

Department of Environmental Quality
Air Quality Division
OZONE NONATTAINMENT IMPLEMENTATION AND
NEW SOURCE REVIEW
QUESTION AND ANSWER DOCUMENT
Updated Version
May 24, 2007

- 1. Does this document cover the new PM_{2.5} nonattainment designations and requirements?**

There will be a separate PM_{2.5} Nonattainment Implementation and New Source Review Question and Answer Document.

- 2. When did the new ozone nonattainment designations become effective?**

The new ozone 8-hour nonattainment designations became effective on June 15, 2004.

- 3. What are the ozone nonattainment areas, classifications, and the dates by which attainment must be achieved?**

Ozone Nonattainment Area Name	Counties	Classification*	Maximum Attainment Date (from June 15, 2004)
Detroit-Ann Arbor	Livingston Macomb Monroe Oakland St. Clair Washtenaw Wayne Lenawee	Marginal	June 2007
Allegan	Allegan	Unclassified	June 2009

*EPA's Phase 1 Implementation Rule refers to areas classified under Subpart 1 as "basic". For the purpose of Rule 220, "basic" means "unclassified".

- 4. When did nonattainment new source review (NSR) become applicable in newly designated counties?**

Permits issued on and after the effective date (June 15, 2004) are subject to nonattainment requirements. Michigan's Air Pollution Control Rule 336.1220 (Rule 220) outlines the NSR requirements applicable in nonattainment areas.

- 5. If a permit application was filed before the effective date of the ozone designations, but the permit is issued after that date, which permitting rules apply: attainment or nonattainment?**

Since the permit issuance date is after the effective date of the designations, nonattainment NSR would apply (EPA Guidance memos – March 11, 1991 and September 3, 1992). This is true regardless of when the application was submitted, made technically complete, and/or the public comment period was announced.

6. What is the threshold of volatile organic compounds (VOCs) for new sources and modifications in ozone nonattainment areas?

The threshold for a new source located in an ozone nonattainment area is 100 tons per year and 40 tons per year for a modification.

7. What is the threshold of nitrogen oxides (NOx) for new sources and modifications in ozone nonattainment areas?

Unless a NOx waiver is issued (see Question No. 13), the threshold for a new source located in an ozone nonattainment area is 100 tons per year and 40 tons per year for a modification.

8. What is the baseline date for offsets for NSR permitting in ozone nonattainment areas?

The baseline represents the emissions inventory used by the state to begin the control program analysis for bringing the nonattainment area into attainment. Offsets must therefore originate after the baseline year.

Act 451 Section 5505(2) states that the baseline date is January 1 following the emissions inventory year used for developing the SIP, or a date determined by the EPA. At this time the EPA has not specified a baseline date; therefore, the baseline date is January 1, 2003.

9. With the baseline date for offsets being January 1, 2003, there may be few offsets available. How will an applicant be able to meet the Rule 220 requirement for offsets?

The Department of Environmental Quality (DEQ) recognizes that there may be limited amounts of offsets available but commits to assisting applicants with identifying potential offsets.

10. Can the offsets be obtained from counties designated as attainment for ozone?

No. Section 173(c)(1) of the CAA as well as Rule 220 specify that the offsets (emission reductions) must be obtained from either the same nonattainment area or another nonattainment area. If offsets are obtained from another nonattainment area, that area must have an equal or higher nonattainment classification and the emissions from that area must contribute to the standard being violated in the area where the source is being located.

11. Which regulation governs permits for ozone nonattainment NSR permitting: Rule 220 or 40 CFR Part 51, Appendix S?

40 CFR 52.24(k) states that Appendix S applies during the interim period between nonattainment designation and EPA approval of a SIP that satisfies nonattainment requirements specified in Part D of the CAA. Rule 220 is included in Michigan's SIP and has been used as part of the attainment plan for the 1-hour ozone standard. Appendix S would apply in all new 8-hour ozone nonattainment areas where either no nonattainment permit rules apply or where the existing state rules are less stringent than Appendix S.

As a state rule, Rule 220 is in effect immediately upon the effective date of the nonattainment designations. A comparison chart outlining the requirements of Rule 220 for Michigan, Appendix S, and the federal CAA can be found on page 7.

12. What version of Rule 220 is in the SIP?

The current version of Rule 220 as found in Michigan's Administrative Rules differs from the Rule 220 version in the SIP. The version approved as part of the SIP is from the early 1980s

and reflects federal permitting requirements as they existed in the 1980s. The DEQ has made a number of revisions to Rule 220 since the 1980s version, but because of EPA concerns with various parts of Michigan's NSR rules, EPA never adopted the more recent versions into the SIP.

The DEQ has developed a new rule package to adopt the most recent federal permitting requirements for nonattainment areas, as described in 40 C.F.R. §51.165. The proposed nonattainment rules will be identified as Part 19 of the Air Pollution Control Rules. Upon promulgation of the Part 19 rules, which is anticipated to occur in March 2007, Rule 220 will be rescinded.

13. Is NO_x considered an ozone precursor in 8-hour ozone nonattainment areas?

Section 182(f) of the Clean Air Act references NO_x requirements in ozone nonattainment areas. Recent discussions with EPA have indicated that major sources of NO_x in ozone nonattainment areas must apply LAER and offsets, unless otherwise exempt. Section 182(f) allows an exemption from NO_x requirements for areas where it is shown that additional reductions in NO_x will not contribute to the attainment of the 8-hour ozone standard. On July 6, 2006, EPA issued NO_x waivers for the counties of Benzie, Mason, Huron, Ottawa, Kent, Calhoun, Kalamazoo, Van Buren, Clinton, Eaton and Ingham.

14. What are the requirements of Rule 220?

Rule 220 requires that all major offset sources or major offset modifications:

- *Meet the Lowest Achievable Emission Rate (LAER). The LAER is the most stringent emission limitation contained in any SIP, unless it is demonstrated that the limitation is not achievable, or the most stringent emission limitation achieved in practice. In addition, Best Available Control Technology (BACT) is required for any nonattainment air contaminant for which the potential to emit is significant but less than 100 tons per year.*
- *Analyze alternate sites, sizes, production processes, and control techniques. The applicant must demonstrate that the benefits of the proposal significantly outweigh its environmental and social costs.*
- *Demonstrate that all of its major sources are in compliance with all air quality regulations. The applicant must demonstrate that all of its major sources in Michigan are in compliance or are complying with a legally enforceable order.*
- *Provide offsets (emission reductions). The amount of offsets depends upon the designation of the nonattainment area. For unclassified and marginal ozone nonattainment areas, the amount of VOC offsets required is 110%. Offsets must be provided for each applicable nonattainment air contaminant prior to start-up of the proposed new source, but must be verifiable before the issuance of the permit.*

These requirements are consistent with the federal requirements in the CAA. A comparison of Rule 220 with the CAA and with EPA's general offset provisions (Appendix S of 40 CFR 51) can be found on page 7.

15. Rule 220(1)(a) requires LAER for major offset modifications for each significant net emissions increase of a nonattainment air contaminant. Does this mean that every

modification must be evaluated for LAER applicability based on the net emissions increase at the facility?

The LAER applicability for modifications at existing major offset sources depends on the modification (i.e., project) resulting in both a significant emission increase by itself and a significant net emissions increase at the whole facility. Significant is defined as greater than 40 tons per year of VOCs for ozone non-attainment areas. If a proposed project does not result in a significant emissions increase, the modification is clearly not subject to Rule 220 and the evaluation of the net emissions increase is not required.

Examples:

- *A company proposes a 30-ton-per-year increase of VOCs in the ozone nonattainment area. Because the proposed increase is less than the VOC significance level of 40 tons per year, LAER would not apply.*
- *A company proposes a 50-ton-per-year increase of VOCs in the ozone nonattainment area. Since the proposed increase is greater than the VOC significance level of 40 tons per year, the net emissions increase may be determined. The net emissions increase determination takes into account all contemporaneous emissions increases and decreases at the facility. In this case, equipment has been shut down at the facility and the net emissions increase is determined to be 25 tons per year. Since net emissions increase of 25 tons per year is less than the significance level for ozone of 40 tons per year, LAER would not apply to the proposed installation.*
- *A company proposes a 50-ton-per-year increase in VOCs in the ozone nonattainment area. Over the years, other equipment has been added to the facility, and as a result, the net emissions increase is determined to be 60 tons per year. Because both the proposed increase and the proposed net emissions increase are greater than the 40 tons per year significance level for VOCs, LAER would be required for the proposed installation.*

16. Can a major offset source or major offset modification net-out of Rule 220 and avoid LAER and offset requirements? If so, can shutdowns at the facility prior to the baseline date of January 1, 2003 be used in a netting analysis?

Yes. Netting is the process of evaluating the net emissions increase at the whole facility and involves evaluating all contemporaneous increases and decreases in actual emissions at the entire facility and determining if they are creditable. If the analysis demonstrates that net emissions will increase less than the significant amount above the actual emissions, the proposed project will not be subject to Rule 220, including LAER and offset requirements.

The regulations define the contemporaneous period as beginning five years prior to the start of construction on the proposed project and ending when the project begins operation. Therefore, to be considered in a netting analysis, a change must have occurred within 5 years of the beginning of construction on the proposed project or after the beginning of construction and before the initial operation of the proposed project. This period may extend prior to the baseline date and into the time period when the area was considered in attainment of the NAAQS.

The regulations also require that all contemporaneous increases and decreases be credible. To be creditable, a contemporaneous emissions decrease must be federally enforceable on and after the date that construction begins on the proposed project, it must take place prior to the increase in emissions from the proposed project and it must be permanent.

The steps involved in conducting a netting analysis are as follows:

1. *Identify the contemporaneous period*
2. *List each physical change, or change in the method of operation that occurred, or will occur, during the contemporaneous period with a corresponding increase or decrease in actual emissions (include the date of each change)*
3. *Evaluate each change on the list to identify only those changes that are creditable*
4. *List each remaining creditable, contemporaneous change (including the date of each change)*
5. *Separately calculate the actual emissions for each creditable, contemporaneous change*
6. *Identify the post-change potential emissions for each emission unit affected by each creditable, contemporaneous change*
7. *Calculate the emissions increase or decrease for each emission unit as post-change potential minus actual emissions*
8. *Sum all emission increase and decreases with the significant emissions increase from the original proposed project*

This eight-step approach to netting does not reflect the complexity that can occur in a netting analysis. Please contact the Air Quality Division Staff if you have questions.

17. If a source obtains a permit under the Prevention of Significant Deterioration program and does not construct within 18 months, what permitting rules will apply if the county has now been designated nonattainment?

40 CFR 52.21(r)(2) allows an extension to the permit if a source has not commenced construction within 18 months of approval to construct. If an extension is not issued prior to nonattainment designation and the county is redesignated as nonattainment, the source is subject to the nonattainment NSR permit process and requirements.

18. Are emission reduction credits (ERCs) that have been registered in Michigan's trading program available for use as offsets?

Those ERCs currently registered and for which the emission reduction occurred after January 1, 2003 can be used as emission offsets. If it is used, the 10 percent set-aside is required, and a provision of Rule 1211 requires that 2 ½ years of emission reduction credits be retained for new sources. Emission reduction credits used for offsets will be only a one-time use, as with nontrading program offsets. Since the trading program is no longer funded, we are not accepting requests to generate ERCs.

19. A 150 ton per year VOC source located in a marginal nonattainment area shuts down and moves to another marginal nonattainment area, 20 miles away. Can the emission reductions from the shutdown be used as offsets?

Pursuant to Rule 220 and 40 CFR Part 51, Appendix S, the facility could use the entire 150 tons per year reduction as offsets if the following are satisfied:

- *The reduction occurred after January 1, 2003 (baseline date)*
- *The VOC emission reductions are permanent, quantifiable and federally enforceable*
- *The new site is located in a nonattainment area with equal classification (in this case they are both marginal nonattainment areas)*

Ozone Nonattainment Implementation
and New Source Review
Question and Answer Document
May 24, 2007

- *The emissions from the area where the shutdown occurred must contribute to the standard being violated in the new area where the source is being located (see Question 10 above); it is assumed that this is fulfilled since the sites are only 20 miles apart*

Nonattainment Regulations Comparison Chart

Rule 220 of the Michigan Air Pollution Control Rules	40 CFR 51, Appendix S, Emission Offset Interpretive Ruling	Clean Air Act of 1990
Major offset source means a source with a potential to emit of 100 tons per year (tpy) or greater.	Same as Rule 220 requirements.	Same as Rule 220 requirements. Section 302
Requirements apply in ozone, particulate matter, particulate matter less than 10 microns, carbon monoxide, NO _x , sulfur dioxide, or lead nonattainment areas.	Requirements apply in any nonattainment area.	Requirements apply in any nonattainment area.
Must apply LAER for major offset source with potential 100 tpy or greater. R220(1)(a)(i)(A)	Apply LAER for pollutants which the increased allowable emissions exceed 50 tpy, 1000 pounds/day, or 100 pounds/hour (use short-term limits if the National Ambient Air Quality Standard (NAAQS) is 24-hour or less).	Same as Rule 220 requirements. Section 173(a)(2)
Must apply LAER for major offset modification with potential significant net emissions increase. Significant net emissions increase is defined. R220(1)(a)(i)(B)	Apply LAER for pollutants which the increased allowable emissions exceed 50 tpy, 1000 lb/day, or 100 lb/hr (use short-term limits if the NAAQS is 24-hr or less).	Same as Rule 220 requirements. Section 173(a)(2)
At a new major nonattainment source, must apply LAER for significant net emissions increases and BACT for other nonattainment pollutants with potential emission greater than the significant trigger level, but less than 100 tpy ¹ . R220(1)(a)(ii)	Appendix S requires LAER for significant net emissions increases at a new major nonattainment source but does not address BACT for other nonattainment pollutants.	The CAA requires LAER for significant net emissions increases at a new major nonattainment source but does not address BACT for other nonattainment pollutants.
For NO _x , LAER and BACT described above, do not apply if NO _x reductions from using LAER or BACT would not decrease ozone and for certain source categories, the net air quality benefits are greater without NO _x reductions. R220(1)(a)(iii)	Appendix S does not address this.	Same as Rule 220 requirements. Section 182(f)

¹ This BACT requirement was included in Rule 220 in earlier rulemaking and was intended to insure that control requirements in nonattainment areas are at least as stringent as in attainment areas.

Nonattainment Regulations Comparison Chart

Rule 220 of the Michigan Air Pollution Control Rules	40 CFR 51, Appendix S, Emission Offset Interpretive Ruling	Clean Air Act of 1990
The owner or operator of a major offset source or major offset modification that has other facilities in the state which have the potential to emit 100 tpy or more any criteria pollutant must be in compliance with all air rules or air permits at these other facilities. R220(1)(b)	Same as Rule 220 requirements.	Same as Rule 220 requirements. Section 173(a)(3)
In a nonclassified or marginal ozone nonattainment area, VOC offsets must be equal or greater than 110% of the allowable emissions from the proposed offset source/modification. R220(1)(c)(i)(A)	Offsets must demonstrate reasonable progress towards attainment. (Ratio greater than 1:1) NOx offsets required in all ozone nonattainment areas, unless otherwise exempt through a waiver.	Same as Rule 220 requirements. Section 182(a)(4)
In a moderate ozone nonattainment area, VOC offsets must be equal or greater than 115% of the allowable emissions from the proposed offset source/modification. R220(1)(c)(i)(B)	Offsets must demonstrate reasonable progress towards attainment. (Ratio greater than 1:1) NOx offsets required in all ozone nonattainment areas, unless otherwise exempt through a waiver.	Same as Rule 220 requirements. Section 182(b)(5)
In a moderate ozone nonattainment area, NOx offsets must be equal or greater than 115% of the allowable emissions from the proposed offset source/modification. R220(1)(c)(ii)	Offsets must demonstrate reasonable progress towards attainment. (Ratio greater than 1:1)	Same as Rule 220 requirements. Section 182(f)
NOx offsets do not apply if it has been shown that the NOx reductions would not decrease ozone and the EPA determined that for certain sources, the net air quality benefits are greater without NOx reductions from the source of concern. R220(1)(c)(ii)(A) and (B)	Appendix S does not address this.	Same as Rule 220 requirements. Section 182(f)

Nonattainment Regulations Comparison Chart

Rule 220 of the Michigan Air Pollution Control Rules	40 CFR 51, Appendix S, Emission Offset Interpretive Ruling	Clean Air Act of 1990
<p>Offsets for particulate matter, particulate matter less than 10 microns, carbon monoxide, sulfur dioxide or lead are as follows:</p> <ul style="list-style-type: none"> • 120% if area does not meet the primary standard; • 110% if secondary standard is not met; • 150% if offset is from control of fugitives. <p>R220(1)(c)(iii)(A), (B) and (C)</p>	<p>Offsets must demonstrate reasonable progress towards attainment. (Ratio greater than 1:1)</p>	<p>Section 173(C)(1) requires offsets in nonattainment areas. Offset ratios are not specified.</p>
<p>The applicant must analyze alternative sites, sizes, production processes, and control techniques for the proposed offset source/modification and show that benefits of the proposed source significantly outweigh the environmental and social costs imposed as a result of its location and construction/modification. R220(1)(d)</p>	<p>Appendix S does not address this.</p>	<p>Same as Rule 220 requirements. Section 173(a)(5)</p>
<p>Offsets must be for the same air contaminant and in a timeframe compatible with the applicable air quality standard. R220(2)(a)</p>	<p>Same as Rule 220 requirements.</p>	<p>Same as Rule 220 requirements. Section 173(c)</p>
<p>Offsets must occur after the baseline year for the SIP or the date that an area is classified, whichever is later. R220(2)(b)</p>	<p>Appendix S does not provide a specific baseline date; however, the baseline year is provided in the Implementation Rule published by EPA. The date for the 8-hour Implementation Plan has not been specified.</p>	<p>The baseline year is determined by EPA regulations. Section 173(a)(1)</p>
<p>Offsets must be permanent, quantifiable, and federally enforceable. Offsets must be actual emissions or allowable emissions, whichever is lower, and must be accomplished by the start-up date of the proposed source. R220(2)(c)</p>	<p>Similar - offsets must be enforceable and accomplished by the start-up date of the proposed source. Offsets must be calculated based on actual hours of operation for the previous one- or two-year period.</p>	<p>Similar - offsets must be enforceable, accomplished by the start-up date of the proposed source, and must be of equal or greater reduction in actual emissions. Section 173(c)</p>

Nonattainment Regulations Comparison Chart

Rule 220 of the Michigan Air Pollution Control Rules	40 CFR 51, Appendix S, Emission Offset Interpretive Ruling	Clean Air Act of 1990
Obtain offsets from the same nonattainment area as the proposed source/modification unless another area has an equal or higher classification and the nonattainment emissions from the other area contribute to the nonattainment status in the area of the proposed source. R220(2)(d)(i) and (ii)	Similar - obtain offsets from existing sources anywhere in the broad vicinity (not necessarily from a nonattainment area) for VOC and NOx and in a closer vicinity for other pollutants; offset ratio should increase with distance from the proposed source.	Same as Rule 220 requirements. Section 173(c)(1)
Reductions required as a result of an air quality rule, an air permit or order cannot be used as offsets. In this situation, incidental emission reductions can be used as offsets as long as they meet the requirements of Rule 220(2). R220(2)(e)	Appendix S does not address this.	Same as Rule 220 requirements. Section 173(c)(2)
The LAER and offset requirements in R220(1) do not apply to routine maintenance, repair and replacement (this does not refer to the new federal Routine Maintenance, Repair, and Replacement equipment replacement provision currently in litigation), the use of an alternate fuel required by an order or if the fuel is used at a steam generating unit and generated from municipal waste, or the use of an alternate fuel that would be allowed under a permit [see R220(3)(a) through (f)]. R220(3)	LAER and offsets do not apply to resource recovery facilities burning municipal solid waste or fuel switches that are a result of lack of adequate fuel supplies or result from EPA requirements.	The CAA does not list specific exemptions from LAER and offsets.
The offset ratios in R220(1)(c) do not apply to any temporary emissions (pilot plants, portable facilities, or the construction phase of a major source or modification). R220(4)	Same as Rule 220 requirements.	The CAA does not exempt temporary emissions from offset requirements.
Rule 220 does not apply to organic compounds that have very little effect on ozone formation. These chemicals are listed in 40 CFR 51.100(s)(1). R220(5)	Same as Rule 220 requirements.	The CAA does not address this.
Rule 220 does not address banking of emissions, but does not prohibit it as long as offsets meet the rule's other criteria for legitimate offsets.	Banking is allowed (offsets can be saved for future use).	The CAA does not address this but does not prohibit saving reductions for future use.
Rule 220 does not address offsets from neighboring states, but does not prohibit it.	Offsets obtained from a neighboring state must be	The CAA recognizes interstate ozone transport

Nonattainment Regulations Comparison Chart

Rule 220 of the Michigan Air Pollution Control Rules	40 CFR 51, Appendix S, Emission Offset Interpretive Ruling	Clean Air Act of 1990
Offsets must be enforceable.	enforceable by that state.	but does not specifically address offsets from neighboring states.