

**DEPARTMENT OF ENVIRONMENT, GREAT LAKES, AND ENERGY**

**AIR QUALITY DIVISION**

**AIR POLLUTION CONTROL**

(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, and 2011-1, MCL 324.99903, 324.99919, and 324.99921)

**PART 8. EMISSION LIMITATIONS AND PROHIBITIONS- OXIDES OF NITROGEN**

**R 336.1801 Emission of oxides of nitrogen (NO<sub>x</sub>) 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 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<sub>x</sub> 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<sub>x</sub> burners means a type of cement kiln burner system designed to minimize (NO<sub>x</sub>) 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 NOx 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 NOx.

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

(h) "NOx" 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 NOx 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 NOx 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 NOx 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 NO<sub>x</sub> from 1995 levels. Compliance with this paragraph is based on calculations showing that the emission rate, on a pounds of NO<sub>x</sub> 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 NO<sub>x</sub> 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 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 any other stationary emission unit that is subject to the provisions of subrule (3) of this rule shall measure NO<sub>x</sub> 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 NO<sub>x</sub> 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<sub>x</sub> 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<sub>x</sub> 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 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 <sub>x</sub> emission limitations (pounds NO <sub>x</sub> 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) <sup>1</sup>	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>	

<sup>1</sup> 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<sub>x</sub> standards or a NO<sub>x</sub> federal trading programs that have been promulgated in a federal implementation plan under section 110(c) of the clean air act, 42 USC 7410, required under section 126 of the clean air act, 42 USC 7426, or promulgated in a federal regulation under 40 CFR part 51, part 60, or part 97.

(b) A unit that is subject to 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.

History: 1998-2000 AACS; 2002 AACS; 2009 AACS; 2022 MR 9, Eff. May 13, 2022.

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

Rule 802. (1) This rule establishes the applicability for NOx budget units 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(q).

(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:

(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 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 mass emissions by the unit's maximum potential hourly NOx mass emissions. The maximum potential hourly 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 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 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 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(k). 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 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. 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 data for units with the CEMS 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 measured NO<sub>x</sub> 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 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 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.

History: 2002 AACS; 2004 AACS; 2022 MR 9, Eff. May 13, 2022.

### **R 336.1802a Rescinded.**

History: 2007 AACS.; 2009 AACS; 2022 MR 9, Eff. May 13, 2022.

### **R 336.1803 Definitions.**

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, 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 NOx emissions from a NOx 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 NOx 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 NOx budget unit under R 336.1802(1) on the date of commencement of operation, the date the unit becomes a NOx 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 NOx emissions, 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 NOx authorized account representative or responsible official.

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

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

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

(j) “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 NOx 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.

(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 CO<sub>2</sub>, or the minimum oxygen concentration, in percent O<sub>2</sub>.



(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) Vanburen.
- (xxxix) Washtenaw.
- (xl) Wayne.

(o) "Monitoring system" means any monitoring system, including a CEMS or an accepted monitoring system that meets the requirements of 40 CFR part 60 or 40 CFR part 75, 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 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:

(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 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.

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

(s) "Operator" means any person that operates, controls, or supervises a NOx budget unit, 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.

(iii) Any purchaser of power from a NOx budget unit. 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) "Potential electrical output capacity" means 33% of a unit's maximum design heat input.

(w) "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.

(x) "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.

(y) "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) "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.

(aa) "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 any other 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 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 any other 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 any other 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 any other fuel, where fossil fuel is projected to comprise more than 50% of the annual heat input on a Btu basis

during any year, provided that the unit shall be fossil fuel-fired as of the date, during such year, on which the unit begins combusting fossil fuel.

History: 2002 AACS; 2007 AACS; 2009 AACS; 2022 MR 9, Eff. May 13, 2022.

**R 336.1804 Rescinded.**

History: 2002 SSVD; 2004 AACS; 2022 MR 9, Eff. May 13, 2022.

**R 336.1805 Rescinded.**

History: 2002 AACS; 2022 MR 9, Eff. May 13, 2022.

**R 336.1806 Rescinded.**

History: 2002 AACS; 2022 MR 9, Eff. May 13, 2022.

**R 336.1807 Rescinded.**

History: 2002 AACS; 2022 MR 9, Eff. May 13, 2022.

**R 336.1808 Rescinded.**

History: 2002 AACS; 2022 MR 9, Eff. May 13, 2022.

**R 336.1809 Rescinded.**

History: 2002 AACS; 2022 MR 9, Eff. May 13, 2022.

**R 336.1810 Allowance apportionments under NO<sub>x</sub> budget program.**

Rule 810. (1) The department shall establish a budget program for the ozone control period for NO<sub>x</sub> budget units and located within the Michigan fine grid zone. Total NO<sub>x</sub> emission apportionments are limited to 2,209 tons, for each ozone control period.

(2) Pursuant to R 336.1802(1), the department shall apportion a benchmark of NO<sub>x</sub> emissions for each NO<sub>x</sub> budget unit that will be used for comparison to actual NO<sub>x</sub> emissions from the NO<sub>x</sub> budget units at the source. The benchmarks will be apportioned and maintained as follows:

(a) For NO<sub>x</sub> budget units that commence operation before May 1, 2020, these units must have a combined budget of 1,699 tons, except when the budget is modified 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 season control apportionment year of 510 tons, or the most current new unit set aside pool as established 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 (2)(a), (2)(b) and (2)(d) of this rule, and use 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 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 and adjustments to those budgets are included with the benchmark apportionment information that is made available.

(d) The new unit set aside pool and associated apportionment budget 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. The department shall include appropriate monitoring, recordkeeping, and reporting requirements for ozone season NOx emissions within the issued permit.

(ii) For units that are 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 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 then have their 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 will be adjusted accordingly.

(B) Identify at the time of retirement of any NOx budget unit installed before May 1, 2020, if the facility would like to transfer the retired units' 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.

(3) 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 EPA's clean air markets division the information required by 40 CFR part 75 and the department the information required in subpart (4) of this rule.

(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 NO<sub>x</sub> emissions in tons per ozone control period will be determined from the 40 CFR part 60 NO<sub>x</sub> 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 (4) of this rule.

(c) The owner or operator of a NO<sub>x</sub> budget unit that is natural gas-fired and whose NO<sub>x</sub> 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 NO<sub>x</sub> 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 NO<sub>x</sub> emission rate of 1.5 lbs/million Btu for boilers or 0.7 lbs/million Btu for turbines.

(B) The maximum NO<sub>x</sub> emission rate established in accordance with 40 CFR 75.19(c)(1)(iv) or similar methodology.

(C) The owner or operator of the NO<sub>x</sub> 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<sub>x</sub> budget unit shall retain records on site for a period of 5 years. The records must show, as applicable, the hourly NO<sub>x</sub> mass emissions, hours of operation, hourly volumes of fuel burned and maximum default gross calorific values, CEMS data, and all other information necessary to demonstrate the amount of NO<sub>x</sub> emitted during the ozone season.

(iii) Any NO<sub>x</sub> budget unit that is natural gas-fired and has less than 3 years of NO<sub>x</sub> 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 NO<sub>x</sub> 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<sub>x</sub> 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.

(4) The owner or operator of a NO<sub>x</sub> 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 NOx 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 NOx emissions for the ozone season, as applicable. For the purposes of this rule, this information must be used to determine "actual NOx emissions" for affected units.

(e) In any year 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) Any year in which the total actual NOx emissions of all affected units exceed 2,209 tons, all of the following must occur:

(a) Each source's total actual NOx emissions of affected units will be compared to their 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 source total benchmark apportionment must submit a report to the air quality division that includes the following:

(i) An explanation of the circumstances that caused the source to exceed their 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 benchmark apportionment will apply for and obtain a permit to install with federally enforceable NOx emission limits for the ozone season.

History: 2002 AACS; 2022 MR 9, Eff. May 13, 2022.

### **R 336.1811 Rescinded.**

History: 2002 AACS; 2004 AACS; 2022 MR 9, Eff. May 13, 2022.

### **R 336.1812 Rescinded.**

History: 2002 AACS; 2022 MR 9, Eff. May 13, 2022.

### **R 336.1813 Rescinded.**

History: 2002 AACS; 2022 MR 9, Eff. May 13, 2022.

**R 336.1814 Rescinded.**

History: 2002 AACS; 2022 MR 9, Eff. May 13, 2022.

**R 336.1815 Rescinded.**

History: 2002 AACS; 2022 MR 9, Eff. May 13, 2022.

**R 336.1816 Rescinded.**

History: 2002 AACS; 2022 MR 9, Eff. May 13, 2022.

**R 336.1817 Rescinded.**

History: 2002 AACS; 2022 MR 9, Eff. May 13, 2022.

**R 336.1818 Emission limitations 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 NO<sub>x</sub> SIP call engine, or any other stationary internal combustion engine that is subject to NO<sub>x</sub> 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 NO<sub>x</sub> 2007 tonnage reduction" means the year 2007 ozone control period NO<sub>x</sub> emissions reductions value (tons) for a large NO<sub>x</sub> SIP call engine, which is based on an NO<sub>x</sub> control efficiency of 82% for large gas-fired engines and 90% for diesel and dual-fuel engines.

(e) "Facility seasonal NO<sub>x</sub> 2007 tonnage reduction" means the total of the engine ozone control period NO<sub>x</sub> 2007 tonnage reductions attributable to all of an owner or operator's large NO<sub>x</sub> SIP call engines.

(f) "Large NO<sub>x</sub> SIP call engine" means a stationary internal combustion engine emitting more than 1 ton of NO<sub>x</sub> 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 NOx SIP call engines, the past NOx 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 NOx 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 NOx SIP call engine located in the Michigan fine grid zone.

(3) An owner or operator of a large NOx 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 NOx 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 NOx 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 NOx emissions control installed, or to be installed, on each affected engine and documentation to support the projected NOx emission rates.

(D) The past and projected NOx 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 NOx 2007 tonnage reduction, based on the difference between the past NOx emission rate and the projected NOx 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 NOx emission rate in grams per brake horsepower-hour for each affected engine must be included in a federally enforceable permit.

(b) The following are NOx 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 perform monitoring sufficient to yield reliable data for each ozone control period that is representative of a source's compliance with the projected NOx 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 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 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 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 be made available to the department and the United States Environmental Protection Agency 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.

History: 2006 AACCS; 2022 MR 9, Eff. May 13, 2022.

**R 336.1821 Rescinded.**

History: 2007 AACCS; 2009 AACCS; 2022 MR 9, Eff. May 13, 2022.

**R 336.1822 Rescinded.**

History: 2007 AACCS.; 2009 AACCS; 2022 MR 9, Eff. May 13, 2022.

**R 336.1823 Rescinded.**

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**R 336.1824 Rescinded.**

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**R 336.1825 Rescinded.**

History: 2007 AACCS; 2022 MR 9, Eff. May 13, 2022.

**R 336.1826 Rescinded.**

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**R 336.1830 Rescinded.**

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**R 336.1831 Rescinded.**

History: 2007 AACCS.; 2009 AACCS; 2022 MR 9, Eff. May 13, 2022.

**R 336.1832 Rescinded.**

History: 2007 AACCS.; 2009 AACCS; 2022 MR 9, Eff. May 13, 2022.

**R 336.1833 Rescinded.**

History: 2007 AACCS.; 2009 AACCS; 2022 MR 9, Eff. May 13, 2022.

**R 336.1834 Rescinded.**

History: 2007 AACCS; 2022 MR 9, Eff. May 13, 2022.