



**UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 7**

11201 Renner Boulevard
Lenexa, Kansas 66219

September 1, 2021

Ms. Sarah Piziali
Air Quality Bureau
Iowa Department of Natural Resources
502 East 9th Street
Des Moines, Iowa 50319

Dear Ms. Piziali:

This letter is in response to a June 19, 2020, email from Chris Roling of the Iowa Department of Natural Resources (IDNR) to David Peter of the U. S. Environmental Protection Agency Region 7. In that email, the IDNR requested that the EPA provide input on several issues related to the relaxation of synthetic minor limits¹ under 40 CFR §52.21(r)(4)², and more specifically, how this regulatory language relates to the synthetic minor limits in permits issued to John Deere Dubuque Works (JDDW). Background on the IDNR's request, as well as the EPA's responses to the IDNR's questions, are below.

Based on the information provided by the IDNR, it is the EPA's understanding that JDDW historically qualified as a major stationary source under the Prevention of Significant Deterioration (PSD) program.³ However, through a series of facility changes (including the conversion of coal-fired boilers to natural gas) and permitting actions in 2017, JDDW reduced the facility-wide potential to emit (PTE) for all New Source Review (NSR) regulated pollutants to below the major stationary source threshold.⁴ During the time that JDDW was a major stationary source, the IDNR issued permits for two projects that contained project-related synthetic minor limits. Now that the facility no longer qualifies as a major stationary source, JDDW has requested the removal of these project-related synthetic minor limits from the appropriate permits. The IDNR asked the EPA whether these synthetic minor limits could be removed without triggering 40 CFR §52.21(r)(4), and if so, what the implications of this removal would be and what factors the IDNR should consider when evaluating future permitting activity at JDDW.

¹ A synthetic minor limit is a limit on the source-wide potential to emit (PTE) or on the PTE of one or more emissions units designed to limit emissions below major stationary source or major modification thresholds. The synthetic minor limits in question here are those that limit the emissions increase from a project to below major modification thresholds ("project-related synthetic minor limits").

² The applicable provision under the Iowa State Implementation Plan (SIP) is 567 IAC 33.3(18)(b). However, that provision contains language consistent with 40 CFR §51.166(r)(2) and 40 CFR §52.21(r)(4). Section 51.166 governs the content of state PSD programs in SIPs, whereas section 52.21 applies to PSD programs administered by the EPA and states with delegated federal authority. Because the questions posed by the IDNR may arise in other jurisdictions, we refer to the EPA PSD regulations at 40 CFR §52.21 in our responses to enable them to have broader relevance.

³ The applicable major stationary source threshold for JDDW is 250 tons per year (tpy). From as early as 1970 until 2010, JDDW operated four coal-fired boilers. Based on information provided by the IDNR, the facility-wide PTE for SO₂ was approximately 13,000 tpy for the period 1997-2010. The information provided by the IDNR also indicated that the facility-wide PTE for PM, PM₁₀, NO_x, VOC and CO exceeded the major stationary source threshold during this period.

⁴ The estimated 2019 facility-wide PTE provided by the IDNR was as follows: 61 tpy of PM, 60 tpy of PM₁₀, 184 tpy of NO_x, 1 tpy of SO₂, 199 tpy of VOC and 95 tpy of CO. Actual annual SO₂ emissions reported by JDDW were as high as 2,900 tons in 1995 but were less than 1 ton in 2019.



IDNR Question #1: Are project-related synthetic minor limits like BACT limits, in that those limits apply for the life of the equipment regardless of future major/minor status of the stationary source? If not, what are the differences and where is the basis in the regulations?

Under the PSD regulations, a major stationary source can be reclassified as non-major if its PTE is below the applicable major stationary source threshold.⁵ The language in 40 CFR §52.21(r)(4) is clear that the provision applies “(a)t such time that a particular source or modification becomes a major stationary source or major modification solely by virtue of a relaxation in any enforceable limitation...” “Major modification” is defined as “any physical change in or change in the method of operation of a major stationary source that would result in:...” 40 CFR §52.21(b)(2)(i); 40 CFR §51.166(b)(2)(i) (emphasis added).⁶ Because, by definition, a major modification can only occur at a major stationary source, relaxation or removal of a synthetic minor limit would not trigger 40 CFR §52.21(r)(4) or any other requirement under the PSD regulations at a non-major source. This conclusion may differ if available information suggests an intention to circumvent PSD permitting requirements.⁷ We note that the reviewing authority should, consistent with the applicable state minor NSR program regulations and 40 CFR §51.160, ensure that any relaxation of previously issued synthetic minor limits will not interfere with attainment or maintenance of any national ambient air quality standard.

IDNR Question #2: If a major stationary source becomes a minor stationary source and the EPA allows the project-related synthetic minor limits to be relaxed: (a) What is the regulatory basis to allow the synthetic minor limit to be relaxed?; (b) Is there a time period that the source should be classified as minor before the project-related synthetic minor limits can be removed or relaxed to avoid a sham permitting situation?; (c) What happens if the source becomes major again?; (d) Do the project-related synthetic minor limits go back into effect?; and (e) Does it matter how long the source has been operating as a minor source?

The regulatory support for allowing relaxation of previously issued project-related synthetic minor limits at a non-major source is described in our response to question #1 above. Sources are not obligated to be classified as a minor source for a minimum amount of time before a project-related synthetic minor limit can be relaxed or removed. In other words, there is no minimum time that would render a source seeking to evade preconstruction review immune from enforcement if that source demonstrates an intent to

⁵ A source can “become” non-major through different mechanisms. For example, the source could be issued a NSR permit or a Federally Enforceable State Operating Permit (FESOP) with limitations that reduce the facility-wide PTE to below the major source thresholds. Alternatively, the facility-wide PTE (without factoring in any new enforceable requirements) may be reduced to below major source thresholds as a result of physical and/or operational changes at the facility, including the removal of emissions units. In accordance with the definition of PTE at 40 CFR §52.21(b)(4), any limits on the physical or operational design of the source necessary to constrain the PTE to below major source thresholds must be enforceable as a practical matter.

⁶ “Major stationary source” and “major modification” are defined under the Iowa SIP at 567 IAC 33.3(1). That provision contains language consistent with 40 CFR §51.166(b)(1)(i), 40 CFR §51.166(b)(2)(i), 40 CFR §52.21(b)(1)(i), and 40 CFR §52.21(b)(2)(i) as it relates to those two terms.

⁷ Letter from Pamela Blakely, Chief, Air Permits Section to Nisha Sizemore, Chief, Permits Branch, Office of Air Quality, Indiana Department of Environmental Management, re: General Shale Brick, Inc., August 14, 2006, <https://www.epa.gov/sites/default/files/2015-07/documents/genshale.pdf>; 54 Fed. Reg. 27274, 27281 (Jun. 28, 1989) (stating that “it is not possible to set forth, in detail, the circumstances in which EPA considers an owner or operator to have evaded preconstruction review in this way, and thus subjected itself to enforcement sanctions under sections 113 and 167 from the beginning of construction. This is ultimately a question of intent. However, EPA will look to objective indicia to establish that intent.”)

circumvent PSD permitting requirements.⁸ While some prior EPA determinations have considered a two-year period indicative of a source's intent to operate as a minor source, any inquiry into potential circumvention should consider all relevant source-specific factors. Thus, for a facility that is no longer a major stationary source, the reviewing authority could relax or remove any past project-related synthetic minor limits at or around the same time the source becomes a non-major source, so long as there is no indication of circumvention. In any case, if the source subsequently becomes a major stationary source again solely due to the relaxation of an enforceable limit that established the facility as a non-major source, that relaxation would trigger the requirements of 40 CFR §52.21(r)(4).⁹

It is the EPA's view that any future permitting action should be evaluated based on the facility's status at the time of the new project. The EPA NSR regulations do not require reinstatement of previous project-related synthetic minor limits if a source subsequently becomes major again. However, permitting decisions of this nature should be made with careful consideration of all relevant source-specific factors.

Please note that in developing our responses to your questions, we consulted with the EPA's Office of Air Quality Planning and Standards and the EPA's Office of Enforcement and Compliance Assurance. We appreciate the opportunity to work with you in responding to your questions. Please contact David Peter at (913) 551-7397 if you have any questions or comments regarding this letter.

Sincerely,

Digitally signed by Algoe-Eakin, Amy

Date: 2021.09.01 11:13:26 -05'00'

Amy Algoe-Eakin

Chief

Air Permitting and Standards Branch

Air and Radiation Division

⁸ Terrell E. Hunt and John S. Seitz, "Guidance on Limiting Potential to Emit in New Source Permitting," (June 13, 1989); 54 Fed. Reg. 27274, 27281 (June 28, 1989).

⁹ 40 CFR §52.21(r)(4) provides that, for a triggering relaxation, "the requirements of paragraphs (j) through (s) of this section [including BACT and air quality impact analysis] shall apply to the source or modification as though construction had not yet commenced on the source or modification."

From: [Roling, Chris](#)
To: [Peter, David](#)
Cc: [Piziali, Sarah](#); [Dallal Jack E](#); [Mai Daniel R](#); [Joyce - CDPHE, Jackie](#)
Subject: Removal or Relaxation of Limits Under 40 CFR §52.21(r)(4)
Date: Friday, June 19, 2020 8:13:19 AM
Attachments: [Questions for EPA.docx](#)

David,

As we have discussed, the Iowa DNR has received a determination request to remove project related synthetic minor limits from permits. These limits were taken at a time when the plant was a major stationary source for the Prevention of Significant Deterioration (PSD) program. The plant is now a minor stationary source.

The attached document provides a history of the New Source Review (NSR) program and 40 CFR §52.21(r)(4), the company's background, the request, the permitting cases we reviewed, a brief Iowa DNR analysis, and questions for EPA (last page).

The State of Iowa has adopted the PSD regulations into its State Implementation Plan (SIP), but removal and relaxation of synthetic minor limits is not an "Iowa only issue" and is a "program issue." Therefore, it is most appropriate to have the Environmental Protection Agency (EPA) address the questions related to this issue for the sake of consistency of applicability within the PSD program.

Please let me know if you have any questions about this request.

Chris



Christopher A. Roling, CPM, MPA, PE | Sr. Environmental Engineer
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IMPACT ON PSD SYNTHETIC MINOR LIMITS WHEN A MAJOR STATIONARY SOURCE BECOMES A MINOR STATIONARY SOURCE

Recently a company accepted emission limits to become a synthetic minor stationary source under the Prevention of Significant Deterioration (PSD) program. It had existing project related synthetic minor limits and requested to have those project synthetic minor limits removed. The State of Iowa has adopted the PSD regulations into its State Implementation Plan (SIP), but removal and relaxation of synthetic minor limits is not an “Iowa only issue” and is a “program issue.” Therefore, it is most appropriate to have the Environmental Protection Agency (EPA) address the questions related to this issue for the sake of consistency of applicability within the PSD program.

New Source Review (NSR) background:

Congress passes laws that govern the United States and to put those laws into effect, Congress authorizes certain government agencies to create and enforce regulations. Congress passed the Clean Air Act (CAA), which requires the Environmental Protection Agency (EPA) to establish standards that protect the public health and welfare. These standards are called the National Ambient Air Quality Standards (NAAQS). The pollutants covered by the NAAQS are known as “criteria pollutants.”

The CAA seeks to control emissions of the criteria pollutants to ensure air quality:

- Is protected in areas where the air quality is currently clean (i.e. attainment) and
- Is attained and maintained in areas where the air quality is currently unhealthy to breathe (i.e. nonattainment).

The CAA’s mechanisms to meet and protect the NAAQS includes the New Source Review (NSR) program. The CAA requires three types of NSR permits:

- **Minor source permits:** These permits are required by Section 110(a)(2)(C) of Part A of Title I. This section of the CAA requires states to write state implementation plans (SIPs) to ensure the NAAQS are attained and maintained. The permits apply to new minor and/or a minor modification at both major and minor sources in both attainment and nonattainment areas.
- **Prevention of Significant Deterioration (PSD):** These permits are required by Part C of Title I. They are required for new major stationary sources or a major stationary source making a major modification in areas that meet the NAAQS for one or more of the criteria pollutants.
- **Nonattainment NSR (NNSR):** These permits are required by Part D of Title I. They are required for new major stationary sources or major stationary sources making a major modification in areas that do not meet the NAAQS for one or more of the criteria pollutants.

NSR is applied prior to construction in order to determine the appropriate type of permit a facility needs and the level of pollution control measures needed. Since NSR is applied prior to construction it is often referred to as a “preconstruction permitting program.”

PSD Synthetic Minor Limits:

There are many uses of term “synthetic minor” in air permitting as it can apply to stationary source/facility as a whole, a program area (e.g., NSR, Title V, National Emission Standards for Hazardous Air Pollutants, etc.), or even a pollutant. Since the term is used in so many ways there is not one set definition. Two examples of definitions are:

- “NSR synthetic minor stationary source” means a source that otherwise has the potential-to-emit (PTE) a regulated NSR pollutant in amounts that are at or above the threshold for major source status, but has taken restrictions to limit its PTE to less than such amount.
- “Synthetic minor hazardous air pollutant (HAP) source” means a source that otherwise has the PTE to emit a single HAP or combination of HAPs in amounts that are at or above those for major sources of HAP emissions, but has taken restriction(s) so that its PTE is less than such amounts for major sources.

While the definitions are not exactly the same, they are similar. Overall, a “synthetic minor limit” is one that establishes a requirement to be below a regulatory standard.

In the case of PSD, a company might take limits to keep its allowable emissions below the major source status (i.e. PSD synthetic minor stationary source) or a major stationary source might take limits to keep the allowable emissions of a project below the significant increase thresholds (i.e. PSD synthetic minor project).

A major stationary source has several obligations under the PSD rules. One of those obligations is related to synthetic minor limits and can be found at 40 CFR §51.166(r)(2), 40 CFR §52.21(r)(4), and 567 IAC 33.3(18)(b). The regulatory language in 567 IAC 33.3(18)(b) [*Source obligation*] is:

“At such time that a particular source or modification becomes a major stationary source or major modification solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, the requirements of subrules 33.3(10) through 33.3(19) shall apply to the source or modification as though construction had not yet commenced on the source or modification.”

Simply put, if a major stationary source accepts a synthetic minor limit on a project to avoid PSD and later requests to relieve the synthetic minor limits, the emission units in that project are required to go through the PSD process at the time of relieving the synthetic minor limits. 40 CFR §52.21(r)(4) was put into the regulations as part of the August 7, 1980 regulations. EPA stated in the preamble:

“Finally, as a result of today's policy, a potential problem exists concerning the future relaxation of a preconstruction permit that previously caused a proposed stationary source to enjoy minor rather than major status. For example, a source might evade NSR through agreement to unrealistically stringent operating limitations in its permit, and later obtain a relaxation of the condition. The Agency believes that the problem can be dealt with by 40 CFR 52.21(r)(4), entitled "Source Obligation." That paragraph provides that any owner or operator of a source, who would receive a relaxation of a permit condition that had enabled avoidance of NSR, would then become subject to review for all units subject to the original permit, as if they were new sources. In other words, if operational limitations are to be considered as an aspect of a source's design, it is reasonable that the permit accurately incorporate that design. If such operation is changed, the permit, and concomitant obligations, should be correspondingly changed.” (45 FR 52689)

John Deere stated in its letter:

“The intent behind this rule is to avoid sham permitting; that is, allowing a source to voluntarily accept an avoidance limit and then remove the limit as part of a plan to avoid the application of BACT. However, in situations where a significant intervening regulatory change occurred (such as becoming a minor source), U.S. EPA opined that source obligation requirements should not apply.”

However, the concept of sham permitting did not come up until a 1989 EPA guidance document issued as a result of the *United States v. Louisiana-Pacific Corporation* [682 F. Supp. 1122 (D. Colo. Oct. 30, 1987) and 682 F. Supp. 1141 (D. Colo. March 22, 1988)]. That guidance document (*Guidance on Limiting Potential to Emit in New Source Permitting*; Hunt & Seitz; June 13, 1989 stated):

“Sham permits are not allowed by 40 CFR §52.21(r)(4)” and “permits with conditions that do not reflect a source’s planned mode of operation are void ab initio and cannot act to shield the source from the requirement to undergo preconstruction review.”

In addition, the guidance document discusses EPA being able to demonstrate there was an intent to operate the source at major source levels and the ability of EPA to pursue enforcement action where it believes the initial minor source permit was a sham.

Therefore, the intent of 40 CFR §52.21(r)(4) was not just for “sham permitting.” There are many cases where companies legitimately take restrictions to avoid major source review, but may eventually request to have those restrictions removed or relaxed years later because business improved more than expected. These types of situations are not shams, but 40 CFR §52.21(r)(4) is still triggered. A couple of additional items to note regarding 40 CFR §52.21(r)(4):

- (1) Neither the rule or the preamble give a timeframe for how long 40 CFR §52.21(r)(4) is in effect, so one could interpret it to be for the lifetime of the equipment.
- (2) Neither the rule or the preamble provide direction on what happens to the synthetic minor limit if the source goes from major status to minor status.

John Deere Dubuque background and request:

John Deere is the brand name of Deere & Company which is headquartered in Moline, IL. It is an American corporation that manufactures agricultural, construction, and forest machinery. In addition, John Deere makes diesel engines, drivetrains (axles, transmissions, and gearboxes) used in heavy equipment, and lawn care equipment. It is also engaged in providing financial services.

John Deere has numerous facilities in Iowa with multiple operations in the Waterloo area. The Iowa operations are:

- John Deere Des Moines Works (825 SW Irvinedale Drive, Ankeny)
- John Deere Ottumwa Works (928 E. Vine St., Ottumwa)
- John Deere – Hagie Manufacturing (721 Central Avenue W, Clarion)
- John Deere Paton (409 E Paton St., Paton)
- John Deere Intelligent Solutions Group – Urbandale (4480 114th St, Urbandale)
- John Deere Davenport Works (1175 E. 90th St, Davenport)
- John Deere Training Center – Davenport (8000 Jersey Ridge Road, Davenport)
- John Deere Dubuque Works (18600 S. John Deere Rd., Dubuque)
- Waterloo area locations:
 - Drivetrain Operations (400 Westfield Avenue, Waterloo),
 - Tractor, Cab, and Assembly Operations (3500 E Donald Street, Waterloo),
 - Service Parts Operations (1400 Westfield Ave, Waterloo),
 - Foundry (2000 Westfield Avenue, Waterloo),
 - Engine Works (3801 West Ridgeway Avenue, Cedar Falls), and
 - Product Engineering Center (6725 Cedar Heights Drive, Cedar Falls)

The John Deere Dubuque Works (JDW) facility (Plant Number 31-01-009) was opened in 1947 and is located three miles north of Dubuque, Iowa. The JDW facility manufactures crawler dozers, crawler loaders, skid steers, forestry harvesters, knucklebooms, and components for various heavy equipment products. The primary Standard Industrial Classification (SIC) code is 3531 (Construction Machinery and Equipment) and the primary North American Industry Classification System (NAICS) code is 333120 (Construction Machinery Manufacturing).

JDW operated four coal-fired boilers until 2010 (Boilers 1, 2, 3, and 4) that were originally permitted in the 1970s. JDW was a major stationary source for the purposes of PSD during this time. On December 5 1997, JDW was permitted to install two paint booths and one curing oven. As part of the project:

- A netting calculation was conducted for VOC and a limit of 72.5 tons/yr was established.
- A limit of 6,183 hours was established to keep PM & PM₁₀ under PSD significant increase levels (1.96 lb/hr & 6.05 tons/yr for PM and 1.15 lb/hr & 3.55 tons/yr for PM₁₀).

As part of Project Number 16-386 the total PM limit was reduced to 0.82 lb/hr based on stack test results and the PM₁₀ limit was removed. In addition, the annual limit on hours of operation was removed.

In 2010, Boiler 1 was converted and permitted to operate on only natural gas. In 2011, the other three boilers were converted and permitted to combust only natural gas. JDW was still considered a major stationary source for the purposes of PSD even after the coal was removed as a fuel source from the four boilers.

In 2014, JDW was permitted to add more painting equipment under Project Number 14-206. Synthetic minor limits established were:

- 89.25 tons/yr for VOC and
- Limits of 1.04 lb/hr for PM, 0.66 lb/hr for PM₁₀, and 0.48 lb/hr for PM_{2.5}.

Through a series of permitting actions in 2017 JDW accepted limits on fuel usage for the boilers and facility-wide VOC limits to make the JDW facility a synthetic minor stationary source for the purposes of PSD. The project synthetic minor limits established on the painting operations remained in effect.

On July 1, 2019, the Air Quality Bureau received a June 27, 2019 request from John Deere. The company requested to have the VOC emission limits from Project Numbers 97-645 and 14-206 removed from its permits because in its opinion 567 IAC 33.3(18)(b) [See also 40 CFR §52.21(r)(4)] no longer applied. John Deere stated in its letter:

“The intent behind this rule is to avoid sham permitting; that is, allowing a source to voluntarily accept an avoidance limit and then remove the limit as part of a plan to avoid the application of BACT. However, in situations where a significant intervening regulatory change occurred (such as becoming a minor source), U.S. EPA opined that source obligation requirements should not apply.”

The company cited two cases as part of the letter [Pfizer Pharmaceuticals LLC (September 23, 2015) and Putzmeister, Inc. (December 19, 2006)]. John Deere’s consultant (RTP Environmental) provided an additional case [Colorado (2012)] in a December 18, 2019 email. The background of each of these cases is provided in the next section (**Cases**) and then analyzed in the following section (**Analysis**).

Cases:

This section will provide the basic facts of each of the cases based on the information provided to the Iowa AQB. John Deere made a Freedom of Information Act (FOIA) request of EPA for the information on the Wisconsin and Puerto Rico cases and provided that information to the Iowa AQB. The first thing of note is EPA withheld some of the records. According to its September 25, 2019 letter to John Evans of RTP Environmental, EPA stated it was unable to provide other records responsive to the request because EPA determined they were exempt from mandatory disclosure under Exemption 5 of FOIA, 5.U.S.C. §552(b)(5) which “*protects inter- or intra-agency documents that would not be available by law to a party in litigation with the agency, which includes the deliberative process privilege recognized under common law.*” A list of the documents withheld by EPA are:

- ARD Division Briefing Paper: Putzmeister Issue; EPA Document, dated 00/00/00: 3 pages
- Aug 2006 emails from Jonathan Averback to Susan Siepkowski, dated 8/31/2006; 13 pages
- Putzmeister NSR Issue, dated 8/17/2006; 2 pages
- Putzmeister Nonattainment NSR Applicability Issue: dated 12/4/2006; 2 pages
- Draft letter to Kessler, dated 10/31/2006; 1 page
- Draft to Hanson, dated 10/29/2006; 2 pages
- Emails 10-24 to 10-26 from Jay Bortzer to Melanie Pullman. dated 8/24/2006: 5 pages
- Issue paper August dated 8/18/2005: 1 page
- Issue paper June, dated 6/5/2006; 2 pages
- June 2006 emails from Pamela Blakley to Jay Bortzer, dated 6/26/2006; 1 page
- June issue paper, dated 6/5/2006; 2 pages
- Nov 2006 emails from Jonathan Averback to Susan Siepkowski, dated 11/21/2006; 3 pages
- OAR recommendation EPA Document, dated 00/00/00; 1 page
- R5 August briefing EPA Document, dated 00/00/00; 1 page
- Sept 2006 emails from Pamela Blakley to Mike Sewell, dated 9/11/2006; 4 pages
- Survey to regions EPA Document, dated 00/00/00: 1 page

In addition, there were missing pages to the letters for the Wisconsin case. It is not clear whether these missing pages or the withheld documents had any impact on the final decision and/or an explanation of the final decision. Also, some of the background information for the Colorado case is based on a Google search by the Iowa AQB and also correspondence with the Colorado Department of Public Health – Air Quality.

Wisconsin:

- In 1994, Putzmeister constructed a facility in Racine County which was designated as a severe ozone nonattainment area under 1-hr standard. The facility included manufacturing & assembly, painting, and equipment thresholds. It was permitted under NSR permitting exemption thresholds of 10 tons of VOC/year.
- In 1998, the area was still classified as a severe nonattainment area under the 1-hr ozone standard. Putzmeister expanded the facility with additional manufacturing capacity including the addition of several paint booths for which the Wisconsin Department of Natural Resources (WDNR) issued a construction permit limiting VOC emissions from the facility to 24.9 tons of VOC/yr.
- The 1-hour standard was revoked on June 15, 2005 and Racine County was considered a moderate nonattainment area under the 8-hr ozone standard. This changed the major source threshold from 25 tons/yr to 100 tons/yr.

- In 2006, Putzmeister proposed to modify the facility which was to include the expansion of its manufacturing facility & assembly operations, the expansion of one existing paint booth, and the installation of one new paint booth. Expansion would remove a bottleneck for all painting operations. Putzmeister requested to restrict allowable facility emissions to 99 tons of VOC/yr which would eliminate the 24.9 tons of VOC/yr limit, but remain a minor source under the 8-hr ozone standard.
- WDNR requested assistance from EPA Region V on May 12, 2006. WDNR wanted to know the options available to a company that had historically requested and to whom WDNR had issued minor NSR permits containing synthetic minor emission limitations when the source proposed a facility expansion and the non-attainment classification of the area in which the source is located had changed.
- On June 19, 2006, RMT sent a letter to the WDNR on behalf of Putzmeister citing 40 CFR §51.165(a)(5)(ii) and comments received regarding the Wisconsin SIP. RMT specifically pointed out:

“As one commenter noted, NSR is a prospective permitting program that only applies to future emissions from new and modified sources. Any source that is subject to the 1-hour NSR requirements is required to continue to comply with those requirements. In this respect, there will be no degradation of air quality by virtue of this SIP change. Moreover, unlike control measures, States do not rely on the NSR program to generate emission reductions to move an area further toward attainment... Therefore, we believe that the 8-hour NSR program requirements, based on an area’s present air quality needs, will assure that progress continues toward attainment despite future economic growth.”

According to RMT, this comment *“appears to clearly differentiate circumstances that pertain to sources that are new or modified, from those that seek only to relax emission limitations.”* According to the letter, Putzmeister was not changing emission limits solely by virtue of a relaxation of current emissions limits as its project involved the expansion of production and assembly operations. Due to the expansion, a process bottleneck would allow increased utilization of existing production capacity of existing paint booths and the need for new and expanded booths. Therefore, RMT believed the 8-hour NSR program applied.

- On December 19, 2006, EPA Region V sent a letter to WDNR stating that based on their review of the facts of the case, the provisions of 40 CFR §51.165(a)(5)(ii) were not implicated by the proposed changes at Putzmeister. No other explanation was provided. The letter did state EPA Region V consulted with EPA’s Office of Air Quality Planning and Standards (OAQPS) and the Office of General Counsel in making the decision.
- On March 29, 2007, the attorneys for the Sierra Club and Clean Wisconsin submitted comments on the draft permit for Putzmeister, Inc. The comment letter stated WDNR could not relax the synthetic minor limit without applying the requirements of the NSR program for the following reasons:
 - (1) EPA has not made a lawful or valid determination that Racine County is not severe nonattainment for 1-hour ozone;
 - (2) a relaxation of the New Source Review synthetic minor control requirement would constitute an unlawful backslide under the Clean Air Act; and
 - (3) applicable rules provide that a source becomes a "major source," subject to New Source Review, when a synthetic minor limit is relaxed.

In regards to 40 CFR §51.165(a)(5)(ii), the comment letter stated:

“...if a synthetic minor limit is established after 1980 and then relaxed - as DNR is proposing for Putzmeister- the change must be treated as a major modification and subject to New Source Review . This is not changed in any way by EPA's (unlawful) replacement of the 1-hour ozone standard with an 8-hour standard. EPA's rule states: "emission limitations and other requirements in NSR permits issued under 1-hour NSR programs will continue to be in force when the 1-hour NAAQS is revoked." 69 Fed. Reg. 23,986. Therefore, the 24.9 TPY synthetic minor limit on VOC emissions in Putzmeister's synthetic minor permit cannot be relaxed without triggering major source NSR.”

Colorado:

- In April 2004, EPA designated the Denver Metro/North Front Range, which includes Boulder, as nonattainment for the 1997 8-hr ozone standard.
- In November 2011, Southwest Generating Operating Co., LLC (SWG) consisted of two simple cycle combustion turbines with air inlet preheaters. They were natural gas only. The facility was originally permitted to generate power during intermediate and peak periods of electrical demand at the Valmont Power Plant [a coal-fired power plant operated by Public Service Company of Colorado (PSCo), dba Xcel Energy].
- The SWG turbine facility was originally determined to be a single source with the coal-fired power plant for purposes of NSR and Title V because:
 - (1) Same 2-digit SIC code (49)
 - (2) The SWG facility is located on the Valmont Power Plant property
 - (3) There was a Power Purchase Agreement (PPA) between the two facilities that allowed PSCo to directly control operations of the SWG facility.
- The PPA was set to expire on September 30, 2012. At that point SWG would no longer be considered part of the major stationary source (PSCo).
- On April 27, 2012, the Colorado Department of Public Health and Environment approved a permit that in part established new annual limits. The annual limits before and after October 1, 2012 are shown in Table 1:

Table 1 – Annual Limits Before and After October 1, 2012

	Pollutant (tons/yr)					
	PM	PM ₁₀	SO ₂	NO _x	VOC	CO
Prior to October, 1 2012	9.0	9.0	0.5	39.0	3.5	90.8
After October 1, 2012	7.8	7.8	0.5	78.0	4.9	181.6

Note: A PM_{2.5} limit of 7.8 tons/yr was also set for “After October 1, 2012.”

The facility was also allowed to increase its total consumption of natural gas from 2,027.3 MMscf per year prior to October 1, 2012 to 1,869.2 MMscf per year after October 1, 2012. There was a note in the evaluation that the 2,027.3 MMscf per year was not representative of the NO_x limit of 39.0 tons per year as actual fuel usage at the 2,027.3 MMscf per year would result in NO_x emissions in excess of 100 tons per year.

A NO_x emission factor was developed based on the CEMS data reported to EPA under the Acid Rain Program requirements (Clean Air Markets). This emission factor was used to determine a fuel use more representative of the 39.0 ton per year limit which was 852,972.8 MMBTU/yr (934.6 MMscf/yr) at a fuel heating value of 912.65 BTU/scf.

The NO_x emission factor developed from the Clean Air Markets was used to establish the maximum facility-wide fuel use limit that would result in an increase of NO_x emissions of 39 tons/yr and a final NO_x limit of 78 tons/yr. The final limits for the other pollutants were based on this new fuel use limit.

- In December 2019, EPA announced it reclassified the ozone nonattainment area from “moderate” to “serious.”
- On March 3, 2017, Xcel Energy announced the PSCo plant had stopped using coal at Unit 5 (184 MW). Gas-fired Unit 6 (43 MW) remained in operation. Units 1 through 4, which were all coal fired units, were shut down in 1986. Xcel had announced in 2010 that it planned to stop burning coal at the facility to cooperate with Colorado’s Clean Air-Clean Jobs Act. The PSCo plant is still considered a PSD major stationary source.
- Xcel Energy announced it is planning to retire two units totaling 660 MW at its coal-fired Comanche plant in Colorado by 2025. It plans to acquire 1,100 MW of new wind, 700 MW of new solar, 275 MW of battery storage, and 383 MW of natural gas in Colorado.

However, according to an October 2019 filing Xcel Energy was 95 MW short of meeting its target reserve margin of 16.3%, or 1,071 MW, in Colorado in 2020 (Colorado PUC Proceeding No. 16A-0396E). Therefore, it asked regulators to accelerate its acquisition of the dormant 82 MW natural gas Valmont Combustion Turbine Plant (Indeck) (SWG Colorado) in Boulder, Colorado from 2022 to June 2020. It also asked for approval to acquire a peaking plant northeast of Denver by June 2022 (Proceeding No. 9A-0409E).

The Southwest Generating Operating Co. LLC, a subsidiary of investment firm IIF US Holding LP, owns the Valmont plant. The price tag is \$18.5 million and federal regulators approved Xcel Energy’s acquisition in December 2019, and it is expected to stay online until 2038.

On February 19, 2020, a Colorado Public Utilities Commission administrative law judge recommended the PUC approve Xcel Energy Inc.’s request to acquire the two natural gas plants in the state to support its buildout of renewables to retire coal.

- According to an email from the State of Colorado:
 - The upcoming renewal permit for PSCo Valmont is drafted with the PSCo and SWG facilities as a single stationary source. PSCo is required to submit transfer of ownership paperwork within thirty (30) days of completing the acquisition of the source (approximately June 1, 2020). Based on discussions with PSCo, the plan is to include the SWG equipment into the PSCo Valmont permit so there would only be one Title V permit for the site.
 - When the SWG Valmont equipment is included in the PSCo Valmont permit, the permit writer intends on planning only the “co-located with Valmont Power Plant limits” (i.e., the original PSD synthetic minor limits) into the permit. In other words, the original synthetic minor limits will be reinstated. The reason given is that the equipment was originally permitted as a synthetic minor source to avoid classification as a major modification to the existing major stationary source and those conditions exist again.

Puerto Rico:

- Pfizer Pharmaceuticals, Inc. (PPI) operates an active pharmaceutical ingredients manufacturing facility in Barceloneta, Puerto Rico.
- Prior to 1994:
 - The utility plant at the PPI facility operated two (2) boilers and four (4) fire engines. Both boilers were rated at 16.7 MMBTU/hr (heat input) and were installed in 1972. Each was permitted to combust residual fuel oil with a maximum sulfur content of 2.01%. Each of the fire engines was rated at 255 horsepower (hp).
 - The facility was considered a “PSD source category.” The boiler’s SO₂ potential-to-emit (PTE) and the process related VOC PTE were both greater than the 100 tons/yr major source threshold. The PTE of NO_x for the facility was 55 tons/yr.
- In 1994, PPI proposed an expansion to its utility (Utility Plant Expansion Project). PPI proposed to:
 - Remove the two (2) residual oil-fired boilers;
 - Install five (5) new diesel generators. Each engine would have its own selective catalytic reduction (SCR) unit and each would then be connected downstream to a combined secondary SCR;
 - Install a 37.5 MMBTU/hr No. 2 oil-fired heat-recovery steam generator (HSRG) at the exhaust of the engines; and
 - Install a 37.5 MMBTU/hr oil/liquified petroleum gas (LPG)-fired steam boiler.
- EPA determined the 1994 proposed Utility Plant Expansion Project was not subject to PSD as the difference in actual to potential emissions for all pollutants was less than the respective PSD significance levels. A summary of EPA’s air emissions summary is in Table 2:

Table 2 – USEPA PSD Non-Applicability Determination Air Emissions Summary

Pollutant	Actual Emissions (tons/yr)	Potential Emissions (tons/yr)	Difference (Actual – Potential, tons/yr)	PSD Significance Level (tons/yr)
NO _x	25.66	55.34	29.69	40
SO ₂	104.1	79.18	-24.88	40
CO	2.33	49.99	47.66	100
HC	0.13	8.69	8.56	40
PM	7.59	7.06	-0.54	25
PM ₁₀	6.53	5.21	-1.32	15
Pb	0.00788	0.00339	-0.00450	0.6

- Emission limits and operating conditions of note in the permit were:
 - A NO_x limit of 56 tons/yr.
 - The existing residual oil-fired boilers were required to be shut down and dismantled after the startup of the entire new utility plant.
 - In accordance with 40 CFR §52.21(r)(4), relaxation of any of the conditions or restrictions of the permit may subject the source or modification to PSD as though construction had not yet commenced on the source or modification.
- In 2002, PPI obtained a permit that limited the PTE of each criteria pollutant to 90 tons/yr and the PTE of hazardous air pollutants to below 10 tons/yr (individual) and 25 tons/yr (total). Therefore, making the

facility a synthetic minor for PSD and TV. The permit left the NO_x limit of 56 tons/yr in place pursuant to EPA's 1995 non-applicability determination.

- In July 2015, PPI proposed to remove the oil-fired HSRG and install three (3) new LPG-fired steam boilers. Each boiler was rated at 11.5 MMBTU/hr (heat input). On July 30, 2015, Pfizer sent a request to US EPA Region 2 Office requesting:
 - A determination whether the PSD regulations would apply to its proposed modifications at the Barceloneta, Puerto Rico plant and
 - To relax the current PSD non-applicability related NO_x PTE limit of 56 tons/yr to 90 tons/yr (i.e. the facility-wide limit).
- On September 23, 2015, EPA Region II issued a determination letter that

“EPA's review of the information indicates that Pfizer is not attempting to circumvent PSD applicability by requesting to increase the 1995 PSD non-applicability NO_x PTE limit from 56 tons/year to 90 tons/year because the facility or the 1994 modification does not become a major stationary source or major modification solely by virtue of this NO_x emission limit relaxation. In addition, the "synthetic minor" status has been maintained by Pfizer since 2002 and will continue to be maintained after the proposed modification. Furthermore, Pfizer is also not requesting any changes to its annual fuel and hours of operation restrictions put in place pursuant to the 1995 non-applicability determination. Therefore, Pfizer's request to revise the NO_x PTE from 56 tons/year to 90 tons/year is approvable.”

Analysis:

We do not know of or could not find any other references of a PSD synthetic minor limit being relaxed unless the project went through the PSD process. As the impacts of this decision may affect all agencies that oversee the NSR program, we are asking EPA for assistance and have developed the following questions for EPA to consider as they evaluate a decision on relieving synthetic minor limits under the NSR program.

Below, is a brief summary and analysis of each of the cases cited by John Deere. In addition, some relevant information regarding Plantwide Applicability Limitations (PALs) and Best Available Control Technology (BACT) was added.

Case Analysis:

Each of the cases cited by JDW are unique and below is a summary and analysis for each:

- Wisconsin
It is difficult to completely evaluate this case since EPA withheld so many documents. In addition, EPA Region V stated the synthetic minor limits could be relaxed, but the Sierra Club and Clean Wisconsin commented on why they did not agree. The documents provided to Iowa did not have the WDNR or EPA Region V responses to those comments. In addition, since the case involved changing the nonattainment status of an area, the relaxation of a synthetic minor limit might be treated differently than a synthetic minor limit under 40 CFR §52.21(r)(4).
- Colorado
The Colorado case is interesting in that it involved a single source determination and a nonattainment area. The synthetic minor limits were put into place because two facilities were considered a single stationary source because of their contractual relationship. Once that contractual relationship went away it was decided the synthetic minor limits should also be removed.

A twist occurred as one of the companies bought the operations of the other company recently. One of the questions is what would happen to the old synthetic minor limits? The regulations do not address a situation such as this. Based on recent correspondence, Colorado has decided the old synthetic minor limits need to be reinstated.

- Puerto Rico

The Puerto Rico decision is the closest to the John Deere project since it does not involve a single source determination or nonattainment. However, it is difficult to follow the basis for the established limits or decisions that were made in the original Puerto Rico project.

Since it was 1994, the analysis was Actual-to-PTE. There was no netting in the project. Therefore, based on this it would appear the limit for the project should have been 65.26 tons/yr (25.66 tons/yr + 39.4 tons/yr) instead of 56 tons/yr.

The 25.66 tons/yr was the average of 1993 – 1994 for the existing boilers that were removed. A netting analysis was not done as part of the project, but the old boilers were required to stop operation and were dismantled. It is not known what the contemporaneous time period NO_x increases and decreases were for the facility, but since the only emissions in the baseline were from the existing oil-fired boilers it is likely there were no contemporaneous NO_x increases or decreases. This means the facility could have taken credit for the shutdown of the existing boilers which should have resulted in a NO_x emission limit of 90.92 tons/yr (65.26 tons/yr + 25.66 tons/yr).

The 2015 documents from Pfizer stated 40 CFR §52.21(r)(4) no longer applied because the facility was a minor stationary source and had been for quite some time. EPA Region II appeared to agree with this assessment in its response. However, based on the documents that were provided to Iowa DNR, the original limit should have been just over 90 tons/yr. It would still have been a synthetic minor limit, but there would not have been a need to relieve it in 2015.

PALs:

EPA has allowed PSD synthetic minor limits established under 40 CFR §52.21(r)(4) to be relaxed when a major stationary source accepts a Plantwide Applicability Limitation (PAL). However, this program is specific to major stationary sources in an attainment area.

On December 31, 2002 and March 10, 2003, EPA revised the NSR regulations. These changes are often referred to as NSR Reform. On July 30, 2003, EPA announced a reconsideration of the final December 31, 2002 rules in the Federal Register (FR) and requested public comments on six issues which included PALs. One of the discussion points in the Federal Register for PALs was “Elimination of Synthetic Minor Limits [(r)(4) Limits].” This section stated:

“A synthetic minor limit is a limit that is included in a permit by a reviewing authority at the request of a source to reduce the potential to emit (PTE) of a facility or emissions unit below a level that would otherwise subject the facility or emissions unit to some regulatory requirement. Such limits are often used by a facility to reduce emissions below a level that would subject a project to the major NSR requirements. (They are also used for similar purposes under other regulatory programs.)

Under the major NSR program, we refer to these emission or operational limitations as (r)(4) limits because provisions relating to these types of restrictions are contained in paragraph (r)(4) of the Federal Prevention of Significant Deterioration (PSD) Program. *See* 40 CFR 52.21(r)(4). Similar provisions are contained in the requirements for State programs. *See* 40 CFR 52.165(a)(5)(ii), 51.166(r)(2).

In the December 31, 2002 final rule, we specified that a reviewing authority can eliminate (r)(4) limits for a PAL pollutant if you previously took these limits to avoid major NSR. In the absence of a PAL, relaxation of such limits would cause you to determine major NSR applicability as if construction had not yet commenced on the new or modified emissions units. *See* 40 CFR 52.165(a)(5)(ii), 51.166(r)(2), 52.21(r)(4). Under a PAL, such limits may be relaxed or removed without triggering major NSR for the PAL pollutant. 67 FR 80210; 40 CFR 165(f)(1)(iii)(C), 166(w)(1)(ii)(c), 52.21(aa)(1)(ii)(c). The (r)(4) limits do not reappear upon PAL expiration. 67 FR 80209; 40 CFR 51.165(f)(9)(v), 51.166(w)(9)(v), 52.21(aa)(9)(v). Instead, they are reapportioned, along with the PAL, among the existing emissions units. We believe the approach adopted in the final rules reflect the purpose of a PAL, which is to maximize operational flexibility without sacrificing environmental protection.

We view the PAL as the functional substitute for any unit-specific (r)(4) limits that you may have taken to reduce emissions below a level that would subject a project to major NSR requirements. Both the PAL and the (r)(4) limits serve to keep you from triggering major NSR. Emissions from emissions units with (r)(4) limits are incorporated into the PAL at a level that is at or, in most cases, below those limits. Therefore, the PAL is an effective substitute for those limits. More importantly, we believe that removal of these limits is essential to allow you to benefit from the operational flexibility and corresponding environmental benefits that the PAL is intended to provide.

We considered reinstating (r)(4) limits if a PAL expires. However, we rejected this approach because we recognize that you may have made changes to the emissions unit or associated operations, and it may not be practical to return the emissions unit to its pre-PAL operations. Instead, the final rules ensure that the (r)(4) limitations that are incorporated into the PAL continue to play a role after PAL expiration, although not in the same form.

Before a PAL expires, you must submit a proposal for distributing the PAL among individual emissions units or groups of emissions units. The reviewing authority will make the final decision on PAL emissions distribution. Following expiration, you must ensure that the individual emissions units or groups of emissions units comply with their limits as assigned by the reviewing authority. In this way, the emission restrictions associated with an (r)(4) limitation are accounted for after PAL expiration. However, the new emission limitation(s) would not be subject to the requirements of 40 CFR 52.21(r)(4).

We are proposing to retain our approach for removing and superseding (r)(4) limits with a PAL. We request comment on this approach.” (68 FR 44626 – 68 FR 44627)

The regulations for PALs specifically state any physical change or change in the method of operation is not subject to 40 CFR §52.21(r)(4) [See 40 CFR §52.21(aa)(1)(ii)(c)]. In addition, if the synthetic minor limits are removed under the PAL and the PAL is terminated the 40 CFR §52.21(r)(4) limits are not reinstated [See 40 CFR §52.21(aa)(9)(v)].

So the PAL regulations specifically address relaxation of synthetic minor limits established under 40 CFR §52.21(r)(4), but the regulations do not address relaxation of synthetic minor limits when a source switches from being a major stationary source to a minor stationary source.

BACT:

The PSD rules do allow the rescission of a PSD permit under certain conditions [See 40 CFR §52.21(w)]. However, those rescission rules do not address what happens to a PSD permit when a major stationary source becomes a minor stationary source. It has been long standing EPA policy that a major stationary source becoming a minor stationary source is not a basis to rescind a PSD permit.

Questions for EPA:

In reference to the removal or relaxation of synthetic minor limits once a source becomes a minor stationary source after being a major stationary source, we request EPA answer the following questions:

- Are project related synthetic minor limits like BACT limits in that those limits apply for the life of the equipment regardless of future major/minor status of the stationary source?
 - If not, what are the differences and where is the basis in the regulations?
- If a major stationary source becomes a minor stationary source and EPA allows the project related synthetic minor limits to be relaxed:
 - What is the regulatory basis to allow the synthetic minor to be relaxed?
 - Is there a time period that the source should be classified as minor before the project related synthetic minor limits can be removed or relaxed to avoid a sham permitting situation?
 - What happens if the source becomes major again? Do the project related synthetic minor limits go back into effect? Does it matter how long the source has been operating as a minor source.