

(ii) For units that commenced operation ~~on or~~ after January 1, 1997, and before January 1, 1999, a unit that has a maximum design heat input of more than 250,000,000 Btu's per hour and that did not serve during 1997 or 1998 a generator producing electricity for sale.

(iii) For units that commence operation ~~on or~~ after January 1, 1999, a unit that has a maximum design heat input of more than 250,000,000 Btu's per hour and to which either of the following provisions ~~applies~~ **apply**:

(A) The unit at no time serves a generator producing electricity for sale.

(B) The unit at any time serves a generator producing electricity for sale, if ~~any such~~ **the** generator has a nameplate capacity of 25 megawatts or less and has the potential to use not more than 50% of the potential electrical output capacity of the unit.

(iv) All units listed in 40 CFR 97, subpart E, appendix B, adopted by reference in R 336.1902, in this state, except those listed that have since been decommissioned, dismantled, or permanently retired.

~~(v) All units qualifying as a cogeneration unit and not considered a cross-state air pollution rule NOx ozone season group 2 unit as listed in 40 CFR 97.804(b), adopted by reference in R 336.1902.~~ **A unit that meets both of the following:**

(A) Serves at any time a generator with a nameplate capacity greater than 25 megawatts producing electricity for sale.

(B) Qualifies for an exemption from the Cross-State Air Pollution Rule NOx Ozone Season Group 3 Trading Program as a cogeneration unit under 40 CFR 97.1004(b), adopted by reference in R 336.1902.

~~(r)~~ "NOx budget source" means any source that has 1 or more NOx budget units.

(s) “Operator” means ~~any~~ a person that operates, controls, or supervises a NOx budget unit, ~~or~~ a NOx budget source, and includes, but is not limited to, any holding company, utility system, or plant manager of such a unit or source.

(t) “Owner” means any of the following:

(i) Any holder of any portion of the legal or equitable title in a NOx budget unit.

(ii) Any holder of a leasehold interest in a NOx budget unit. **However, “owner” must not include a passive lessor, or a person that has an equitable interest through such lessor, whose rental payments are not based, either directly or indirectly, on the revenues or income from the NOx budget unit, unless expressly provided for in a leasehold agreement.**

(iii) Any purchaser of power from a NOx budget unit: **under a life-of-the-unit, firm power contractual arrangement.** ~~Unless expressly provided for in a leasehold agreement, owner does not include a passive lessor, or a person that has an equitable interest through a passive lessor, whose rental payments are not based, either directly or indirectly, upon the revenues or income from the NOx budget unit.~~

~~—(iv) With respect to any general account, any person that has an ownership interest with respect to the NOx allowances held in the general account and is subject to the binding agreement for the NOx authorized account representative to represent that person's ownership interest with respect to the NOx allowances.~~

(u) "Ozone control period" means the period of May 1 to September 30. ~~The term "ozone control period" replaces the term "control period" as used in 40 CFR part 96.1 to 96.88 and part 97.1 to 97.88.~~

(v) **“Ozone Federal Implementation Plan” means a Federal Implementation Plan created under the authority of 42 USC 7410 (a)(2)(D)(i)(I) with requirements to address a state’s obligations to eliminate significant contribution to nonattainment, or interference with maintenance, in other states of the 2015 or future iterations of the ozone National Ambient Air Quality Standards, NAAQS.**

(vw) “Potential electrical output capacity” means 33% of a unit's maximum design heat input.

(wx) “Receive” or “receipt of” means, when referring to the permitting authority or the administrator, to come into possession of a document, information, or correspondence, either in writing or through an authorized electronic transmission, as indicated in an official correspondence log, or by a notation made on the document, information, or correspondence, by the permitting authority or the administrator in the regular course of business.

(xy) “Source” means any governmental, institutional, commercial, or industrial structure, installation, plant, building, or facility that emits or has the potential to emit any regulated air pollutant under the clean air act, 42 USC 7401 to 7671q. For purposes of section 502(c) of the clean air act, 42 USC 7661a, a source, including a source with multiple units, is considered a single facility.

(yz) “Submit” or “serve” means to send or transmit a document, information, or correspondence to the person specified in accordance with the applicable regulation, as follows:

(i) In person.

(ii) By United States Postal Service.

(iii) By other means of dispatch or transmission and delivery. Compliance with any “submission,” “service,” or “mailing” deadline is determined by the date of dispatch, transmission, or mailing and not the date of receipt.

(~~z~~**aa**) “Ton” or “tonnage” means any short ton or 2,000 pounds. For the purpose of determining the NOx emissions, total tons for an ozone control period is calculated as the sum of all recorded hourly emissions, or the tonnage equivalent of the recorded hourly emissions rates, with any remaining fraction of a ton equal to or greater than 0.50 ton deemed to equal 1 ton and any fraction of a ton less than 0.50 ton deemed to equal zero tons.

(~~a~~**ab**) “Unit” means a fossil fuel-fired stationary boiler, combustion turbine, or combined cycle system that meets any of the following criteria:

(i) For units that commenced operation before January 1, 1996, the combustion of fossil fuel, alone or in combination with ~~another any other~~ **another** fuel, where fossil fuel actually combusted comprises more than 50% of the annual heat input on a Btu basis during 1995, or, if a unit had no heat input in 1995, during the last year of operation of the unit ~~prior to~~ **before** 1995.

(ii) For units that commenced operation ~~on or~~ after January 1, 1996, and before January 1, 1997, the combustion of fossil fuel, alone or in combination with ~~another any other~~ **another** fuel, where fossil fuel actually combusted comprises more than 50% of the annual heat input on a Btu basis during 1996.

(iii) For units that commence operation ~~on or~~ after January 1, 1997, either of the following apply:

(A) The combination of fossil fuel, alone or in combustion with ~~another any other~~ **another** fuel, where fossil fuel actually combusted comprises more than 50% of the annual heat input on a Btu basis during any year.

(B) The combination of fossil fuel, alone or in combination with ~~another any other~~ **another** fuel, where fossil fuel is projected to comprise more than 50% of the annual heat input on a Btu basis during ~~a any~~ **any** year, provided that the unit ~~shall~~ **must** be fossil fuel-fired as of the date, during such year, on which the unit begins combusting fossil fuel.

(~~c~~**c**) “USEPA” means the United States Environmental Protection Agency.

R 336.1810 Allowance **benchmark** apportionments under **the oxides of nitrogen (NOx)** budget program.

Rule 810. (1) The department shall establish a budget program for the ozone control period for NOx budget units ~~and~~ located within the Michigan fine grid zone. Total NOx emission **benchmark** apportionments are limited to 2,209 tons; for each ozone control period.

(2) Pursuant to R 336.1802(1), the department shall ~~apportion~~ **establish** a benchmark **apportionment** of NOx emissions for each NOx budget unit **and source** that will be used for comparison to actual NOx emissions from the NOx budget units at the source. The benchmarks will be apportioned and maintained as follows:

(a) For NOx budget units that commence operation before May 1, 2020, ~~these units must have a combined budget of~~ **the sum of the benchmark apportionments will be** 1,699 tons, ~~except when the budget is modified~~ **subject to decrease because of unit retirements or because the units are subject to an Ozone Federal Implementation Plan** as described in subrule (2)(d) of this rule.

(b) For any new NOx budget unit commencing operation after May 1, 2020, ~~or any unit the EPA designates as a NOx SIP call subject source after May 1, 2020,~~ the department shall establish a benchmark apportionment from the new unit set-aside pool for each ozone **control period**. ~~season control apportionment year of~~ **The initial amount of the new unit set aside pool will be 510 tons, or the most current new unit set aside pool as established subject to increase because of unit retirements as described** in subrule (2)(d) of this rule.

(c) Benchmark apportionments for all NOx budget units and sources are maintained and made available by the department and updated annually by April 1. These benchmark apportionments are established according to the requirements described in ~~subrules subrule (2)(a), (2)(b) and (2)(d) of this rule;~~ and **use are based on** a combination of federally enforceable permit limits, maximum nameplate capacities with an appropriate emission factor, physical limitations, and other attributes of the unit or process as applicable. ~~This budget~~ **The department** establishes a benchmark apportionment for each active NOx budget unit that is summed by source to create a NOx budget source total benchmark apportionment. Bases for the established ~~budgets~~ **benchmark apportionments** and adjustments to ~~those budgets~~ **the amount of the new unit set aside pool and the sum of the benchmark apportionments for NOx budget units that commenced operation before May 1, 2020** are included with the benchmark apportionment information that is made available.

(d) ~~The~~ **the amount of the new unit set-aside pool and associated apportionment budget the sum of the benchmark apportionments for NOx budget units that commenced operation before May 1, 2020** are updated as appropriate in the following ways:

(i) For any new NOx budget unit as described in subrule (2)(b) of this rule, the department shall establish a ~~NOx emission limit for the ozone period based on federally enforceable conditions in a permit to install.~~ **benchmark apportionment for the ozone control period based on a federally enforceable NOx emission limit in a permit to install.** The department shall include appropriate monitoring, recordkeeping, and reporting requirements for ozone season NOx emissions within the issued permit.

(ii) For ~~units~~ **a NOx budget unit that commenced operation before May 1, 2020, and that are is** permanently retired, the responsible official for the NOx budget source shall do one of the following:

(A) Notify the department's air quality division within 30 days ~~after~~ **of** the NOx budget unit's permanent retirement and not emit any NOx from the retired unit starting on the date that the unit is permanently retired. They ~~will~~ **shall** then have ~~their~~ **its** corresponding benchmark apportionments revoked and added to the new unit set aside pool described in subrule (2)(b) of this rule at the end of the calendar year unless the facility meets the requirements of subrule (2)(d)(ii)(B) of this rule. ~~The source total benchmark apportionment in the budget~~ **The sum of the benchmark apportionments for all NOx budget units that commenced operation before May 1, 2020 will shall be adjusted reduced** accordingly.

(B) Identify at the time of retirement of any NOx budget unit ~~installed that~~ **commenced operation** before May 1, 2020, if the facility would like to transfer the retired units' **benchmark** apportionments to new units installed in the same ozone season;

(iii) If ownership of a NOx budget unit of NOx budget source is transferred as described in R 336.1219, all associated unit benchmark apportionments transfer with the unit to the new owner.

(iv) If a NOx budget unit participates in an Ozone Federal Implementation Plan, the most recent benchmark apportionment for that unit must be removed from the most recent budget, the overall budget must be reduced accordingly, and the benchmark apportionment must be held in reservation for the NOx budget unit until the unit leaves the Ozone Federal Implementation Plan program.

(3) Except for NOx budget units participating in an Ozone Federal Implementation Plan, the owner or operator of a NOx budget unit shall monitor and record NOx emissions during the ozone control period using 1 of the following methods:

(a) In accordance with 40 CFR part 75 monitoring requirements that include, but are not limited to, data substitution procedures and monitoring and reporting requirements. The owner or operator shall report to the USEPA's clean air markets division the information required by 40 CFR part 75 and the department the information required in subpart rule (4) of this rule. **If this approach is followed, a responsible official shall be authorized to certify each submission and may delegate the responsible official's authority in accordance with 40 CFR part 97 subpart B, adopted by reference in R 336.1902.**

(b) The owner or operator may make a request to the department to monitor and record NOx emissions in accordance with methodologies acceptable under 40 CFR part 60. The owner or operator shall submit a monitoring plan to the department to be approved describing how the amount of NOx emissions in tons per ozone control period ~~are will be~~ determined from the 40 CFR part 60 NOx emission rate data. The owner or operator shall report to the department the information as described in the approved plan and the information in subpart rule (4) of this rule.

(c) The owner or operator of a NOx budget unit that is natural gas-fired and whose NOx mass emissions is 25 tons or less over each of the 3 previous ozone seasons may opt for alternative monitoring and recordkeeping. Except as provided in subparagraph (iii) of this subdivision, those choosing this option shall notify the department of their intention before the next ozone season to use the following alternative monitoring and recordkeeping methods:

(i) The hourly NOx mass emissions ~~or emission rate~~ are determined by multiplying a rate in either subparagraph (A) or (B) of this paragraph by the unit's maximum rated hourly heat input, except as allowed in subparagraph (C) of this paragraph:

(A) The default NOx emission rate of 1.5 lbs/million Btu for boilers or 0.7 lbs/million Btu for **combustion** turbines.

(B) The maximum NOx emission rate established **through stack testing** in accordance with 40 CFR 75.19(c)(1)(iv) or a similar **stack testing** methodology **using USEPA Agency reference methods. If this approach is followed, ongoing stack tests must be conducted not less than once every 5 years after the date of the previous stack test for units still in operation.**

(C) The owner or operator of the NOx budget unit may petition the department to use a lower value for the unit's maximum rated hourly heat input as described in R 336.1802(2)(b)(ii)(C).

(ii) The owner or operator of the NO_x budget unit shall retain records on site for a period of 5 years. The records must show, as applicable, the hourly NO_x mass emissions, hours of operation, hourly volumes of fuel burned and maximum default gross calorific values, ~~CEMS~~ **continuous emission monitoring system** data, and all other information necessary to demonstrate the amount of NO_x emitted during the ozone season.

(iii) Any NO_x budget unit that is natural gas-fired and has less than 3 years of NO_x mass emissions of 25 tons or less may petition the department to use alternative monitoring and recordkeeping as allowed in this subdivision. The petition must include all the reasons why the ~~predictive~~ **projected** NO_x emissions for the next ozone season will remain at 25 tons or less. The petition must be approved by the department before using the alternative monitoring and recordkeeping methods described in this subrule.

(iv) Any NO_x budget unit that is using this alternative monitoring and recordkeeping method and exceeds 25 tons for the ozone season must comply with either subdivision (a) or (b) of this subrule starting with the next ozone season. Once the unit has 3 consecutive years of data showing emissions of 25 tons or less, the owner or operator may request to the department to use the alternative monitoring and recordkeeping methods described in this subdivision of this rule before the next ozone season.

(d) The owner or operator of a NO_x unit budget that is subject to requirements of 40 CFR 52.40 through 40 CFR 52.46, as applicable, may opt to use the monitoring and recordkeeping requirements in those sections to meet the requirements of this subrule.

(4) The owner or operator of a NO_x budget unit shall submit to the department all the following information by November 1 each year:

(a) The type of each unit subject to this rule with an identifying name or number, or both.

(b) The name and address of the plant where the unit is located.

(c) The name and telephone number of the responsible official or their authorized representative responsible for demonstrating compliance with this rule.

(d) A report documenting, to the satisfaction of the department, each subject unit's hours of operation, heat input, total NO_x emissions for the ozone control period and related materials that include, but are not limited to, the amount of fuel used, types of fuels burned, emission factor verified or revised by most recent stack test, and other information that was used to determine total NO_x emissions for the ozone season, as applicable. For the purposes of this rule, this information must be used to determine "actual NO_x emissions" for ~~affected~~ **NO_x budget** units.

(e) ~~In any year~~ **Following any ozone control period** in which a unit located in an area designated as non-attainment for an ozone standard as of the end of the ozone control period exceeds its unit benchmark apportionment, a report documenting, to the satisfaction of the department, a description of reasons for the exceedance of the benchmark and actions taken to meet benchmark apportionment levels in the future.

(f) A certification by a responsible official or their authorized representative that states, based on information and belief formed after reasonable inquiry, the statements and information in the report are true, accurate, and complete.

(5) Except for NO_x budget units participating in an Ozone Federal Implementation Plan, Any year following any ozone control period in which the total actual NO_x emissions of all ~~affected~~ **NO_x budget** units exceed 2,209 tons, **or the current budget**

adjusted for units in an Ozone Federal Implementation Plan, all of the following must occur:

(a) Each source's total actual NOx emissions ~~of affected from NOx budget units will~~ **must** be compared to ~~their~~ **its** source total benchmark apportionment as described in and established in subrule (2) of this rule.

(b) Within 30 days after receipt of a request by the department, each source that was determined to be exceeding ~~their~~ **its** source total benchmark apportionment must submit a report to the ~~air quality division~~ **department** that includes the following:

(i) An explanation of the circumstances that caused the source to exceed ~~their~~ **its** benchmark apportionment.

(ii) An approvable plan describing what actions will be taken to prevent recurrences. This plan must contain a timeline of all actions to take place in response to the exceedance.

(iii) ~~For those that do not already have one, sources exceeding their~~ **A source exceeding its** benchmark apportionment **that does not already have** will apply for and ~~obtain~~ a permit to install with federally enforceable NOx emission limits for the ozone season **shall apply for and obtain such a permit.**

R 336.1818 Emission limitations for **the oxides of nitrogen (NOx) SIP call for** stationary internal combustion **engines.**

Rule 818. (1) As used in this rule:

(a) "Affected engine" means a stationary internal combustion engine that is a large NOx SIP call engine, or ~~another any other~~ stationary internal combustion engine that is subject to NOx control under a compliance plan established under subrule (3) of this rule.

(b) "Diesel engine" means a compression ignited 2- or 4-stroke engine in which liquid fuel injected into the combustion chamber ignites when the air has been compressed to a temperature sufficiently high for auto-ignition.

(c) "Dual fuel engine" means any stationary reciprocating internal combustion engine in which a liquid fuel, typically diesel fuel, is used for compression ignition and gaseous fuel, typically natural gas, is used as the primary fuel.

(d) "Engine seasonal NOx 2007 tonnage reduction" means the year 2007 ozone control period NOx emissions reductions value, (tons,) for a large NOx SIP call engine, which is based on an NOx control efficiency of 82% for large gas-fired engines and 90% for diesel and dual-fuel engines.

(e) "Facility seasonal NOx 2007 tonnage reduction" means the total of the engine ozone control period NOx 2007 tonnage reductions attributable to all of an owner or operator's large NOx SIP call engines.

(f) "Large NOx SIP call engine" means a stationary internal combustion engine emitting more than 1 ton of NOx per average ozone control period day in 1995.

(g) "Lean-burn engine" means any 2- or 4-stroke spark-ignited engine that is not a rich-burn engine.

(h) "Ozone control period" means the period of May 1 to September 30.

(i) "Past NOx emission rate" means the emission rate of an affected engine in grams per brake horsepower-hour as determined by performance testing consistent with the requirements of 40 CFR part 60, appendix A, as adopted by reference in R 336.1902. Where the performance test data are not available, the past NOx emission rate may be

determined by the department on a case-by-case basis using, for example, appropriate emission factors. For large NO_x SIP call engines, the past NO_x emission rate is the uncontrolled emission rate.

(j) "Projected operating hours" means the projected actual number of hours of operation per ozone control period for an affected engine.

(k) "Projected NO_x emission rate" means the projected emission rate in grams per brake horsepower-hour after installation of controls on an affected engine.

(l) "Rich-burn engine" means a spark-ignited stationary internal combustion engine in which the concentration of oxygen in the exhaust stream before any dilution is 1% or less measured on a dry basis.

(m) "Stationary internal combustion engine" means an internal combustion engine of the reciprocating type that is either attached to a foundation at a facility or is designed to be capable of being carried or moved from 1 location to another and remains at a single site at a building, structure, facility, or installation for more than 12 consecutive months. An engine, or engines, that replaces an engine at a site that is intended to perform the same or similar function as the engine replaced is included in calculating the consecutive time period.

(2) The requirements of this rule apply to the owner or operator of a large NO_x SIP call engine located in the Michigan fine grid zone.

(3) An owner or operator of a large NO_x SIP call engine shall not operate the engine in the ozone control period unless the owner or operator complies with either the requirements of a compliance plan that meets the following provisions or the emission rate limitations expressed as NO_x listed in subdivision (b) of this subrule:

(a) Compliance plan includes the following:

(i) Must be approved by the department.

(ii) Must demonstrate enforceable emission reductions from 1 or more stationary internal combustion engines equal to or higher than the facility seasonal NO_x 2007 tonnage reduction.

(iii) May cover some or all engines at an individual facility or at several facilities or at all facilities in the Michigan fine grid zone that are under control of the same owner or operator.

(iv) Must include the following items:

(A) A list of affected engines, including the engine's manufacturer, model, facility location address, and facility state registration number.

(B) The projected ozone control period hours of operation for each affected engine and supporting documentation.

(C) A description of the NO_x emissions control installed, or to be installed, on each affected engine and documentation to support the projected NO_x emission rates.

(D) The past and projected NO_x emission rates for each affected engine in grams per brake horsepower-hour.

(E) A numerical demonstration that the emission reductions obtained from all affected engines will be equivalent to or greater than the owner or operator's facility seasonal NO_x 2007 tonnage reduction, based on the difference between the past NO_x emission rate and the projected NO_x emission rate multiplied by the projected operating hours for each affected engine.

(F) Provisions for monitoring, reporting, and recordkeeping for each affected engine.

(v) The projected NO_x emission rate in grams per brake horsepower-hour for each affected engine must be included in a federally enforceable permit.

(b) The following are NO_x emission rate limitations:

(i) Rich-burn, 1.5 grams per brake horsepower per hour.

(ii) Lean-burn, 3.0 grams per brake horsepower per hour.

(iii) Diesel, 2.3 grams per brake horsepower per hour.

(iv) Dual fuel, 1.5 grams per brake horsepower per hour.

(4) An owner or operator subject to the requirements of subrule (3) of this rule shall comply with the following requirements:

(a) Each affected engine subject to this rule ~~shall~~**must** perform monitoring sufficient to yield reliable data for each ozone control period that is representative of a source's compliance with the projected NO_x emission rate in subrule (3)(a) of this rule or the emission rate limit specified in subrule (3)(b) of this rule. The monitoring may include 1 of the following:

(i) Performance tests consistent with either of the applicable provisions of 40 CFR part 60 or part 75 adopted by reference in R 336.1902. An owner or operator of an affected engine shall submit a test plan to the department not less than 30 days before the scheduled test date. To ensure proper testing, the plan must supply the information in the department format for submittal of source emission test plans and reports. The owner or operator shall give the department a reasonable opportunity to witness the tests. An owner or operator shall submit 2 copies of each compliance performance test to the department within 60 days ~~after~~**of** completion of the testing. The test results must be presented and include data as requested in the department format for submittal of source emission test plans and reports.

(ii) A parametric monitoring program that specifies operating parameters, and their ranges, that ~~shall provide~~**provides** reasonable assurance that each engine's emissions are consistent with the requirements of subrule (3) of this rule.

(iii) A predictive emissions measurement system that relies on automated data collection from instruments.

(iv) A continuous emission monitoring system that complies with the procedures set forth in 40 CFR part 60, subpart A and appendix B, and with the quality assurance procedures in part 60, appendix F; or 40 CFR part 75, as applicable and acceptable to the department. An owner or operator of an emission unit ~~which~~**that** elects this option shall submit a monitoring plan to the department not less than 30 days before installation. The owner or operator shall provide the department with a 30-day notice before a relative accuracy test audit.

(b) Recordkeeping requirements are as follows:

(i) Maintain all records necessary to demonstrate compliance with the requirements of this rule for a period of 5 calendar years at the plant at which the affected engine is located. The records ~~shall~~**must** be made available to the department and the ~~United States Environmental Protection Agency~~**USEPA** upon request.

(ii) For each engine subject to the requirements of this rule, the owner or operator shall maintain records of all of the following:

(A) Identification and location of each engine subject to the requirements of this subrule.

(B) Calendar date of record.

(C) The number of hours the unit is operated during each ozone control period compared to the projected operating hours.

(D) Type and quantity of fuel used.

(E) The results of all compliance tests.

(c) An owner or operator subject to the requirements of this rule shall submit the results of all compliance tests to the department within 60 days after the completion of the testing.

R 336.1840 Definitions for the oxides of nitrogen (NOx) Reasonably Available Control Technology rules.

Rule 840. (1) As used in R 336.1841 to R 336.1846:

(a) “2015 ozone nonattainment areas” means collectively the nonattainment area of Berrien County, the nonattainment area of the western portion of Allegan County, and the nonattainment area of the western portion of Muskegon County.

(b) “Engine test cell” or “engine test stand” means a combustion device and its associated apparatus used to develop, characterize, and test uninstalled engines for operational and emission specifications.

(c) “Equal to or more stringent than” means the pollutant, units of measurement, time periods, operating scenarios, equipment, monitoring, and recordkeeping, as applicable, of 1 standard or requirement can be established to be at least as stringent as that of a second standard or requirement.

(d) “Gaseous fuels” means propane, natural, digester, landfill, and coke oven gas.

(e) “Liquid fuels” means residual and distillate fuel oils, and liquid biomass.

(f) “MMBtu” means million British thermal units.

(g) “Solid fuels” means coal, pet coke, tire-derived material, wood, and solid biomass.

(h) “Tune-up” means adjustments made to an engine or boiler in accordance with procedures supplied by the manufacturer, vendor, or as applicable, certified, or licensed specialist to optimize the combustion efficiency or performed in accordance with 40 CFR part 63 DDDDD or JJJJJJ.

(i) “Western portion of Allegan County” means the areas located in Allegan County described as Casco Township, Cheshire Township, city of Douglas, city of Holland, city of Saugatuck, Clyde Township, Fillmore Township, Ganges Township, Heath Township, Laketown Township, Lee Township, Manlius Township, Overisel Township, Saugatuck Township, and Valley Township.

(j) “Western portion of Muskegon County” means the areas located in Muskegon County described as Blue Lake Township; city of Montague; city of Muskegon; city of Muskegon Heights; city of North Muskegon; city of Roosevelt Park; city of Whitehall; Dalton Township, including village of Lakewood Club; Fruitland Township; Fruitport Township, including village of Fruitport; Laketon Township; Montague Township; Muskegon Township; city of Norton Shores; White River Township; and Whitehall Township.

R 336.1841 Reasonably Available Control Technology emission limitations for engines.

Rule 841. (1) As used in this rule:

(a) “Certified engine operating in a non-certified manner” means an engine not operated and maintained according to the manufacturer's emission-related written instructions or if no manufacturer emission-related instructions were provided.

(b) “Engine” means any reciprocating internal combustion engine that uses reciprocating motion to convert heat energy into mechanical work and is not mobile. An engine test cell or engine test stand and any associated apparatus are not considered engines for the purpose of this rule.

(2) A person is subject to this rule and shall not cause or allow the emission of oxides of nitrogen (NO_x) from the combustion of fuels in an engine or its replacement unit in excess of the requirements of this rule at facilities meeting either of the following criteria:

(a) Located in the 2015 ozone nonattainment areas as defined in R 336.840 and either of the following:

(i) A stationary source with a potential to emit, PTE, of 100 tons per year or greater of NO_x from all combined NO_x sources on March 1, 2024, or upon the effective date of the rule, whichever is later.

(ii) Any engine manufactured after the effective date of this rule.

(b) Has at any time been subject to the requirements of this rule or becomes subject as part of a normal maintenance program that meets the exemption requirements of R 336.1285(2)(a)(vi). The requirements in this rule, at a minimum, must permanently apply regardless of any change in the attainment or maintenance status of the stationary source location or the PTE of the stationary source, when the engine is located at the stationary source.

(3) Engines may utilize the following exemptions from all provisions of this rule except subrule (6)(d). If an exemption is utilized, all applicable requirements of R 336.1846 must be met. All provisions of this rule apply if the engine is not utilizing an exemption listed below:

(a) Engines less than 300 horsepower, HP.

(b) Emergency engines as described in 40 CFR part 63 subpart ZZZZ 63.6640(f) and 63.6675.

(c) Engines subject to federal regulations under 40 CFR part 60, 40 CFR part 61, or 40 CFR part 63, if the applicable regulations are included in the SIP or established to be equal to or more stringent than the requirements of subrule (4) of this rule.

(d) Engines used for research and development.

(c) Any engine that is subject to a federal implementation plan under section 110(a) of the clean air act, 42 USC 7410, that is equal to or more stringent than the requirements of subrule (4) or (7), as applicable, of this rule.

(f) Engines with a federally enforceable limit of 100 hours per 12-month rolling time period.

(g) Black start engines whose only purpose is to start up combustion turbines and all associated equipment.

(4) Except as allowed by R 336.1845 or as required by subrule (7) of this rule, a person that generates NO_x emissions from the use of an engine shall meet the following limits within table 841 on and after March 1, 2024, or the effective date of this rule, whichever is later, as applicable:

TABLE 841
NOx emission limits for internal combustion engines.

Engine type	Grams of NOx per brake horsepower-hour
Any engine from 300 HP to 500 HP	N/A
Compression ignition Greater than 500 HP	3
Spark ignition, natural gas burning engines	
2 stroke greater than 500 HP	3
4 stroke from 500 HP to 1000 HP	3
4 stroke greater than 1000 HP	1.5
Spark ignition greater than 500 HP using gaseous fuels other than natural gas	3

(5) Compliance and monitoring with this rule must be determined using 1 of the following methods:

(a) Maintain engine certification according to procedures specified in 40 CFR part 60 subpart IIII, 40 CFR part 60 subpart JJJJ, or 40 CFR part 63 subpart ZZZZ, as applicable, for the same model year, which includes, at a minimum, the following requirements:

(i) Operate and maintain the certified engine and, if applicable, control device according to the manufacturer's emission-related written instructions.

(ii) Use diesel fuel with a sulfur content not to exceed 15 parts per million or natural gas, as applicable.

(b) For a non-certified engine or a certified engine operating in a non-certified manner, a person subject to this rule shall meet the following requirements:

(i) Create and implement an approvable maintenance plan for the engine. The plan must contain, at a minimum, the maintenance requirements of 40 CFR part 63 subpart ZZZZ, which includes, among other requirements, the conditions of inspection, the frequency of inspections, operating parameters to be monitored and their normal operating ranges, major replacement parts that must be maintained in inventory and a description of corrective procedures or operational changes that must be taken in the event of a malfunction or failure to comply with applicable emission limits.

(ii) To the extent practicable, maintain and operate the engine in a manner consistent with good air pollution control practice for minimizing emissions at all times, including during startup, shutdown, and malfunction. The department shall determine compliance with this requirement based on information that may include, but is not limited to, monitoring results and review of operation and maintenance procedures and records.

(iii) For emission units subject to an emission rate limit specified in subrule (4) of this rule, compliance must be determined by 1 of the following:

(A) If a performance test has not been done within the last 5 years before the effective date of this rule, the person subject to this rule shall conduct an initial performance test, acceptable to the department, to demonstrate the required

emission rate limit within 180 days after the effective date of this rule, or within 30 days after startup if the unit is not operating. An acceptable performance test must then be completed every 5 years, at a minimum, from the date of the last test, consistent with the requirements of R 336.2004. A representative test for multiple identical emission units may be approved by the department.

(B) The person subject to this rule shall submit to the department for approval a monitoring plan describing how the NO_x emissions shall be monitored. The monitoring plan must include how the performance of periodic monitoring is sufficient to yield reliable data from relevant time periods representative of the source's compliance with the emission rates specified in subrule (4) of this rule. The periodic monitoring may include the following:

(I) Performance test results consistent with the requirements of R 336.2004, or portable monitors using ASTM D6522, adopted by reference in R 336.1902. The protocol must be submitted as required under R 336.2001.

(II) A parametric monitoring program that specifies operating parameters and ranges providing reasonable assurance that each engine's emissions are consistent with the requirements of this rule.

(III) A predictive emissions measurement system that relies on automated data collection from instruments.

(IV) A continuous emission monitoring system that complies with 40 CFR part 60 or 40 CFR part 75, both adopted by reference in R 336.1902.

(6) A person subject to this rule shall obtain current information and maintain records for all requirements or exemptions in sufficient detail to determine compliance. The data must be made available to the department upon request. Such information and records must, at a minimum, include the following:

(a) Manufacture and installation dates of the engine.

(b) For non-certified engines or certified engines operating in a non-certified manner, the following:

(i) The maintenance plan.

(ii) All associated maintenance records for a minimum of 5 years.

(iii) Either the results of the most recent stack test or a minimum of 5 years of all monitoring data necessary to demonstrate compliance with the limits and requirements in subrule (4) of this rule, or both, as applicable.

(c) For certified engines, documentation from the manufacturer that the engine is certified to meet the emission standards.

(d) If the provisions of this rule are not applicable as allowed by subrule (3), all information necessary to demonstrate that the equipment meets the exemption being utilized.

(7) A person that generates NO_x emissions from the use of an engine located in the 2015 ozone nonattainment area shall meet the following limits within table 841a 12 months after the effective date of a final determination by the USEPA, under the clean air act, 42 USC 7511a(c)(9) for either of the following elements of the 2015 ozone National Ambient Air Quality Standard:

(a) The USEPA issues a determination that reasonable further progress as described in the approved Michigan state implementation plan was not achieved.

(b) The USEPA issues a finding of failure to attain the standard by the applicable attainment date.

TABLE 841a
NO_x emission limits for internal combustion engines.

Engine type	Grams of NO _x per brake horsepower-hour
Compression Ignition Greater than 500 HP	2.5
Spark ignition, natural gas burning engines	
2 stroke greater than 500 HP	2.5
4 stroke from 500 HP to 1000 HP	2.5
4 stroke greater than 1000 HP	1.0
Spark Ignition greater than 500 HP using landfill, digester, or other gaseous fuels	2.5

R 336.1842 Reasonably Available Control Technology emission limitations for boilers.

Rule 842. (1) As used in this rule:

(a) “Boiler” means an enclosed device using controlled flame combustion and having the primary purpose of recovering thermal energy in the form of steam or hot water.

(b) “Limited use boiler” means a boiler that burns an amount of solid, liquid, or gaseous fuels and has a federally enforceable annual capacity factor of no more than 10%.

(2) A person shall not cause or allow the emission of oxides of nitrogen (NO_x) from the combustion of fuels in boilers in excess of the requirements of this rule at facilities meeting either of the following criteria:

(a) Located in the 2015 ozone nonattainment areas as defined in R 336.1840 and either of either of the following:

(i) A stationary source with a potential to emit 100 tons per year or greater of NO_x from all combined NO_x sources on March 1, 2024, or upon the effective date of the rule, whichever is later.

(ii) A emission unit installed after the effective date of this rule.

(b) Has at any time been subject to the requirements of this rule. The requirements in this rule, at a minimum, must permanently apply regardless of any change in the attainment or maintenance status of the stationary source location or the PTE of the stationary source.

(3) If an exemption is utilized, all applicable requirements of R 336.1846 must be met. If the boiler is not utilizing an exemption listed below, all provisions of this rule apply. Boilers may utilize the following exemptions from all provisions of this rule except subrule (8)(d):

(a) Boilers with a heat input capacity rating of less than 20 MMBtu/hr.

(b) Boilers subject to federal regulations under 40 CFR part 60, 40 CFR part 61, or 40 CFR part 63 if the applicable regulations are included in the state

implementation plan or established to be equal to or more stringent than the requirements of subrule (4) of this rule.

(c) A boiler that is subject to a federal implementation plan under section 110(a) and 110(c) of the clean air act, 42 USC 7410, that is equal to or more stringent than the requirements of subrule (4) of this rule.

(d) Limited use boilers.

(4) Except as allowed under R 336.1845, or as required by subrule (9) of this rule, a person that generates NOx emissions from the use of a subject boiler shall meet the following provisions on and after March 1, 2024, or the effective date of this rule, whichever is later, as applicable:

(a) The following NOx limits within table 842:

TABLE 842
NOx emission limits for boilers

Fuel Type	Lbs of NOx per million Btu of heat input on hourly basis ^a
All boilers: > 20 MMBTU/hr =< 50 MMBtu/hr	N/A
Gaseous fuels: > 50 MMBtu/hr	0.10
Distillate Oil: > 50 MMBtu/hr	0.12
Residual Oil: > 50 MMBtu/hr	0.25
Solid fuels: > 50 MMBtu/hr, < 100 MMBtu	0.35
Solid fuels: => 100 MMBtu	0.25

^a Except for alternative averaging periods as allowed in subrule (7)(b).

(b) A boiler installed after March 1, 2024, or the effective date of this rule, whichever is later, must utilize a low-NOx burner, equivalent technology, or better technology.

(c) For emission units operating with a combination of gas, oil, or other fuels, a variable emission limit calculated as the heat input weighted average of the applicable emission limits must be used. The emission limit must be determined as follows:

$$\text{Emission limit} = \sum_{i=1}^n (P_i)(L_i)$$

Where:

P_i = Percentage of total heat input from fuel listed in table 842 on a 24-hr basis

L_i = Applicable limit for fuel listed in table 842

n = Number of different fuel types

(5) The person subject to this rule shall conduct a tune-up of each boiler at the following frequency:

(a) For a boiler subject to the tune-up requirements of 40 CFR part 63 subpart DDDDD, JJJJJJ, and UUUUU adopted by reference in R 336.1902, tune-ups must be conducted in the manner and frequency as prescribed in that rule.

(b) All boilers not described in subrule (5)(a) must undergo a tune-up following the requirements in subrule (6) at the frequency indicated in table 842a.

TABLE 842a
Boiler tune-up frequency by emission unit type.

Boiler Type	Frequency of tune-up
Natural gas-fired or equipped with an oxygen analyzer system	Every 5 years but no more than 61 months after the last tune-up
All other fuels	Once every year but no longer than 13 months after the last tune-up

(6) For boilers that are subject to subrule (5)(b) of this rule, the person subject to the rule shall meet the following tune-up related requirements on and after the effective date of this rule, as applicable:

(a) Create and implement a plan for the boiler that is approvable by the department. At a minimum, this plan must address the following details regarding tune-ups and denote the frequency these activities shall occur:

(i) Inspection of the burner, and cleaning or replacement of any components of the burner as necessary.

(ii) Inspection of the flame pattern and adjustments of the burner as necessary to optimize the flame pattern. The adjustment must be consistent with the manufacturer's specifications, if available.

(iii) Inspection of the system controlling the air-to-fuel ratio, as applicable, and confirmation that it is correctly calibrated and functioning properly.

(iv) Optimization of total emissions of carbon monoxide, CO, and NOx. This should be consistent with the manufacturer's specifications, if available, and with any NOx requirement to which the emission unit is subject.

(v) Measurement of the concentrations in the effluent stream of CO in parts per million by volume, and oxygen in volume percent, before and after the adjustments are made. Measurements may be on either a dry or wet basis, as long as it is the same basis before and after the adjustments are made. Measurements may also be taken using a properly operated and maintained portable CO analyzer.

(vi) If the emission unit is shutdown on the required date for tune-up activities, the tune-up must be conducted as soon as practicable, but no longer than 30 days after startup.

(b) To the extent practicable, maintain and operate the boiler in a manner consistent with good air pollution control practice for minimizing emissions at all times including during startup, shutdown, and malfunction. Determination of whether such operation and maintenance procedures are being used shall be based on information available to the department that may include, but is not limited to, monitoring results and review of operation and maintenance procedures and records.

(7) For boilers subject to an emission rate limit specified in subrule (4) of this rule, compliance must be determined by using 1 of the following:

(a) If a performance test has not been done within the last 5 years before the effective date of this rule, the person subject to the rule shall conduct an initial performance test, acceptable to the department, within 180 days after the effective date of this rule to demonstrate compliance with the required emission rate limit, or within 30 days after startup if the unit is not operating. An acceptable performance test must then be completed every 5 years, at a minimum, after the date of the last test, consistent with the requirements of R 336.2004. A performance test that determines that the emission unit complies with the limit in table 842 must be presumed to comply with this limit as long as the emission unit maintains regularly scheduled tune-ups required in subrule (5) of this rule until the next performance test is conducted. A representative test for multiple identical emission units may be approved by the department.

(b) An approvable plan must be submitted to the department describing how the NO_x emissions are monitored. The monitoring plan must include the performance of periodic monitoring that is sufficient to yield reliable data from relevant time periods representative of the source's compliance with the emission rates specified in subrule (4) of this rule. Such periodic monitoring may include the following:

(i) A parametric monitoring program that specifies operating parameters, and their ranges, that will provide reasonable assurance that each boiler's emissions are consistent with the requirements of this rule.

(ii) A predictive emissions measurement system that relies on automated data collection from instruments. If a boiler is equipped with a predictive emission monitoring system, then compliance with the applicable emissions limit must be determined based on the 30-day rolling average of the hourly arithmetic average emissions rates.

(iii) A continuous emission monitoring system that complies with 40 CFR part 60 or 40 CFR part 75, both adopted by reference in R 336.1902. If a boiler is equipped with a continuous emission monitoring system, then compliance with the applicable emissions limit must be determined based on the 30-day rolling average of the hourly arithmetic average emissions rates.

(8) A person operating a boiler subject to this rule shall obtain current information and maintain records for all requirements or exemptions in sufficient detail to determine compliance. The data must be made available to the department upon request. Examples of acceptable information and records include, but are not limited to the following:

(a) Installation dates of the boiler.

(b) Records of tune-ups and related inspections conducted in accordance with subrule (5) of this rule and all associated records for a minimum of 5 years.

(c) Either the results of the most recent stack test, or a minimum of 5 years of all monitoring data necessary to demonstrate compliance with limits and requirements in subrule (4) of this rule, or both, as applicable.

(d) If the provisions of this rule are not applicable as allowed by subrule (3) of this rule, all information necessary to demonstrate that the equipment meets the exemption being utilized.

(9) A person that generates NO_x emissions from the use of a boiler located in the 2015 ozone nonattainment area shall meet the following limits within table 842b 12

months after the effective date of a final determination by the USEPA, pursuant to the clean air act 42 USC 7511a(c)(9)), for either of the following elements of the 2015 ozone National Ambient Air Quality Standard:

- (a) The USEPA issues a determination that reasonable further progress as described in the approved Michigan state implementation plan was not achieved.
- (b) The USEPA issues a finding of failure to attain the standard by the applicable attainment date.

TABLE 842b
NO_x emission limits for boilers

Fuel Type	Lbs of NO _x per million Btu of heat input on hourly basis ^a
All boilers > 20 MMBTU/hr =< 50 MMBtu/hr	N/A
Gaseous fuels; > 50 MMBtu/hr	0.08
Distillate Oil; > 50 MMBtu/hr	0.10
Residual Oil ; > 50 MMBtu/hr	0.20
Solid fuels; > 50 MMBtu/hr , < 100 MMBtu	0.30
Solid fuels; => 100 MMBtu	0.20

^a Except for alternative averaging periods as allowed in subrule (7)(b).

R 336.1843 Reasonably Available Control Technology emission limitations for combustion turbines.

Rule 843. (1) As used in this rule, “emergency turbines” means turbines used in emergency situations to produce power for critical networks or equipment when electric power from the local utility is interrupted, to pump water in the case of fire or flood or required maintenance checks and readiness testing.

(2) A person is subject to this rule and shall not cause or allow the emission of oxides of nitrogen (NO_x) from the combustion of fuels in turbines in excess of the requirements of this rule at facilities meeting either of the following criteria:

(a) Located in the 2015 ozone nonattainment areas, as defined in R 336.1840 and either of the following:

(i) A stationary source with a potential to emit of 100 tons per year or greater of NO_x from all combined NO_x sources on March 1, 2024, or upon the effective date of this rule, whichever is later.

(ii) An emission unit installed after the effective date of this rule.

(b) Has been subject to the requirements of this rule. The requirements in this rule, at a minimum, must permanently apply regardless of a change in the attainment or maintenance status of the stationary source location or the PTE of the stationary source.

(3) If an exemption is utilized, all applicable requirements of R 336.1846 must be met. If the turbine is not utilizing an exemption listed below, all provisions of this rule apply. Turbines may utilize the following exemptions from all provisions of this rule except subrule (7)(d) of this rule:

(a) Turbines subject to federal regulations under 40 CFR part 60, 40 CFR part 61, or 40 CFR part 63, or other federally enforceable conditions if the applicable

regulations are included in the state implementation plan or established to be equal to or more stringent than the requirements of subrule (4) of this rule.

(b) Turbines that are rated at less than 30 MMBtu/hr.

(c) Emergency turbines.

(d) Any turbine that is subject to a federal implementation plan under section 110(a) or 110(c) of the clean air act, 42 USC 7410, that is equal to or more stringent than the requirements of subrule (4) of this rule.

(4) Except as allowed by R 336.1845, a person that generates NOx emissions from the use of a turbine must meet the following:

(a) The limits within table 843 by March 1, 2024, or the effective date of the rule, whichever is later:

TABLE 843
NOx emission limits by turbine and fuel type

Turbine type and fuel	Parts per million (volume, dry, corrected to 15% oxygen on an hourly basis) ^a
Gaseous fuel fired	
Between 30 and 50 MMBtu/hr	150
50 MMBtu/hr and greater	25
Liquid fuel fired	
Between 30 and 50 MMBtu/hr	200
50 MMBtu/hr and greater	65

^a Except for alternative averaging periods as allowed in subrule (6)(b).

(b) For emission units operating with a combination of gaseous and liquid fuels, a variable emission limit calculated as the concentration average of the applicable emission limits, as described in R 336.1842(4)(c) must be used.

(5) A person subject to this rule shall demonstrate compliance by implementing and maintaining the following:

(a) Create and implement an approvable maintenance plan for the turbine.

(b) To the extent practicable, maintain and operate the turbine in a manner consistent with good air pollution control practice for minimizing emissions at all times including during startup, shutdown, and malfunction. The department shall determine compliance with this requirement based on information that may include, but is not limited to, monitoring results and review of operation and maintenance procedures and records.

(6) For turbines subject to the emission rate limit specified in subrule (4) of this rule, compliance must be determined by using 1 of the following:

(a) If a performance test has not been done within the last 5 years before the effective date of this rule, the person subject to this rule shall conduct an initial performance test, acceptable to the department, within 180 days after the effective date of this rule to demonstrate compliance with the required emission rate limit, or within 30 days after startup if the unit is not operating. A performance test must then be completed every 5 years, at a minimum, after the date of the last test,

consistent with the requirements of R 336.2004. A representative test for multiple identical emission units may be approved by the department.

(b) An approvable plan must be submitted to the department describing how the NO_x emissions shall be monitored. The monitoring plan must include how the performance of periodic monitoring is sufficient to yield reliable data from relevant time periods representative of the source's compliance with the emission rates specified in subrule (4) of this rule. Such periodic monitoring must include 1 of the following:

(i) A parametric monitoring program that specifies operating parameters, and their ranges, that provides reasonable assurance each turbine's emissions are consistent with the requirements of this rule.

(ii) A predictive emissions measurement system that relies on automated data collection from instruments. If a boiler is equipped with a predictive emission monitoring system, compliance with the applicable emissions limit must be determined based on the 30-day rolling average of the hourly arithmetic average emissions rates.

(iii) A continuous emission monitoring system that complies with 40 CFR part 60 or 75, both adopted by reference in R 336.1902. If a boiler is equipped with a continuous emission monitoring system, compliance with the applicable emissions limit must be determined based on the 30-day rolling average of the hourly arithmetic average emissions rates.

(7) A person operating a turbine subject to this rule shall obtain current information and maintain records for all requirements and exemptions in sufficient detail to determine compliance. The data must be made available to the department upon request. Such information and records may include the following:

(a) Installation dates of the turbine.

(b) The maintenance plan.

(c) All associated maintenance records for a minimum of 5 years.

(d) Either the results of the most recent stack test, or a minimum of 5 years of all monitoring data necessary to demonstrate compliance with limits and requirements in subrule (4) of this rule, or both, as applicable.

(e) If the provisions of this rule are not applicable as allowed by subrule (3) of this rule, all information necessary to demonstrate that the equipment meets the exemption being utilized.

R 336.1844 Reasonably Available Control Technology emission limitations for miscellaneous process specific combustion sources.

Rule 844. (1) As used in this rule:

(a) "Combustion device" means an individual unit of equipment used for combustion of a fuel using a controlled flame.

(b) "Process heater" means an enclosed combustion device, or collection of combustion devices, in which the emission unit's primary purpose is to transfer heat to a process material, gas, liquid, or solid, or heat transfer material for use in a process other than to generate steam. Process heaters do not include emission units that are used for comfort, water or space heat, food preparation for on-site

consumption, autoclaves, waste heat process heaters, or devices whose primary function is to control air pollution.

(2) A person is subject to this rule and shall not cause or allow the emission of oxides of nitrogen (NOx) from the combustion of fuels in asphalt plants, process heaters, engine test cells and stands, lime kilns, or glass manufacturing units in excess of the allowable emissions, including the limitations of this rule at facilities meeting either of the following criteria:

(a) Located in the 2015 ozone nonattainment areas, as defined in R 336.1840 and either of the following:

(i) A stationary source with a potential to emit 100 tons per year or greater of NOx from all combined NOx sources on March 1, 2024, or the effective date of this rule, whichever is later.

(ii) An emission unit installed after the effective date of this rule.

(b) Has been subject to the requirements of this rule. The requirements in this rule, at a minimum, must permanently apply regardless of a change in the attainment or maintenance status of the stationary source location or the PTE of the stationary source.

(3) If an exemption is utilized, all applicable requirements of R 336.1846 must be met. If the emission unit is not utilizing an exemption listed below, all provisions of this rule apply. Emission units may utilize the following exemptions from all provisions of this rule except subrule (7)(d) of this rule:

(a) Asphalt plants equal to or less than 50 MMBtu/hr.

(b) Process heaters equal to or less than 60 MMBtu/hr that do not inject ammonia or use refinery fuel gas.

(c) Process heaters equal to or less than 10 MMBtu/hr that inject ammonia.

(d) All combustion devices under 20 MMBtu/hr in a process heater that do not exceed a total of 100 MMBtu/hr when combined.

(e) Lime kilns equal to or less than 50 MMBtu/hr.

(f) Glass manufacturing furnaces equal to or less than 50 MMBtu/hr.

(g) A research or development emission unit meeting the requirements of R 336.1283.

(h) Engine test cells and stands that are testing engines rated 1200 HP or less.

(i) Air pollution control devices.

(j) An asphalt plant, process heater, engine test cell, lime kiln, or glass manufacturing unit that is subject to a federal implementation plan under section 110(a) of the clean air act, 42 USC 7410 that is equal to or more stringent than the requirements of subrule (4) of this rule.

(4) Except as allowed by R 336.1845, or as required by subrule (8) of this rule, a person that generates NOx emissions from the use of hot mix asphalt plants, process heaters, engine test cells and stands, lime kilns, or glass manufacturing shall meet the following limits within table 844, as applicable, by March 1, 2024, or the effective date of the rule, whichever is later.

TABLE 844
NOx emission limits from miscellaneous combustion sources

Process	NOx Emission limit
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	on an hourly basis ^a
Hot Mix Asphalt Plants > 50 MMBtu/hr	
Gaseous fuels	0.15 lb/MMBtu
Distillate oil	0.20 lb/mmBtu
Residual Oil	0.27 lb/mmBtu
Process Heaters	
Gaseous fuels >60 MMBtu/hr	0.12 lb/MMBtu
Distillate Oil >60, =< 100 MMBtu/hr	0.12 lb/MMBtu
Distillate Oil > 100 MMBtu/hr	0.14 lb/MMBtu
Residual Oil >60, =< 100 MMBtu/hr	0.15 lb/MMBtu
Residual Oil > 100 MMBtu/hr	0.18 lb/MMBtu
Refinery Fuel Gas	0.18 lb/MMBtu
Any fuel > 10 MMBtu/hr utilizing ammonia injection	0.20 lb/MMBtu
Engine Test Cells/Standards	
Gaseous Fuel engines > 1200 HP	0.08 lb/MMBtu
Distillate Oil engines > 1200 HP	0.10 lb/MMBtu
Lime Kilns > 50 MMBtu/hr	6.0 lb/ton of lime produced
Glass Manufacturing > 50 MMBtu/hr	3.5 lb/ton of glass produced

^a Except for alternative averaging periods as allowed in subrule (6)(c)(ii).

(5) A process heater installed after March 1, 2024, or the effective date of the rule, whichever is later, must utilize a low-NOx burner, equivalent technology, or better.

(6) A person subject to this rule shall demonstrate compliance by implementing and maintaining the following:

(a) Create and implement an approvable maintenance plan for the affected emission unit.

(b) To the extent practicable, maintain and operate the affected emission unit in a manner consistent with good air pollution control practice for minimizing emissions at all times, including during startup, shutdown, and malfunction. The department shall determine compliance with this requirement based on information that may include, but is not limited to, monitoring results, review of operation and maintenance procedures, and review of operation and maintenance records.

(c) For emission units with an emission rate limit specified in subrule (4) of this rule, 1 of the following:

(i) If a performance test has not been done within the last 5 years before the effective date of this rule, the person subject to this rule shall conduct an initial performance test, acceptable to the department, within 180 days after the effective date of this rule to demonstrate compliance with the required emission rate limit, or within 30 days after startup if the unit is not operating. A performance test must then be completed every 5 years, at a minimum, after the date of the last test, consistent with the requirements of R 336.2004. A representative test for multiple identical emission units may be approved by the department.

(ii) An approvable plan must be submitted to the department describing how the NOx emissions shall be monitored. The monitoring plan must include how the performance of periodic monitoring is sufficient to yield reliable data from relevant

time periods representative of the source's compliance with the emission rates specified in subrule (4) of this rule. Such periodic monitoring may include the following:

(A) A parametric monitoring program that specifies operating parameters, and their ranges, that will provide reasonable assurance each emission unit's emissions are consistent with the requirements of this rule.

(B) A predictive emissions measurement system that relies on automated data collection from instruments. If a boiler is equipped with a predictive emission monitoring system, compliance with the applicable emissions limit shall be determined based on the 30-day rolling average of the hourly arithmetic average emissions rates.

(C) A continuous emission monitoring system that complies with 40 CFR part 60 or 40 CFR part 75, both adopted by reference in R 336.1902. If a boiler is equipped with a continuous emission monitoring system, compliance with the applicable emissions limit shall be determined based on the 30-day rolling average of the hourly arithmetic average emissions rates.

(7) A person operating an emission unit subject to this rule shall obtain current information and maintain records for all requirements and exemptions in sufficient detail to determine compliance. When requested by the department, the following data must be made available:

(a) Installation dates of the affected emission unit.

(b) The maintenance plan.

(c) All associated maintenance records for a minimum of 5 years.

(d) Either the results of the most recent stack test, or a minimum of 5 years of all monitoring data necessary to demonstrate compliance with limits and requirements in subrule (4) of this rule, or both as applicable.

(e) If the provisions of this rule are not applicable as allowed by subrule (3), all information necessary to demonstrate that the equipment meets the exemption being utilized.

(8) A person that generates NO_x emissions from the use of a process heater located in the 2015 ozone nonattainment area shall meet the following limits within table 844b 12 months after the effective date of a final determination by the USEPA, pursuant to the clean air act 42 USC 7511a(c)(9)), for either of the following elements of the 2015 ozone National Ambient Air Quality Standard:

(a) The USEPA issues a determination that reasonable further progress as described in the approved Michigan state implementation plan was not achieved.

(b) The USEPA issues a finding of failure to attain the standard by the applicable attainment date.

TABLE 844a
NO_x emission limits from process heaters

Process	NO_x Emission limit on an hourly basis ^a
Process Heaters	
Gaseous fuels >60 MMBtu/hr	0.10 lb/MMBtu
Distillate Oil >60, =< 100 MMBtu/hr	0.10 lb/MMBtu

Distillate Oil > 100 MMBtu/hr	0.12 lb/MMBtu
Residual Oil >60, =< 100 MMBtu/hr	0.14 lb/MMBtu
Residual Oil > 100 MMBtu/hr	0.15 lb/MMBtu

R 336.1845 Reasonably Available Control Technology, RACT, requirements for alternative RACT.

Rule 845. (1) A person with an emission unit subject to the requirements in rules R 336.1841 through R 336.1844 may request approval from the department and the USEPA for equivalent or alternate requirements. The department may consider equivalent or alternate requirements only if the following provisions are met:

(a) An application must be submitted to the department for a new permit or order, or for a revision to an existing permit or order, requesting the approval of equivalent or alternative requirements for the applicable emission unit within 180 days after the effective date of this rule or an alternative timeframe approved by the department. The source must submit a demonstration as part of the application containing the following, as applicable:

(i) Reasons why the applicant is requesting an alternative requirement.

(ii) Information demonstrating why the limitation or requirement as described in R 336.1841 to R 336.1844 as applicable is not possible to attain.

(iii) Explanation of why alternative options, such as implementation of add-on controls or modifying equipment, would not be sufficient to meet the applicable requirements in rules R 336.1841 through R 336.1844. Identification of the existing and available control technologies and demonstration of why the application of these control options is either not technologically feasible, not economically reasonable, or neither.

(iv) A document containing quantitative or qualitative analyses demonstrating that the emission contributions from the applicable emission unit shall not contribute to the overall achievement of the ozone National Ambient Air Quality Standard in the nonattainment area. This may include, but is not limited to, modeling, calculations based on throughput and control efficiency, or other quantitative evaluations to similar insignificant units.

(v) A description of actions that are being taken to reduce emissions, while pursuing the steps described in this rule, to minimize the effect of noncompliance with rules R 336.1841 through R 336.1844, as applicable, if pursuit of alternative RACT extends beyond required compliance dates.

(vi) An expected schedule of significant steps to achieving compliance with R 336.1841 through R336.1844, as applicable.

(vii) Additional information, as needed.

(b) At a minimum, the applicable portion of the proposed draft permit or order related to this rule must be subject to a minimum 30-day public comment period when located at a source of oxides of nitrogen (NOx) with a potential to emit of 100 tons per year or greater on March 1, 2024, or the effective date of this rule, whichever comes later. When the proposed draft permit or order is noticed for a 30-day public comment period, a copy of the notice must also be sent to the USEPA.

(c) The proposed draft permit or order must offer a public hearing upon request during or immediately after the 30-day public comment period when required in subdivision (b) of this subrule.

(d) Within 240 days after receipt of an administratively complete application, the department shall issue a legally enforceable order or permit to install or deny the request. An alternative timeframe may be utilized by the department in lieu of the 240-day requirement, if necessary.

(e) Upon department issuance of the legally enforceable document identified in subdivision (d) of this subrule, it must be sent to the USEPA as a request for a revision of the Michigan state implementation plan, together with all of the other information that is required for the submittal of a complete state implementation plan revision request when located at a source of NO_x with a potential to emit of 100 tons per year or greater from all combined NO_x sources on March 1, 2024, or the effective date of this rule, whichever is later. Department approval and the legally enforceable document do not affect the federally approved state implementation plan until and unless the submitted state implementation plan revision request is formally approved by the USEPA.

(f) Implementation of the legally enforceable order of the department or permit to install must be completed according to the schedule established in the order or permit to install as expeditiously as practicable but not later than either of the following:

(i) Two years after department approval of the order or permit for combustion device modification.

(ii) Three years after department approval of the order or permit for add-on controls.

R 336.1846 Reasonably Available Control Technology, RACT, requirements for miscellaneous large sources at major sources of oxides of nitrogen (NO_x).

Rule 846. (1) As used in this rule “Potential NO_x emissions” means theoretical potential emissions based on design capacity, maximum production, and maximum hours of operation before add-on control. Except for control, any physical or operational limitation on the emission unit’s capacity such as restrictions on hours of operation, types or amount of material combusted, stored, or processed can limit potential NO_x emissions with a legal and federally enforceable permit or order.

(2) A person responsible for a stationary source shall meet the requirements as described in subrules (4) through (7) of this rule if all of the following criteria are met:

(a) Located in a 2015 ozone nonattainment area, as defined in R 336.1840.

(b) Has one or more emission units that are not subject to any RACT requirements as described in R 336.1841 through R 336.1845 and meets the following:

(i) Have combined potential emissions of NO_x from all applicable emission units that equals 100 tons per year or more on March 1, 2024, or the effective date of this rule, whichever is later.

(ii) Have actual NO_x emissions equal to or greater than 25 tons per year from all emission units with emissions of 5 tons or more per emission unit.

(c) Has been subject to the requirements of this rule. The requirements in this rule, at a minimum, must permanently apply regardless of a change in the attainment or maintenance status of the stationary source location or the PTE of the stationary source.

(3) Instead of submitting a site-specific NO_x RACT proposal, the stationary source may submit a complete permit to install application requesting a facility-wide NO_x limit that would limit NO_x emissions using a federally enforceable restriction or restrictions to less than 100 tons per year or a complete permit to install application for the potentially subject emission units that would limit emissions from all applicable emission units to less than 25 tons per year, before March 1, 2024 or the effective date of the rule, whichever is later.

(4) The person responsible shall provide the department and the USEPA with the following information within 120 days after the effective date of this rule:

(a) Identification of each stationary source including individual emission units or groups of emission units at those stationary sources to which this rule applies.

(b) A determination of the total potential to emit, potential NO_x emissions and the actual emissions of NO_x for the most recent calendar year for each applicable NO_x emission unit at the stationary source using emission testing or a calculation method approvable by the department.

(5) Within 1 year after the effective date of this rule, a person responsible shall provide to the department and the USEPA, a proposal for RACT for the stationary source. The RACT proposal must include, at a minimum, the following information:

(a) A list of each emission unit subject to the RACT requirements of this rule.

(b) The size or capacity of each affected emission unit, and the types and quantities of materials processed or produced in each emission unit, as applicable.

(c) A physical description of each emission unit and its operating characteristics.

(d) Estimates of the potential to emit and actual NO_x emissions from the affected stationary source and each affected emission unit for the most recent calendar year and associated supporting documentation.

(e) A RACT analysis which meets the requirements of subrule (6), including technical and economic support documentation for each affected emission unit.

(f) A schedule for completing implementation of the RACT proposal as expeditiously as practicable, including interim dates for the issuance of purchase orders, start and completion of process, technology and control technology changes, and the completion of compliance testing, if applicable.

(g) The testing, monitoring, recordkeeping, and reporting procedures proposed to demonstrate compliance with RACT.

(h) Additional information as requested by the department that is necessary for the evaluation of the RACT proposal.

(6) The RACT analysis required under subrule(5)(e) of this rule must include:

(a) A ranking of the available control options for the affected emission unit in descending order of control effectiveness. Available control options are air pollution control technologies or techniques with a reasonable potential for application to the emission unit. Air pollution control technologies and techniques include the application of production process, or control methods that reduce NO_x. The control

technologies and techniques must include existing controls for the source category and technology transfer controls applied to similar source categories.

(b) An evaluation of the technical feasibility of the available control options identified in subrule (6)(a) of this rule. The evaluation of technical feasibility must be based on physical, chemical, and engineering principles. A determination of technical infeasibility must identify technical difficulties which would preclude the successful use of the control option on the affected emission unit.

(c) A ranking of the technically feasible control options in descending order of overall control effectiveness for NO_x emissions. The list must present the array of control options and include, at a minimum, the following information:

(i) The baseline emissions of NO_x before implementation of each control option.

(ii) The estimated emission reduction potential or the estimated control efficiency of each control option.

(iii) The estimated emissions after the application of each control option.

(iv) The economic impacts and cost effectiveness of each control option.

(d) An evaluation of cost effectiveness of each control option consistent with the "EPA Air Pollution Control Cost Manual," EPA-452/B-02-001, adopted by reference in R 336.1902. The evaluation must be conducted in accordance with the following requirements:

(i) The cost effectiveness must be evaluated in terms of dollars per ton of NO_x emissions reduction.

(ii) The cost effectiveness must be calculated as the annualized cost of the control option divided by the baseline emission rate minus the control option emission rate, as shown by the following equation:

$$\text{Average cost effectiveness} = \frac{\text{Control option total annualized cost (\$/yr)}}{\text{Baseline emission rate} - \text{Control option rate (tons/yr)}}$$

(\$/ton removed)

(iii) For purposes of this paragraph, baseline emission rate represents the maximum emissions before the implementation of the control option. The baseline emission rate must be established using either test results or approvable emission factors and historic operating data.

(7) The department shall approve, deny, or modify each RACT proposal.

(8) Upon receipt of notice of the department's approval of the RACT proposal, the stationary source shall begin implementation of the measures necessary to comply with the approved RACT proposal. Implementation of the RACT program must be completed according to the schedule established in the approved RACT proposal and as expeditiously as practicable but not later than the following, as applicable:

(a) One year after department approval of the RACT proposal and schedule.

(b) Two years after department approval of the order or permit for combustion device modification, or

(c) Three years after department approval of the order or permit for add-on controls.

(9) The department shall submit each state-issued enforceable order or permit to install with its corresponding RACT program to the USEPA for approval as a

revision to the state implementation plan.