

# Major, Minor, and Synthetic Minor Sources – *Foundation Station*

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## Summary

This guidance discusses the legal background of the concepts “major source”, “minor source”, and “synthetic minor source” and how they relate.

## Major or Minor Sources

A facility may be classified as either a “major source” (or “major stationary source”)<sup>1</sup> or a “minor source”<sup>2</sup> under following programs:

- New Source Review (NSR) - Prevention of Significant Deterioration (PSD) program;
- Clean Air Act (CAA) - Title V Operating Permit program (also referred to as a Class I Operating Permit in Nebraska);
- National Emission Standards for Hazardous Air Pollutants (NESHAP) program (when evaluating emissions of HAP, the term “area source”<sup>3</sup> may also be used in place of “minor source”).

In general, major sources are subject to more stringent regulatory review and standards than minor sources within these programs.<sup>4</sup> Table 1 presents the major source thresholds, in tons/year (TPY), for each of these programs. The table is not exhaustive, and discussion of

additional pollutants evaluated and special cases is beyond the scope of this document.

**Table 1: Major Source Thresholds for Permitting Programs**

Program	Major Source Threshold
PSD	For a facility belonging to a named source group <sup>5</sup> : 100 TPY of any “regulated New Source Review (NSR) pollutant” <sup>6</sup>
	All other facilities: 250 TPY of any regulated NSR pollutant
Title V (Class I)	For any “criteria air pollutant” <sup>7</sup> : 100 TPY HAP: 10 TPY of any single HAP or 25 TPY of combined HAP
HAP	10 TPY of any single HAP or 25 TPY of combined HAP

The determination of whether a facility constitutes a major or minor source within each program depends on

or costly to comply with than the facility would otherwise be subject to as a major source.

<sup>5</sup> “Named source group” refers to those listed at 129 Neb. Admin. Code §§ 2-008.01

<sup>6</sup> 129 Neb. Admin. Code §§ 1-131.

<sup>7</sup> 129 Neb. Admin. Code §§ 1-130. The principal air pollutants evaluated are particulate matter (PM) less than or equal to 10 microns in diameter (PM<sub>10</sub>); PM less than or equal to 2.5 microns in diameter (PM<sub>2.5</sub>); Sulfur Dioxide (SO<sub>2</sub>); Oxides of Nitrogen (NO<sub>x</sub>); Carbon Monoxide (CO); and Volatile Organic Compounds (VOC)

<sup>1</sup> See 129 Neb. Admin. Code §§ 2-007; 2-008 (defining “major source” and “major stationary source” for the Class I Operating Permit and PSD programs, respectively) and 2-001 (defining “major source” of HAP)

<sup>2</sup> 129 Neb. Admin. Code §§ 1-019.

<sup>3</sup> 129 Neb. Admin. Code §§ 1-019.

<sup>4</sup> This is not always the case, as a facility desiring to be a minor source may accept permit conditions to demonstrate that potential and actual emissions are below the applicable major source threshold that result in a permit that is more restrictive

whether the facility emits or has the potential to emit (PTE) pollutants equal to or greater than the listed thresholds. Under Nebraska's federally approved State Implementation Plan (SIP), the definition of "potential to emit" is:

"[T]he maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable. Secondary emissions do not count in determining the potential to emit of a stationary source. This term does not alter or affect the use of this term for any other purposes under the Act, or the term "capacity factor" as used in Chapter 26."<sup>8</sup>

## Synthetic Minor Sources

A facility that has PTE above an applicable threshold, but does not wish to be subject to regulation as a major source, may request operational limitations to restrict their PTE. Such a facility is referred to as a "synthetic minor".<sup>9</sup> To be legally recognizable as a restriction on

PTE, such limitations must meet requirements for "practical enforceability."

Discussion of how the definition of PTE relates to the concept of "practical enforceability" can be found in the following excerpt from the *2016 Yuhuang Order*<sup>10</sup> issued by the EPA. For purposes of readability, the excerpt has been adapted by moving in-line citations and notes within the order to footnotes:

*[I]f a permit applicant agrees to enforceable limits that are sufficient to restrict PTE, the facility's "maximum capacity to emit" for PTE purposes is calculated based on those limits.<sup>11, 12</sup>*

*Importantly, only limits that meet certain enforceability criteria may be used to restrict a facility's PTE, and the permit must include sufficient terms and conditions such that the source cannot lawfully exceed the limit.<sup>13</sup> One of the key concepts in evaluating the enforceability of PTE limits is whether the limit is enforceable as a practical matter.<sup>14</sup> Moreover, the concept of "federal enforceability" has also been interpreted to encompass a requirement for practical enforceability.<sup>15</sup>*

<sup>8</sup> 129 Neb. Admin. Code §§ 1-116. Also refer to 40 CFR § 51.165(a)(1)(iii) and § 51.166(b)(4) (PTE definitions within EPA regulations that identify minimum requirements for SIP approved programs). These definitions are identical to the definition above, except for the final sentence that only appears in the Title 129 definition.

<sup>9</sup> 129 Neb. Admin. Code §§ 1-155. Definition of a synthetic minor source.

<sup>10</sup> *In the Matter of Yuhuang Chemical Inc. Methanol Plant*, Order on Petition Nos. VI-2017-5 and VI-2015-03 (August 31, 2016)

<sup>11</sup> *In the Matter of Hu Honua Bioenergy Facility*, Order on Petition No. IX-2011-1 (Feb. 7, 2014) at 9 (*Hu Honua Order*); *In the Matter of Cash Creek Generation LLC*, Order on Petition No. IV-2010-04 (June 22, 2012) at 15 (*Cash Creek Order*); *In the Matter of Kentucky Syngas, LLC*, Order on Petition No. IY-20 I 0-9 (June 22, 2012) at 28 (*Kentucky Syngas Order*).

<sup>12</sup> There is substantial body of EPA guidance and administrative decisions relating to PTE and PTE limits. *E.g.*, see generally, Terrell E. Hunt and John S. Seitz, "Limiting Potential to Emit in New Source Permitting" (June 13, 1989); John S. Seitz, "Options for Limiting the Potential to Emit (PTE) of a Stationary Source Under Section 112 and Title V of

the Clean Air Act" (January 25, 1995); Kathie Stein, "Guidance on Enforceability Requirements for Limiting Potential to Emit through SIP and § 112 Rules and General Permits" (January 25, 1995); John Seitz and Robert Van Heuvelen, "Release of Interim Policy on Federal Enforceability of Limitations on Potential to Emit" (Jan. 22, 1996); *In re Shell Offshore, Inc., Kulluk Drilling Unit and Frontier Discoverer Drilling Unit*, 13 E.A.O. 357 (EAB 2007); *In the Matter of Orange Recycling and Ethanol Production Facility, Pencor-Masada Oxynol, LLC*, Order on Petition No. 11-2001-05 (April 8, 2002) at 4-7.

<sup>13</sup> See, e.g., *Cash Creek Order* at 15 (explaining that an "emission limit can be relied upon to restrict a source's PTE only if it is legally and practicably enforceable"); *In the Matter of Orange Recycling and Ethanol Production Facility, Pencor-Masada Oxynol, LLC*, Order on Petition No. 11-2001-05 (April 8, 2002) at 4-7 (2002 *Pencor-Masada Order*).

<sup>14</sup> See, e.g., 2002 *Pencor-Masada Order* at 47 (emphasizing the importance of practical enforceability in the permit terms and conditions that limit PTE).

<sup>15</sup> See, e.g., *In re Shell Offshore, Inc., Kulluk Drilling Unit and Frontier Discoverer Drilling Unit*, 13 E.A.D. 357, 394 n.54 (EAB 2007).

Also relevant to this discussion are the terms “true minor”, “natural minor”, and “synthetic minor”<sup>16</sup>. The following excerpt from a 1998 EPA memorandum written by John Seitz (Seitz 1998)<sup>17</sup> explains how these terms relate to each other and the concept of enforceable limitations on emissions:

*Often, in describing the overall stationary source population regarding potential-to-emit issues, EPA groups sources into three general types:*

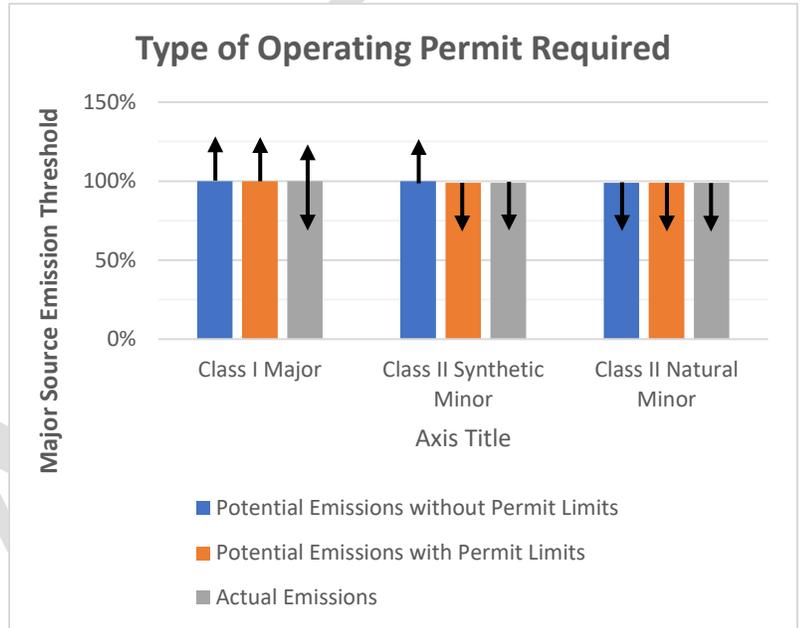
- (1) *Major sources - those that actually emit major amounts of air pollutants, or have the potential to do so;*
- (2) *“True minor”<sup>2</sup> (also called “natural minor”) sources - those that do not have the physical or operational capacity to emit major amounts (even if the source owner and regulatory agency disregard any enforceable limitations); and*
- (2) *“Synthetic minor” sources - those that have the physical and operational capability to emit major amounts, but are not considered major sources because the owner or operator has accepted an enforceable limitation.*

[...]

<sup>2</sup> *The [Clean Air] Act requirements for criteria pollutant programs refer to nonmajor sources as “minor sources,” while the air toxics program in section 112 refers to nonmajor sources as “area sources.” For purposes of this discussion, the term “minor” means all nonmajor sources.*

In summary, a facility may be classified as either a “major source” or a “minor source”. This classification is made based upon the facility’s PTE in relation to certain thresholds. A facility that has PTE above an applicable threshold, but does not wish to be subject to regulation as

a major source may request limitations to restrict their PTE. Such a facility is referred to as a “synthetic minor”. To be legally recognizable as a restriction on PTE, such limitations must meet requirements for “practical enforceability”.



<sup>16</sup> The term has a statutory definition with respect to the Class I Operating Permit program at 129 Neb. Admin. Code §§ 1-155. The Department also utilizes the term in discussions related to the PSD and HAP programs, with a meaning consistent to the 1998 Seitz memorandum.

<sup>17</sup> John Seitz, Director, Office of Air Quality Planning and Standards, “Potential to Emit (PTE) Guidance for Specific Source Categories” (April 14, 1998)