August 6, 2007

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Environmental Protection Agency
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Air and Radiation Docket
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Re: Comments by the North Dakota Department of Health and the State of North Dakota on EPA'S Proposed Rule Revisions

Prevention of Significant Deterioration New Source Review: Refinement of Increment Modeling Procedures

Docket ID No.: EPA-HQ-OAR-2006-0888
FRL-8320–7
RIN-2060-AO02

Dear Administrator Johnson:

Thank you for this opportunity to comment on EPA's proposed PSD rulemaking in the above docket.[1] This rulemaking relates to refining increment modeling procedures under the Prevention of Significant Deterioration (PSD) provisions[2] of the Clean Air Act (CAA or Act).[3]

For the reasons stated in these comments, the North Dakota Department of Health (NDDOH)[4] supports EPA's proposed amendments to the PSD rules[5]—40 C.F.R. § 51.166 (PSD rules for SIP-approved states)

[1] Notice of this rulemaking was published in the federal register at 72 Fed. Reg. 31,372-399 (June 6, 2007).
[2] CAA §§ 160-169, 42 U.S.C. §§ 7470-7479, which comprise subpart I of Part C of Title I of the CAA.
[3] CAA Titles I-VI, §§ 101-618, 42 U.S.C. §§ 7401-7671q.
[4] The NDDOH is responsible for administering North Dakota's EPA-approved State Implementation Plan (SIP), including its PSD provisions. *See* 40 C.F.R. §§ 1820-1837.
[5] The amended rules are at 72 Fed. Reg. 31,397-399.

and 40 C.F.R. § 52.21 (PSD rules for PSD non-SIP states). Although NDDOH generally supports EPA's reasoning in the preamble,[6] we suggest through these comments a few alternative or additional grounds and reasons warranting the proposed rule changes. NDDOH also provides additional comments and recommendations relating to other points raised in the preamble.

I. Background

Because of circumstances that are unusual, if not unique, NDDOH has a long history of developing and refining PSD increment modeling procedures—the issue addressed by this rulemaking—as part of conducting the air quality impact analyses required in CAA § 165(a) & (e).[7] This section will provide necessary background relating to important aspects of the statutory and legislative history, as well as NDDOH's experience. This background discussion will discuss parallels and contrasts between different parts of the Act, its history, and our implementation of it, that will lay the foundation for NDDOH's subsequent comments. We will summarize issues relevant to this rulemaking that NDDOH and North Dakota have addressed, including some issues raised by this rulemaking that other states and regions have not addressed.

A. Statutory Background

CAA § 165 sets forth the permitting and preconstruction requirements for "PSD areas," which are the air quality regions and areas that comply with the national ambient air quality standards (NAAQS). Areas not in compliance with the NAAQS are called "nonattainment areas"[8] under the Act.

The permitting and compliance issues addressed in nonattainment and PSD areas are not the same because the NAAQS and PSD programs are different. In nonattainment areas, the focus is on reducing emissions and taking other steps to improve the "ambient air quality" enough to

[6] The preamble is at 72 Fed. Reg. 31,372-397.
[7] 42 U.S.C. § 7475(a) & (e).
[8] The requirements for "nonattainment areas" are in CAA Title I, part D, CAA §§ 171-193, 42 U.S.C. §§7501-7515.

achieve compliance with the NAAQS. In PSD areas, the focus is on preventing increases in emissions of pollutants, and hence their concentration in the atmosphere, in amounts that would exceed the established increment levels for that pollutant above the "baseline concentration," which the Act defines as "the ambient concentration levels which exist at the time of the first application for a permit in an area subject to this part" [Part C of Title I, the PSD provisions of the Act].[9]

Both nonattainment and PSD areas require that new sources,[10] and sources undergoing a major modification, to acquire a permit from the "permitting authority"[11] before beginning construction. The "permitting authority" is the designated state agency, NDDOH for example, that conducts the permit review in nonattainment or PSD areas where EPA has given the state primacy over the program under an EPA-approved state implementation plan (SIP).

In both the nonattainment and PSD programs, this permitting process for new and modified sources is called "new source review" (NSR), but, once again, the goals and standards in each program are different. In nonattainment areas, the source must obtain sufficient emission reductions from existing sources to offset a new or modified source's increased emissions,[12] and must install pollution controls that achieve the Lowest Achievable Emission Rate (LAER) for that source.[13] In PSD areas, the source must limit net emission increases to levels that will not exceed applicable PSD increments,[14] and must install pollution controls that are the Best Available Control Technology (BACT) for that source.[15]

In addition to NSR, the Act allows both nonattainment and PSD areas to conduct periodic emission inventories and air quality assessments. The reviewing authority for a nonattainment area may conduct a "periodic"

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[9] CAA § 169(4), 42 U.S.C. § 7479(4). See also footnote 2 above.
[10] To be subject to this permitting requirement, sources have to be "major," which means they emit or will emit more than a certain amount of a pollutant as defined by the Act. See, e.g., CAA § 169(1), 42 U.S.C. § 7479(1).
[11] *See*, e.g., CAA § 169(3), 42 U.S.C. § 7479(3).
[12] CAA § 173(c), 42 U.S.C. § 7503(c).
[13] CAA §§ 171(3) & 172(c)(5), 42 U.S.C. §§ 7501(3) & 7502(c)(5).
[14] Some PSD increments and alternative increments are defined by statute, CAA §§ 163(b) and165(d)(C)(iv) & (d)(D)(iii), 42 U.S.C. §§ 7473(b) and 7475(d)(C)(iv) & (d)(D)(iii), while other increments are defined by rule pursuant to CAA § 166(a) & (f), 42 U.S.C. § 7476(a) & (f).
[15] CAA §§ 165(a)(4) & 169(3), 42 U.S.C. §§ 7475(a)(4) & 7479(3).

inventory and assessment of "actual" emissions when that area fails to make adequate progress toward attaining compliance with the NAAQS.[16] The reviewing authority for a PSD area may conduct a "periodic review,"[17] such as the periodic review completed by NDDOH in 2005 that has been made a part of the docket in this rulemaking, that inventories current actual emissions[18] and other relevant factors and data to assess ongoing compliance with the PSD increments outside of NSR.

Finally, NAAQS and PSD standards have different scientific and legal foundations and purposes. The NAAQS are based on "criteria" documents that set forth scientific knowledge about the health and welfare effects of each regulated pollutant.[19] The primary NAAQS are then established to protect "public health" with an "adequate margin of safety."[20] And the secondary NAAQS are set to protect "public welfare from any known or anticipated adverse effects"[21] beyond the public health impacts the pollutant may cause. The PSD increments, in contrast, are not based on such "criteria" documents. The Class II increments established by Congress in 1977, for example, were all set in the original version of the bill at twenty-five percent (25%) of the NAAQS, and the Class III increments at fifty percent (50%) of the NAAQS, although the final version of the 1977 CAA Amendments increased two of the increments, the Class II and Class III sulfur dioxide (SO2) 3-hour standards, to more than twenty-five and fifty percent of the NAAQS (Class II was set at 512 micrograms per cubic meter, Class III at 700 micrograms).[22]

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[16] CAA § 172(c)(3), 42 U.S.C. § 7502(c)(3).
[17] 40 C.F.R. § 51.166(a)(4).
[18] A periodic review is unlikely to be necessary in PSD areas that assess compliance with PSD increments using allowable emissions, because in those areas compliance with the PSD increments is based on an assumption that all major sources are operating at their maximum permitted capacity 24 hours per day, 365 days per year. When permit-allowable emissions are modeled, the emissions inventory for that PSD area changes only when a new source begins operation, an existing source ceases operation, or an emission limit in a permit is changed.
[19] CAA § 109, 42 U.S.C. § 7409.
[20] CAA § 109(b)(1), 42 U.S.C. § 7409(b)(1).
[21] CAA § 109(b)(2), 42 U.S.C. § 7409(b)(2).
[22] *See* "A Summary of the Development of the Clean Air Act," § 2.2 Background of the PSD provisions of the CAA, p.8, which is Attachment G to NDDOH's 2005 PSD Periodic Review Findings and Report to EPA (ND 2005 PR Findings and Report). A discussion of how the Class I increments were arrived at is discussed there too.

B. Legislative Background and History

The Act's PSD provisions were, in fact, among the most hotly debated and contested parts of the 1977 CAA Amendments. For example, when the Senate was engaged in a critical debate in 1976 concerning whether to include the PSD provisions among the amendments to the Act, or to kill those amendments and convert the bill's PSD provisions into a Congressional study, the survival of the PSD provisions in the bill turned on whether states would have the final say over PSD Class I increment determinations.[23] And, at the end of the 1976 session, a conference committee agreement (which had resolved differences between House and Senate CAA-amendment bills) died because of a Senate filibuster prompted largely by the PSD provisions.[24]

When the 1977 Congress convened, the 1977 House version of the CAA-amendments, H.R. 6161, left out the PSD Class I increment variance provisions that were in the '76 bill altogether.[25] The 1977 Senate bill, in contrast, left in the Class I variances and procedure, and focused on air quality related values (AQRVs) in each national park when examining whether a Class I variance should be granted in any particular case. The Senate Report, issued two days before the House Report, stated that the purpose of Class I increments and AQRVs is "to provide additional protection for air quality in areas where the Federal Government has a special stewardship to protect the natural values of a national resource,"[26] but made clear that the AQRV determinations would have primacy in deliberations concerning the protection of Class I areas. The Class I increments were described as:

> *a flexible test* … for determining where *the burden of proof* lies and is an index of changes in air quality. *It is not the*

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[23] *See* Craig N. Oren, "The Protection of Parklands from Air Pollution: A Look at Current Policy," 13 Harv. Envt'l Law Rev. 313, 376-81 (1989). The analysis supporting this statement is quoted at length in the conclusion to "Legal Issues relating to PSD Baseline and Increment Consumption," North Dakota SO2 PSD Periodic Review Hearing Exhibit 2, pages 145-46, HR pages 154-55.

[24] ND 2005 PR Findings and Report, Attach. G, p.7; H.R. Rep. No. 1742, 94th Cong., 2d Sess. (1976), reprinted in 5 Lib. of Cong., "A Legislative History of the Clean Air Act Amendments of 1977" 4287 (1978); "Congress Adjourns After Delays; Clean Air Bill Dies in Filibuster," N.Y. Times, Oct. 2, 1976, p. 7, col. 1.

[25] *See* "The PSD Variance Issue In North Dakota," ND 2005 PR Findings and Report, Attach. H, p. 23; P.L. 95-95, Clean Air Act Amendments of 1977, H.REP. 95-294, 95th Cong. 1st Session, (May 12, 1977), at pages 158-59. *See also* the discussion of other differences in the House Bill discussed in footnote 132 of Attach. H.

[26] S. Rep. 95-127, 95th Cong. 1st Session, at 34 (May 10, 1977).

> *final determinant for approval or disapproval of the permit application.*[27] (Emphasis added.)

The Senate Report also described the purpose of the AQRVs:

> [T]he term "*air quality related values"* of Federal lands designated as Class I areas includes *the fundamental purposes for which such lands have been established and preserved* by the Congress and the responsible Federal Agency. For example, under the 1916 Organic Act to establish the National Park Service (16 U.S.C. section 1), the purpose of such national park lands "is to conserve the scenery and the natural historic objects and the wildlife therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations."[28] (Emphasis added.)

A 1977 Senate-House Conference Committee reached agreement on the final language enacted as Clean Air Act §§ 165(d)(2)(C) & (D)—the PSD Class I variance provisions. Although the Committee did not write a legislative report, the language it adopted contained the following compromises:

- States retained their vital role described in the 1976 Senate floor debate, because each state's governor retains an ability to disagree, and even trump, a federal land manager (FLM) decision, subject to, essentially, a presidential veto;[29]
- The 1977 House version of the law, H.R. 6161 (which took out all Class I variances altogether), was rejected;
- The 1977 Senate version of the bill was adopted that (1) focused on AQRVs rather than the Class I increment as the ultimate test, and that (2) allowed three different forms of variances to the Class I increments that are to be considered on a case-by-case basis;[30]

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[27] Id., at 35.
[28] Id., at 36.
[29] CAA § 165(d)(2)(D)(I & ii), 42 U.S.C. § 7475(d)(2)(D)(i & ii); see also footnotes 128-130 above and accompanying text.
[30] CAA § 165(d)(2)(C), 42 U.S.C. § 7475(d)(2)(C); *see also* ND 2005 PR Findings and Report, Attach. H, footnotes 131-134 and accompanying text.

- Congress set alternate Class I increments for FLM certifications of no adverse impact,[31] and a second set of alternate Class I increments for either a governor's or a presidential variance;[32]and
- Even though the House's version of the bill (taking out Class I variances altogether) was not adopted, the House version of the bill was the reason the final version of the bill altered the size at which national parks become mandatory Class I areas (making them smaller so more national parks and wilderness areas qualified),[33] as well as requiring the AQRV test to apply "[i]n any case."[34]

Congress, in sum, rejected the House version that would not have contained any Class I variances. Instead, it enacted a modified version of the Senate bill that allowed FLMs to issue certifications of no adverse impact, and that allowed the permitting authority to issue variances, to the Class I increments,[35] that set alternate increments as a second "ceiling" that may not be exceeded,[36] and that made AQRVs the underlying concern when considering the possible impacts of a proposed new source on a mandatory Class I area.[37] In this final enacted version, Congress established a process that:

- requires notice to the FLM in "any case" that may impact a Class I area;[38]
- gives the FLM first say in whether to allow a Class I variance;[39]

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[31] CAA § 165(d)(2)(C)(iv), 42 U.S.C. § 7475(d)(2)(C)(iv).
[32] CAA § 165(d)(2)(D)(iii), 42 U.S.C. § 7475(d)(2)(D)(iii).
[33] *See* ND 2005 PR Findings and Report, Attach. H, footnote 131.
[34] CAA § 165(d)(2)(C)(i), 42 U.S.C. § 7475(d)(2)(C)(i).
[35] 42 U.S.C. § 7475(d)(2)(C) & (D).
[36] *See* ND 2005 PR Findings and Report, Attach. H, footnotes 105-112 and accompanying text.
[37] Professor Oren reaches the same conclusion, although he discusses primarily the 1976 Senate version of the proposed amendments, *i.e.*, "[t]he legislative history … suggests that its sponsors intended the states to have the final say on whether a source could locate even if the increments would be exceeded." Oren, 13 Harv. Envt'l Law Rev. at 380. There are no agency opinions and no federal cases interpreting these provisions other than those discussed in ND 2005 PR Findings and Report, Attach. H, footnotes 73-112 and accompanying text relating to the PSD FLM variances in North Dakota, thus making this an issue that primarily affects North Dakota at this time.
[38] CAA § 165(d)(2)(C)(i), 42 U.S.C. § 7475(d)(2)(C)(i).
[39] CAA § 165(d)(2)(C)(ii & iii), 42 U.S.C. § 7475(d)(2)(C)(ii & iii). But under these provisions, the state, not the FLM, is the permitting authority who makes the permitting decision.

- gives the state's governor authority to allow a Class I variance if he disagrees with the FLM's decision;[40] and
- gives the president final say if the state and the FLM cannot then agree on whether a variance is appropriate.[41]

The above statutory and legislative background will be referred to and used by NDDOH in making its comments below.

C. NDDOH Experience and Background with PSD

Several factors have contributed to make North Dakota among the first to address several PSD modeling and compliance issues, including issues raised in this rulemaking. This section briefly outlines factors and history that NDDOH draws on in making these comments.

Air quality was the first factor that made North Dakota one of the first states to address several PSD modeling and compliance issues. North Dakota's air quality is generally much better than the NAAQS.[42] North Dakota is one of only a handful of states currently in compliance with all of the NAAQS,[43] and is one of only six states that have never had a violation of any of the NAAQS since the CAA was enacted in 1970.[44] Thus, the first reason North Dakota became one of the first states to address several PSD-NSR modeling issues is an obvious one: NDDOH's extensive experience with PSD issues occurred because the whole state is and always has been a PSD area, rather than a nonattainment area, so all permit reviews conducted by NDDOH have been PSD-NSR reviews rather than nonattainment NSR reviews.

Timing and location are the second and third factors that made North Dakota one of the first states to address several PSD modeling and compliance issues. During the 1970's, North Dakota experienced an unprecedented energy development boom triggered in part by the mid-East

[40] CAA § 165(d)(2)(D)(i), 42 U.S.C. § 7475(d)(2)(D)(i).
[41] CAA § 165(d)(2)(D)(ii), 42 U.S.C. § 7475(d)(2)(D)(ii).
[42] *See* "Monitored Air Quality in North Dakota," 2005 PR Findings and Report, Attach. F.
[43] EPA website, EPA Green Book, at http://www.epa.gov/oar/oaqps/greenbk/multipol.html.
[44] EPA website, EPA Green Book, at http://www.epa.gov/oar/oaqps/greenbk/anay.html.

oil crisis. The PSD statutes and rules were being enacted and implemented during this same time period. So North Dakota became one of the first, if not the first, to address PSD increment and modeling issues because it was permitting several major sources under PSD-NSR during the same period those laws were developing through legislation and litigation in the late 1970's and early 1980's.[45]

In addition, the major sources constructed or being permitted in the late-1970's were located more than 50 kilometers from the Class I areas in North Dakota. This raised long-range modeling issues. Thus, in early 1978, shortly after Congress enacted the PSD provisions of the Act, NDDOH became one of the first, if not the first, to assess Class I increment consumption by using long-range computer modeling (i.e., modeling air quality impacts beyond 50 kilometers from a source).[46] During this same time period, NDDOH was among the first, if not the first, to use emission offsets,[47] and to address impacts from multiple minor point sources—flared oil wells—that could not be adequately modeled with computer technologies available at that time.[48]

The consumption of available Class I increments became the fourth factor that made North Dakota address another PSD modeling and compliance issue seldom addressed in other PSD areas—FLM Class I variances under CAA § 165(d)(2)(C).

As discussed by Myron Uman, a long-time senior staff officer with the National Academy of Sciences, when he expalined in a 1982 article why he chose North Dakota as the case that represents the process for implementing the PSD provisions of the Act:

> "[North Dakota's] case involves most of the difficult problems likely to be encountered in a mature PSD program: Stringent limits on emissions have been required; new technology has

[45] "Recommendation of the Hearing Officer to the State Health Officer of Proposed Findings and Determination," 2005 PR Findings and Report, Section 5.0, pp. 3-5 (August 29, 2005).
[46] The PSD provisions of the CAA were signed into law on August 7, 1977. See Docket Entry 25, 2005 NDDOH Periodic Review Proceedings, pages 2665-2802, "Air Quality Effects Analysis for Antelope Valley Station Units 1 & 2" (January 13, 1978); Myron F. Uman, Ph.D., "A Case History of the North Dakota PSD Program," Environ. Sci. Technol., Vol. 16, No. 7, p. 388A (1982). Uman's article is Exhibit 126 of North Dakota's Periodic Review Record.
[47] Uman, *id.* at 388A-389A.
[48] Uman, *id.* at 389A.

been employed to meet these standards; the air quality has deteriorated enough to use up the Class I increment for the 24-h maximum concentration of SO2; an offset has been used; the state encourages construction of a certain type of facility; and some major emitting facilities are relatively far from Class I areas, so long-range modeling must be employed. North Dakota is among the first states to be faced with carrying out those parts of the PSD program that come into play when increments are consumed."[49]

In the early 1980's, North Dakota had to address AQRV and Class I variance issues under CAA § 165(d)(2)(C) because the increments had been consumed and numerous applications for permits to construct had been filed with NDDOH.[50] The FLM took two important steps to move the permit review process forward under CAA § 165(d)(2)(C): (1) the FLM developed the procedure for the variance process and published it in the federal register at 47 Fed. Reg. 30,226 (July 12, 1982); and (2) the FLM initiated an assessment of potential adverse impacts that included: a field evaluation of whether impacts were occurring to the most sensitive species in the Class I areas; consideration of the effect of tying in minor source oil wells flaring "sour" (i.e., high hydrogen sulfide) natural gas to the gas processing plants seeking a permit to construct; a study identifying sensitive species by a University of Minnesota scientist who had done a similar study for Voyageurs National Park; and the establishment of plots to monitor air quality impacts on sensitive lichen species and a sensitive species of aspen.[51] The FLM's field evaluation of sensitive species occurred in 1982, the year when the highest monitored concentrations of SO2 ever recorded in the North Unit of Theodore Roosevelt National Park were happening.[52] An additional joint study was conducted through the

[49] Uman, *id.* at 386A.
[50] This history is laid out in detail in "The PSD Variance Issue In North Dakota," ND 2005 PR Findings and Report, Attach. H, pp. 9-20.
[51] David Harmon, *AT THE OPEN MARGIN: The NPS's Administration of Theodore Roosevelt National Park* (Theodore Roosevelt Nature and History Association 1986), Chapter 6, paragraphs preceding and following footnotes 10 and 37, online book available at http://www.nps.gov/archive/thro/adhi/adhi.htm.
[52] "The PSD Variance Issue in North Dakota," ND 2005 PR Findings and Report, Attach. H, p. 13. There was no way the FLM could know this for sure at the time, but in the first certification of no adverse impact, the FLM predicted that tying in the oil wells that were being flared would improve the air quality significantly, 47 Fed. Reg. 41,480, 41,483 (September 20, 1982), and, as the graph on page 13 of "The PSD Variance Issue in North Dakota" shows, monitored concentrations of SO2 in the North Unit dropped considerably after the gas processing plants began operating.

University of Montana under the air quality trust fund, with oversight by Dickinson State University, the Superintendent of Theodore Roosevelt National Park, the North Dakota Petroleum Council, and the North Dakota Department of Health. It began in 1982 with extensive field studies of sensitive species. When completed in 1990, the conclusion reached by the joint study was that there were no statistically significant, identifiable impacts from ambient SO2 on sensitive species in either Class I or surrounding areas.[53]

In September 1982, the FLM issued the first certification of no adverse impact (a/k/a FLM Class I variance) granted under the CAA to the Little Knife Gas Plant in western North Dakota.[54] But the FLM limited the certification of no adverse impact to predicted SO2 concentration levels that had been studied and considered – i.e., "[t]he predicted concentrations (modeled estimates plus monitored concentrations)."[55] "This certification specifically does not apply to any higher concentrations, such as the alternate concentrations set forth in Section 165(d)(2)(C)(iv) of the Clean Air Act."[56]

An additional certification of no adverse impact for the proposed Northern Gas Products Company, a natural gas processing facility, was made in September 1984,[57] but this facility was never constructed.[58] The FLM certifications of no adverse impact were extended in February 1985 for two facilities (the proposed major modification to add AVS Unit 3 to the Antelope Valley Power plant and to build the Nokota Methanol plant).[59] However, these facilities were also never constructed.[60]

In March 1993, the Great Plains Synfuels Plant (now known as Dakota Gasification Company or DGC) received a certification of no

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[53] David E. Bilderback (University of Montana) "Final Report: The Effects of Air Contaminants on the Vegetation of Theodore Roosevelt National Park and Adjoining Areas," (1990) 2005 ND Periodic Review Docket Entry 137, page 12,115 (99 pages).
[54] 47 Fed. Reg. at 41,482.
[55] 47 Fed. Reg. at 41,483.
[56] Id.
[57] 49 Fed. Reg. 38,197 (September 27, 1984).
[58] "A Review of the Historical Application of Prevention of Significant Deterioration in North Dakota," Table 4, document page 29, HR page 712.
[59] 50 Fed. Reg. 7,658 ((February 25, 1985).
[60] "A Review of the Historical Application of Prevention of Significant Deterioration in North Dakota," Table 4, document page 29, HR page 712.

adverse impact for a major modification to the DGC facility (installation of a scrubber to remove 93 percent of the sulfur emissions).[61] The preliminary determination of no adverse impact had noted that a facility granted a certification of no adverse impact must comply with the alternate Class I increment rather than the Class I increment that applies without a variance.[62] With the exception of a processing plant in South Carolina that was never constructed, these North Dakota facilities are the only FLM-CAA § 165(d)(2)(C) certifications that have been granted under the Act.[63] Little Knife and DGC remain the only facilities currently operating under CAA § 165(d)(2)(C) variances.

The final factor that has made North Dakota among the first to address several PSD modeling and compliance issues is the PSD periodic review NDDOH completed in 2005, the record of which has been made a part of the docket for this rulemaking. Since the issues addressed in the periodic review NDDOH completed in 2005 overlap significantly with the issues addressed in this rulemaking, NDDOH discusses that proceeding in its comments below.

II. Comments

A. Introduction

For the reasons discussed below, NDDOH believes that the PSD rule amendments in this rulemaking are not new, but merely clarify already existing options for tracking increment consumption in the CAA and long-standing PSD rules. But clarifying these options will allow other states the option of using these available tools for modeling and tracking PSD compliance and increment consumption without having to do the enormous amount of work, and lay the detailed legal and technical justification for each step, that was involved in conducting NDDOH's periodic review.

NDDOH is submitting its comments in three separate documents. This letter summarizes important background, and comments on legal and

[61] 58 Fed. Reg. 13,639 (March 12, 1993).
[62] Preliminary Certification of No Adverse Impact under CAA § 165(d)(2)(C)(iii), 57 Fed. Reg. 52,788, 52,789 (November 5, 1992).
[63] *See* Oren, 13 Harv. Envt'l L. Rev. at 372, n. 258, for certifications made through 1989. DGC is the only additional FLM variance granted since 1989.

policy aspects of this rulemaking. A second document, "Comments on EPA'S Proposed Rule Revisions," quotes specific technical statements in the preamble, and suggests ways of clarifying or addressing issues they raise. A third document, "Responses to Recurring Issues Related to North Dakota's Computer Modeling of Sulfur Dioxide in CAA PSD Class I Areas," addresses recurring issues that were raised in NDDOH's periodic review and afterwards that may be raised again in this rulemaking. One of the purposes of all of these comments is to provide a roadmap to issues NDDOH considered in its periodic review that may be raised again in this rulemaking.

NDDOH approves of the flexibility and the best professional judgment standard that is incorporated into these rule changes. Establishing accurate emission inventories, and conducting accurate modeling assessments based on those inventories, raises site-specific, record-specific, and facility-specific issues that can only be decided by exercising judgment on numerous technical and fact-specific questions. The rulemaking establishes best professional judgment standards that will allow states to make the technical, fact-specific determinations that scientists, engineers and administrators must make in conducting PSD modeling assessments, such as determining what available weather data to use for an area or region to get the most accurate dispersion of the emission plume, or what model settings most accurately correspond with weather data, terrain, and other factors to capture plume dispersion. This rulemaking clarifies the standards, as well as options that may be considered, in exercising administrative judgment and making the fact-and-site-specific technical judgments and determinations that must be made both in modeling and in administering the PSD program. NDDOH supports these clarifications and changes for the reasons already discussed, as well as for the reasons set forth in more detail below.

B. Comments on Section II of Preamble: EPA's Background Discussion

NDDOH generally agrees with the background discussion in Section II of the preamble. But the background section of the preamble doesn't adequately discuss why the 1980 PSD rules adopted an approach that preferred the use of actual emissions, rather than allowable or potential emissions, to track PSD increment consumption. Since this is an issue that

was important in North Dakota's periodic review, and that likely will be raised by others in this rulemaking, NDDOH adds these background comments on why "actual emissions" were added to the PSD rules as the preferred method to track increment consumption and PSD compliance.

In the appeal of the 1978 PSD rules[64] implementing the 1977 PSD amendments[65] to the Clean Air Act, the D.C. Circuit's preliminary June 1979 opinion[66] interpreted the meaning of "modification" in CAA § 111(a)(4) as changes to a source's "potential to emit."[67] The proposed PSD rule amendments EPA initially made in September 1979[68] after the preliminary Alabama Power I opinion adopted this approach, but the D.C. Circuit's final December 1979 Alabama Power II opinion[69] construed the meaning of the word "modification" as involving changes to a source's actual emissions rather than its "potential to emit."[70]

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[64] 43 Fed. Reg. 26,380, 26,403-410 (June 19, 1978).

[65] Clean Air Act (CAA) Subchapter I, Part C, Subpart I, §§ 160-169, 42 U.S.C. §§ 7470-7479.

[66] Alabama Power Co. v. Costle, 606 F.2d 1068 (D.C. Cir. 1979) superseded on rehearing, 636 F.2d 323 (D.C. Cir. 1979), hereafter "Alabama Power I."

[67] Id. at 1081.

[68] 44 Fed. Reg. 51,924, 51,947-959 (September 5, 1979). A discussion of the changes made to the definition of "potential to emit" is in the preamble, id. at 51,929-930, and the changed rule definition is at id., 51,956.

[69] Alabama Power Co. v. Costle, 636 F.2d 323 (D.C. Cir. 1979), hereafter "Alabama Power II." The preamble to the final 1980 PSD rule amendments contains a detailed summary of the procedural history of Alabama Power I, Alabama Power II, and associated rulings in its "Background" section. 45 Fed. Reg. 62,675, 52,679-680 (August 7, 1980).

[70] Compare Alabama Power I's discussion of "Modification" and "Restriction on Offset" in terms of "potential to emit," 606 F.2d at 1081-82, to Alabama Power II's discussion of "EPA's Regulatory Definition of 'Modification'" and "EPA's Qualified Application of the 'Bubble' Concept of PSD," 636 F.2d at 399-403. Alabama Power II substitutes an "increase[d] pollution" concept for a "potential to emit" concept in defining when an existing baseline source triggers major modification review. Two paragraphs in Alabama Power II explain the Court's reasoning for doing this:

> Implementation of the statute's definition of "modification" will undoubtedly prove inconvenient and costly to affected industries; but the clear language of the statute unavoidably imposes these costs except for de minimis increases. The statutory scheme intends to "grandfather" existing industries; but the provisions concerning modifications indicate that this is not to constitute a perpetual immunity from all standards under the PSD program. If these plants *increase pollution*, they will generally need a permit. Exceptions to this rule will occur when the increases are de minimis, and when the increases are offset by contemporaneous decreases of pollutants, as we discuss below. These two exceptions, we believe, will allow for improvement of plants, technological changes, and replacement of depreciated capital stock, without imposing a completely disabling administrative and regulatory burden.

Id. at 400 (emphasis added).

Following the D.C. Circuit's "lead,"[71] EPA, in its post Alabama Power II PSD rule amendments, changed from a "potential to emit" method of establishing "baseline concentration" and tracking "increment consumption" to an "actual emissions" method of establishing a "baseline concentration"[72] and tracking "increment consumption."[73] EPA cited the above changes in language in the Alabama Power II opinion as the reason it adopted an "actual emissions" approach to its final rules.[74] EPA therefore promulgated a definition of "actual emissions" in its 1980 PSD rules,[75] and included detailed explanations and examples in the 1980 PSD rules preamble about how to apply its "actual emissions" approach to "netting" emissions,[76] to assembling an inventory of "actual emissions" from each baseline source to establish a "baseline concentration,"[77] and to tracking "increment consumption" using "actual emissions" data.[78]

Another section of Alabama Power II implicitly requires that both EPA and states use "actual emissions," rather than "potential to emit," in tracking

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> Congress wished to apply the permit process, then, only where industrial changes might *increase pollution* in an area, not where an existing plant changed its operations in ways that produced no pollution increase. It is true that Congress intended to generate technological improvement in pollution control, but this approach focused upon "rapid adoption of improvements in technology as new sources are built," not as old ones were changed without pollution increase. The interpretation of "modification" as requiring a net increase is thus consistent with the purpose of the Act; while the other interpretation is not. The EPA has properly exempted from best available control technology (BACT) and ambient air quality review those "modifications" of a source that do not produce a net increase in any pollutant. Within the terminology of the Act, of course, industrial changes meeting this standard are not "modifications" at all.

Id. at 401 (emphasis added, footnotes omitted).

[71] 45 Fed. Reg. at 52,700.
[72] Id. at 52,713-717.
[73] Id. at 52,717-722.
[74] Id. at 52,700.
[75] Id. at 52,732 (40 C.F.R. § 51.24(21)(later re-codified and re-numbered)) and at 52,737 (40 C.F.R. § 52.21(21)). Previous proposed or finalized versions of the PSD rules did not include any definition of "actual emissions." See, e.g., 44 Fed. Reg. at 51,947-959; 43 Fed. Reg. at 26,403-410; 42 Fed. Reg. 57,479, 57,483-488 (November 3, 1977); 39 Fed. Reg. 42,510, 42,514-517 (December 5, 1974); 39 Fed. Reg. 31,000, 31,007-009 (August 27, 1974); and 38 Fed. Reg. 18,986, 18,995-19,000 (July 16, 1973).
[76] 45 Fed. Reg. at 52,699-705.
[77] 45 Fed. Reg. at 52,714-715.
[78] 45 Fed. Reg. at 52,717-719 and "Example of How the Definitions Work" at 52,704-705.

"increment consumption" status under the PSD program. This part of Alabama Power II discusses whether the status of PSD increment consumption needs to be tracked by the permitting authority only in "the preconstruction permit process," or whether the permitting authority must track PSD increment status outside "the preconstruction process" and adopt "enforcement measures" that go "beyond preconstruction review."[79] On this issue, Alabama Power II held that "measures under the Act include more than the pre-construction process."[80] As noted below, Alabama Power II's determination that PSD increment status must be tracked outside of NSR preconstruction review caused EPA to add "periodic review" to the PSD rules.

In order to keep track of these changes in increment consumption outside of preconstruction review, EPA adopted an "actual emissions policy"[81] for tracking increment consumption in the 1980 PSD rules, instead of relying primarily on the "allowable" emissions[82] approach that it had used in the 1978 PSD rules that were considered in the Alabama Power rule-appeal.

To implement this policy, EPA promulgated a "periodic review" requirement for tracking emissions in PSD areas similar to the tracking requirements for NAAQS nonattainment plans required by the 1977 CAA amendments. The nonattainment periodic review in the '77 amendments included a requirement for an inventory of "actual emissions" of the pollutant causing the violation of the NAAQS:

> Such plan provisions shall include a comprehensive, accurate, current inventory of *actual emissions* from all sources of the relevant pollutant or pollutants in such area, including such *periodic revisions* as the Administrator may

[79] Alabama Power II, 636 F.2d at 361-364 (section entitled "Protection of the Increments").
[80] Id. at 363.
[81] 45 Fed. Reg. at 52,714.
[82] 43 Fed. Reg. at 26,400 ("The degree of [increment] consumption is in general determined on the basis of approved allowable emissions.").

> determine necessary to assure that the requirements of this part are met.[83]

The 1980 PSD rules mirror the above nonattainment "actual emissions" tracking requirements by adding a requirement for "periodic review"[84] similar to the "periodic revision" tracking required in the nonattainment plan. PSD "periodic review" creates an emissions tracking process under which an actual emissions inventory is established for each baseline source after the minor source baseline date.[85] Then periodic assessments are conducted to determine whether actual emissions of the relevant pollutant are increasing or decreasing over the initial baseline emissions inventory, and, if emissions are increasing, whether the increase in actual emissions violates the relevant PSD increment.[86]

Tracking "actual emissions" under the Clean Air Act, however, did not begin with the 1977 CAA amendments, but with CAA § 110 of the 1970 CAA amendments which required each SIP to include "requirements for installation of equipment by owners or operators of stationary sources to monitor *emissions* from such sources," and to submit "periodic reports on the nature and amounts of such *emissions*."[87] Thus, tracking actual emissions did not begin with the 1980 PSD rules, but was part of the Act from the beginning. Tracking emissions is, consequently, primarily a matter

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[83] CAA § 172(c)(3), 42 U.S.C. § 7502(c)(3) (emphasis added). This use of the phrase "actual emissions" in the 1977 CAA amendments is the first time the phrase "actual emissions" appears in the Act. This statement is based on a computer search of successive versions of the CAA. The phrase "actual emissions" also appears in historical and statutory notes relating to 1977 CAA amendments at CAA § 312, 42 U.S.C. § 7612. The 1990 amendments to the Clean Air Act use the phrase "actual emissions" seven times. See 42 U.S.C. § 7412 (three places); 42 U.S.C. § 7503 (one place); 42 U.S.C. § 7511a (two places); 42 U.S.C. § 7512a (one place); 42 U.S.C. § 7525 (one place); 42 U.S.C. § 7627 (one place); and 42 U.S.C. § 7651d (two places). (Citations to CAA sections and internal subsection citations omitted to shorten footnote.)

[84] 40 C.F.R. § 51.166(a)(4).

[85] The process for establishing the actual emissions baseline inventory is described under the "Baseline Concentration" section of the PSD rules preamble, 45 Fed. Reg. at 52,714.

[86] The process is similar to the example in the 1980 PSD rules preamble, 45 Fed. Reg. at 52,704-705, except the emissions inventory and review are triggered by a periodic assessment, rather than a New Source Review permit application. North Dakota's recently completed "periodic review" for sulfur dioxide is an example of how this works. *See* http://www.health.state.nd.us/AQ/Notices.htm.

[87] Clean Air Act Amendments of 1970, Pub. L. No. 91-604, 84 Stat. 1676, 1681, CAA § 110(a)(2)(F)(ii & iii) (emphasis added). This language, as amended, is now at CAA § 110(a)(2)(F)(i & ii), 42 U.S.C. § 7410(a)(2)(F)(i & ii).

of using already available emissions data from other programs. Since the tracking of emissions through continuous emission monitoring systems (CEMS) data has became available under the Act, this has become even more true than when emissions inventories were not as detailed and sophisticated.

The discussion of the "Netting of Actual Emissions" in the preamble to the 1980 PSD rules also describes why "actual" emissions rather than "potential" emissions were used to track air quality deterioration impacts from baseline sources in both NSR and periodic review—the "paper offset" problem.[88]

> There are problems with using a baseline for netting that is based on the existing source's "potential to emit." A computation of an existing source's potential emissions could give a figure considerably higher than what it is actually emitting. This would be especially true if the source operated only a small part of the time or used considerably cleaner fuels than it is allowed to burn. Such an approach would therefore create a 'paper offset' that could permit actual air quality to deteriorate seriously, while the change which increased actual emissions avoided NSR. Similar problems would arise if offsets were based on allowable emissions, as recommended by most commenters.[89]

Later in the 1980 PSD rules preamble, in the context of discussing increment consumption, the "paper offset" issue is described in more succinct language: "[S]ource emissions allowed under permits and SIP provisions in many cases are higher than actual source emissions. Sources could therefore increase their emissions without being subject to PSD review or the SIP revision process."[90]

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[88] 45 Fed. Reg. at 52,700.
[89] Id.
[90] Id. at 52,718.

The basic idea behind PSD is quite simple. A "baseline concentration"[91] level is established for listed pollutants[92] in each "clean air" region or area that meets the NAAQS[93] on the baseline date, and air quality deterioration is measured from that original baseline. The definition of "baseline concentration" in the Act requires that the baseline level be based on actual ambient air quality on the baseline date: "The term 'baseline concentration' means, with respect to a pollutant, the ambient concentration levels which exist at the time of the first application for a permit in an area subject to this part, based on air quality data available in the Environmental Protection Agency or a state air pollution control agency and on such monitoring data as the permit applicant is required to submit."[94] "[P]rojected emissions" can be taken into account in the baseline concentration only from sources that were permitted on or before January 6, 1975, but which had not yet begun operation on the baseline date.[95] Thus, the baseline concentration from which air quality deterioration is measured is based primarily on ambient air quality on the baseline date, and the actual emissions impacting air quality at that time. It is not measured under CAA § 169(4) from a worst case scenario of all baseline sources emitting at their maximum permit allowable rates—which is the scenario that the "paper offset" problem describes.

The use of "actual emissions" addresses a second related problem with presuming "allowable emissions" equal "actual emissions" that was noted in the preamble to the 1980 rules—the "Gulf Coast problem," which has two aspects: (1) existing sources can "increase their emissions without being subject to PSD review or the SIP revision process" provided that their emissions remain below permit allowable levels; and (2) "increment violations" are "inappropriately predicted" in circumstances where actual

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[91] CAA § 169(4), 42 U.S.C. § 7479(4).

[92] Congress itself established the permissible increments of deterioration for sulfur dioxide and particulate matter, CAA § 163(b), 42 U.S.C. § 7473(b), and required EPA to establish permissible increments of deterioration for hydrocarbons, carbon monoxide, photochemical oxidants, and nitrogen oxides. CAA § 166, 42 U.S.C. § 7476. Congress also provided for alternative increments for sulfur dioxide in Class I areas where a determination is made of "no adverse impact," CAA § 165(d)(2)(C)(iii), 42 U.S.C. § 7475(d)(2)(C)(iii), or, in the alternative, to deny a construction permit if an adverse impact exists, even if no Class I increment is violated. CAA § 165(d)(2)(C)(ii), 42 U.S.C. § 7475(d)(2)(C)(ii). In addition, a PM-10 increment has been substituted for the original particulate matter increment as provided in CAA § 166(f), 42 U.S.C. § 7476(f).

[93] CAA § 161, 42 U.S.C. § 7471; CAA § 107(b); 42 U.S.C. § 7407(b).

[94] CAA § 169(4), 42 U.S.C. § 7479(4).

[95] Id.

emissions are considerably below permit allowable levels.[96] The Gulf Coast problem arises when permit-allowable emissions greatly exceed actual emissions, causing modeling to show "a theoretical increment violation in a clean area unrelated to actual air quality impact."[97]

NDDOH's PSD periodic review completed in 2005 revealed both a paper offset and a Gulf Coast problem. The review indicated, for example, that current actual emissions for SO2 were 140,905 tons per year in 2003, while allowable or permitted emissions of SO2 were 275,807 tons per year. Although early draft modeling using allowable emissions showed concentrations much higher than monitored concentrations, use of actual emissions in the PSD modeling done for the periodic review resulted in model-predicted 24-hour SO2 concentrations much closer to—but still higher than—the monitored concentrations in the Class I areas. In addition, the use of allowable emissions would have allowed baseline sources to emit up to their maximum permit allowable limits without consuming any PSD increment or being subject to PSD review.

But when NDDOH established an actual emissions baseline for each source, and used actual emissions to track increment consumption, this paper offset problem was avoided. When maximum allowable emissions are used to determine increment consumption, only non-baseline sources consume increment because the baseline sources are presumed to have been operating at their maximum capacity during the baseline period. This means their emissions never increase for purposes of periodic review unless their maximum permitted emission rate is increased. But when actual average-rate emissions are used, all sources—not just non-baseline sources—become potential increment consumers when their actual emissions, rather than their maximum allowable emissions, increase. The baseline sources become increment consumers when their current actual emissions are higher than their actual emissions during the baseline period. And, by definition, non-baseline sources consume increment because none of their emissions are part of the original baseline concentration, so all of their emissions are increment consuming. In less abstract terms, what this

[96] Preamble to 1980 PSD rules, 45 Fed. Reg. at 52,718. "Gulf Coast" is the name of the case where this problem first was noted.

[97] Id., 45 Fed. Reg. at 52,681.

meant in North Dakota is that the old baseline sources with few or no pollution controls also became increment consumers when they emitted at rates that exceeded their rates during the baseline period. The other sources remained increment consumers too, but at levels that reflected their actual emission rates.

A common objection raised is that using actual emissions rather than allowable emissions will result in under-prediction of PSD increment consumption for the short-term increments such as the 24-hour SO2 standard. But the accuracy assessments that NDDOH conducted in its periodic review showed that the NDDOH's PSD modeling assessments—which used actual emissions—still predicted SO2 concentrations higher than monitored concentrations over those time periods.[98] The issue of whether using actual emissions will result in under-prediction of short-term PSD increments is a factual question that can be addressed, if raised, in PSD preconstruction and periodic review proceedings, just as they were raised and addressed in NDDOH's periodic review. This is consistent with the requirements of CAA § 165(e)(2), which requires that monitoring data be included as part of PSD air quality impact analyses:

> "Effective one year after August 7, 1977, the analysis required by this subsection shall include continuous air quality monitoring data gathered for purposes of determining whether emissions from such facility will exceed the maximum allowable increases or the maximum allowable concentration permitted under this part."[99]

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[98] *See* Martin R. Schock, "Responses to Recurring Issues Related to North Dakota's Computer Modeling of Sulfur Dioxide in CAA PSD Class I Areas," (August 3, 2007), Part 4, pp. 23-43, and Part 8.11, pp. 117-18, which is included and attached as part of these comments.

[99] CAA § 165(e)(2), 42 U.S.C. § 7475(e)(2). Alabama Power II is the only case ever to interpret the meaning of CAA § 165(e)(2), which requires that monitoring data must be included as part of the PSD air quality impacts analysis. This provides meaningful checks and balances to computer model outputs by holding them "to earth" with monitoring data that, for example, can be compared to model-predicted concentrations, and that makes possible such things as accuracy testing and other related comparisons:

> We discern from the statute [CAA § 165(e)(2)] a technology-forcing objective. Congress intended that monitoring would impose a certain discipline on the use of modeling techniques, which would be the principal device relied upon for the projection of the impact on air quality of emissions from a regulated source.

NDDOH completed an enormous amount of work to finish its technical review and make its final determination in its periodic review of SO2 impacts on North Dakota's Class I areas.[100] But the result is a process that more fairly and more accurately measures impacts and tracks increment consumption. The record of NDDOH's periodic review has been made a part of the docket for this rulemaking. We support and encourage the rule changes and clarifications in this rulemaking. These changes will facilitate the use of the methods and tools that this rulemaking clarifies.

C. Comments on Section IV Clarifying the Effect of the Draft New Source Review Manual

NDDOH supports the clarification of the status of the 1990 Draft New Source Review Manual. The preamble makes clear that the document is not a rule but a draft guidance document. This doesn't mean that it isn't a guidance tool that may be used to assist states and regions in making reasoned judgments about various aspects of NSR. But even though it is an important guidance document, just because the draft manual filled a regulatory void in the rulemaking, and became, to use a metaphor, "the only game in town" on some NSR issues,[101] doesn't make it a rule. On other issues—the use of maximum emissions to track increment consumption, for example—the manual is not consistent with the provisions of the CAA. The PSD rules, and the 1980 preamble explaining those rules, require the use of actual emissions—as defined by different options in the 1980 PSD rule, none of which include the maximum emission option in the 1990 draft manual—to track PSD increment compliance for the reasons discussed in section IIB above.

The CAA gives the United States Court of Appeals for the District of Columbia responsibility for "judicial review" of rulemaking and other "final action taken" by the EPA Administrator under the Act.[102] The D.C. Circuit has determined that "[o]nly 'legislative rules' have the force and effect of

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Alabama Power II, 636 F.2d at 372.

[100] *See* Martin R. Schock, "Responses to Recurring Issues Related to North Dakota's Computer Modeling of Sulfur Dioxide in CAA PSD Class I Areas," Summary, pp. vi-vii.
[101] The top-down review of technology options, for example.
[102] CAA § 307(b), 42 U.S.C. § 7607(b).

law" under the CAA.[103] "A 'legislative rule' is one the agency has duly promulgated in compliance with the procedures laid down in the statute or in the Administrative Procedure Act:[104]

> "Legislative, or substantive, regulations are 'issued by an agency pursuant to statutory authority and … implement the statute, … Such rules have the force and effect of law.' "
>
> "Likewise the promulgation of these regulations must conform with any procedural requirements imposed by Congress. For agency discretion is limited not only by substantive, statutory grants of authority, but also by the procedural requirements which 'assure fairness and mature consideration of rules of general application.'"[105]

In contrast, since the Administrative Procedure Act was enacted in 1946, it has been understood that "'general statements of policy' do not have the force and effect of law."[106] Such statements of policy advise the public of the agency's construction of the statutes and rules which it administers.[107] "General statements of policy are 'statements issued by an agency to advise the public prospectively of the manner in which the agency proposes to exercise a discretionary power.'"[108] A guideline or policy document is not a legislative rule that has the force and effect of law.

To have the force and effect of law, the CAA requires that any promulgated rule, or revision of an implementation plan, follow the requirements provided in CAA § 110(c) and the rulemaking process defined in CAA § 307(d):

(d) Rulemaking

(1) This subsection applies to –

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[103] Appalachian Power Company v. EPA, 208 F.3d 1015, 1020 (D.C. Cir. 2000), citing Chrysler Corp. v Brown, 441 U.S. 281, 302-03 & n. 31 (1979).

[104] Appalachian Power, 208 F.2d at 1020.

[105] Chrysler Corp., 441 U.S. at 302-03 (citations omitted).

[106] Id. at 302, n. 31.

[107] Id.

[108] Id.

> ….
> (J) promulgation or revision of regulations under part C of subchapter I of this chapter (relating to prevention of significant deterioration of air quality and protection of visibility), …

CAA § 307(d), 42 U.S.C. § 7607(d). *See also* CAA § 161, 42 U.S.C. § 7471, which requires:

> In accordance with the policy of section 7401(b)(1) of this title, each applicable implementation plan shall contain emission limitations and such other measures as may be necessary, as determined under regulations *promulgated* under this part, to prevent significant deterioration of air quality in each region (or portion thereof) designated pursuant to section 7407 of this title as attainment or unclassifiable. (Emphasis added.)

In sum, the 1990 Draft New Source Review Manual is a guidance document. It was never intended to be a rule, and didn't go through this promulgation process that PSD rules must go through to be a rule with the force and effect of law.

The Chevron Court summarized the general underlying rules of construction and interpretation that apply in reviewing an agency's construction of the statute it administers, when that construction has gone through the rulemaking process and procedure provided by law:

> When a court reviews an agency's construction of the statute which it administers, it is confronted with two questions. First, always, is the question whether Congress has directly spoken to the precise question at issue. If the intent of Congress is clear, that is the end of the matter; for the court, as well as the agency, must give effect to the unambiguously expressed intent of Congress. If, however, the court determines Congress has not directly addressed the precise question at issue, the court does not simply impose its own construction on the statute, as would be necessary in the absence of an administrative interpretation. Rather, if the statute is silent or ambiguous with respect to the specific issue, the question for the court is

> whether the agency's answer is based on a permissible construction of the statute.[109]

But Chevron deference does not apply to interpretations contained in agency letters, manuals (such as the 1990 Draft New Source Review Manual, which never even completed EPA's review process for manuals), memoranda, policy statements, and similar interpretations and guidance documents that are not promulgated as the Act requires rules to be promulgated:

> "Interpretations such as those in opinion letters—like interpretations contained in policy statements, agency manuals, and enforcement guidelines, all of which lack the force of law—do not warrant Chevron-style deference."[110]
>
> "Instead, interpretations contained in formats such as opinion letters are 'entitled to respect' ... but only to the extent that those interpretations have the 'power to persuade.'"[111]

In sum, agencies and courts do not face a choice between Chevron deference and no deference at all.[112] Administrative decisions that are not subject to Chevron deference may be entitled to a lesser degree of deference.[113] That is the degree of deference that should be given to the 1990 Draft New Source Review Manual. It is not a document that has the force and effect of law.

If EPA changes its mind based on comments received and does not recognize the 1990 Draft New Source Review Manual for what it is—a guidance document—then there are numerous other similar PSD guidance documents that EPA also must consider and determine whether they also are rules that should be given the force and effect of law, many of which are listed in NDDOH's technical comments attached to this letter. We ask that EPA not go down that path. The rule promulgation procedure allows states and regulated entities to know which regulatory documents are rules

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[109] Chevron U.S.A., Inc. v. Natural Res. Def. Council, Inc., 467 U.S. 837, 842-43 (1984)..
[110] Christensen v. Harris County, 529 U.S. 576, 587 (2000).
[111] Id.
[112] Id.
[113] United States v. Mead Corp., 533 U.S. 218, 234-35 (2001).

and which are guidance documents. Blurring the distinction creates confusion and ambiguity, and opens the door to unnecessary litigation.

D. Comments on Section V: Proposed Refinements to Increment Modeling Procedures

1. Comments on Preamble subsection VA1, what kinds of emissions consume or expand increment?

NDDOH supports the decision in the preamble to include minor sources in increment consumption and expansion analyses. But gathering the data, interpreting it, and making the technical judgments on how to model it, will likely involve differing technical and factual issues in each state and region. This is an example of why both the flexibility, and the best professional judgment standard, that is incorporated into these rule changes is the only kind of standard that can work. Complicated fact-and-site-specific technical judgments and determinations must be made both in modeling and in administering the PSD program. They can only be accommodated by a rule that allows flexibility and technical judgment.

2. Comments on Preamble subsection VA2, how to treat sources with FLM § 165 Class I variances?

NDDOH supports the approach in the preamble that will use the Class I increment for the purpose of establishing the burden of proof in the AQRV analysis[114]—in the rare circumstance under the CAA when a source applies for an FLM variance under CAA § 165(d)(2)(C). As noted in section IB above, the only two sources currently operating under CAA § 165(d)(2)(C) Class I variances are in North Dakota, and all but one of these variances granted under the Act have occurred in this state.

NDDOH also supports EPA's position and approach proposed in the preamble: (1) that will not require a SIP to be amended to offset the contribution of sources that have received a variance because they do not adversely affect AQRVs; (2) that excludes the emissions from sources receiving an FLM variance from the Class I increment consumption calculation; (3) that requires that the emissions of the variance source must

[114] 72 Fed. Reg. at 31,383.

continue to be considered for purposes of determining compliance with both the Class II increments (as well as the alternative Class I increments that apply to variance sources under CAA § 165(d)(2)(C)(iv)); but (4) that does not count the emissions from a variance source as applicable to compliance with the Class I increment assessment after a variance has been issued to that source.[115]

In addition, NDDOH agrees with the preamble that the Class I increments remain in effect with respect to the emissions of any source that has not been granted a Class I variance, that a non-variance source must continue to comply with the Class I increments, and that its emissions continue to count against the Class I increment.[116]

But NDDOH believes that CAA § 165(d)(2)(C)(iii) & (iv) are not ambiguous, and that the above requirements follow from the plain meaning of those provisions. NDDOH thus offers this analysis as an additional path to reach the same conclusions EPA reached in subsection VA2 of the preamble relating to how to treat emissions from a source that has been granted a § 165(d)(2)(C) Class I variance.

Section IB, pages 5-8, and section IC, pages 10-12, of these comments provide important background to the Class I variance provisions of § 165(d)(2)(C) and the history of the application of § 165(d)(2)(C) in North Dakota. "The PSD Variance Issue in North Dakota"[117] provides a more detailed account of this background and history. Those summaries and analyses are incorporated here by reference.

a. On its face, the Class I variance applies only to the "facility" to which it is given, and "such facility" is subject to "the following" alternative Class I increments listed in CAA § 165(d)(2)(C)(iv). This conclusion is reached under a straightforward Chevron I analysis.

[115] Id.
[116] Id. at 31,383-84.
[117] ND 2005 PR Findings and Report, Attachment H to North Dakota's SO2 PSD Air Quality Modeling Report, ND Periodic Review Docket Entry 158, docket pages 12,849-887 (August 18, 2005).

As noted in section IIC, at page 25, the first step in any Chevron analysis is to determine "whether Congress," through its enacted language, "has directly spoken to the precise question at issue," because "[i]f the intent of Congress is clear, that is the end of the matter."[118] When making this determination, the review is not limited "to examining a particular statutory provision in isolation":[119]

> The meaning—or ambiguity—of certain words or phrases may only become evident when placed in context. (Ambiguity is a creature not of definitional possibilities but of statutory context). It is a fundamental canon of statutory construction that the words of a statute must be read in their context and with a view to their place in the overall statutory scheme. A court must therefore interpret the statute as a symmetrical and coherent regulatory scheme, and fit, if possible, all parts into an harmonious whole. Similarly, the meaning of one statute may be affected by other Acts, particularly where Congress has spoken subsequently and more specifically to the topic at hand.[120]

When read in context, with a view to their place in the overall statutory scheme, the PSD provisions of the Act are not ambiguous about which PSD increments apply to an "area," and which PSD increments apply to a "facility" that has been given a variance.

The Class I, Class II, and Class III increments Congress established in CAA § 163(b) all apply to an "area."[121] In contrast, the alternative Class I increments Congress established in CAA § 165(d)(2)(C)(iv) do not apply to an "area," but to a "facility."[122] To understand the importance of this distinction, the words "area" and "facility" must be read in context, with a view to their place in the overall statutory scheme: i.e., what do each of these sections cover, and how do they fit together?

CAA § 163 (42 U.S.C. § 7473) consists primarily of the PSD increments that apply to each "area" that were established by Congress in

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[118] Chevron, 467 U.S. at 842-43.
[119] Food and Drug Admin. v. Brown & Williamson Tobacco Corp., 529 U.S. 120, 132 (2000).
[120] Id. at 132-33 (citations and quotation marks omitted).
[121] CAA § 163(b)(1)—Class I, (b)(2)—Class II, & (b)(3)—Class III, 42 U.S.C. § 7473(b)(1), (b)(2), & (b)(3).
[122] CAA § 165(d)(2)(C)(iv), 42 U.S.C. § 7475(d)(2)(C)(iv).

1977. How they were established is briefly summarized in section IA, page 4, above.

CAA § 165 (42 U.S.C. § 7475) consists of the preconstruction requirements and procedures that apply to new or modified major sources in PSD areas (rather than nonattainment areas)—i.e., to PSD-NSR (rather than nonattainment-NSR). The subdivision of CAA § 165 at issue here—(d)(2)(C)—is triggered when the projected "emissions from a proposed major emitting facility may cause or contribute to a change in the air quality"[123] that will consume remaining PSD increment and push projected ambient concentrations over that limit, i.e., when the projected emissions from the new "facility" will cause a violation of a Class I increment. As described in section IC, pages 10-12 above, this is what happened in North Dakota in the early 1980's when the available Class I increment was consumed, and numerous proposed facilities that would push concentrations over the Class I SO2 increments applied for permits to construct under CAA § 165(d)(2)(C), the FLM variance provision.

That, briefly, is what CAA §§ 163 and 165 cover. The next step is to examine how the relevant subsections and subdivisions of §§ 163 and 165 fit together, because, as Brown & Williamson notes, meaning arises out of "statutory context," not "definitional possibilities."[124] Thus the following roadmap shows how the relevant provisions fit together:[125]

- CAA § 163(b)(1), (b)(2), and (b)(3) establish the SO2 and "particulate matter" increments (in micrograms per cubic meter) for each Class I, Class II, and Class III "area."[126] The language of each of these subdivisions is identical, except for the class identification and the differences in amount (in micrograms per cubic meter) of each increment.

- CAA § 165(d)(2)(C)(i)[127] (clause (i)) establishes the general rule that applies in "any case" when the emissions from a proposed new major

[123] CAA § 165(d)(2)(C)(i), 42 U.S.C. § 7475(d)(2)(C)(i).
[124] Brown & Williamson, 529 U.S. at 132.
[125] The process, and persons who do the reviews, have already been described in section IB, page 7, above. Key words and phrases from the PSD increment statutes will be underlined throughout this summary, so their repetition and meaning in context can be followed.
[126] CAA § 163(b)(1)—Class I, (b)(2)—Class II, & (b)(3)—Class III, 42 U.S.C. § 7473(b)(1), (b)(2), & (b)(3).
[127] 42 U.S.C. § 7475(d)(2)(C)(i).

emitting "facility" undergoing NSR review would violate a § 163(b)(1) increment "within a Class I area." The general rule is this: the permit application for the "facility" is denied.

- CAA § 165(d)(2)(C)(ii)[128] (clause (ii)) establishes the first exception to clause (i)'s general rule. "In any case" where a "facility will have an adverse impact" on AQRVs, the permit application may be denied under clause (ii), "notwithstanding the fact that the change in air quality resulting from emissions from such facility will not cause or contribute to concentrations which exceed the maximum allowable increases for a class I area."[129]

  There are two separate increments "for a class I area." The first are the Class I increments established under CAA § 163(b)(1)[130] for each Class I "area." The second are the alternative Class I increments that apply to each "facility" (not area) under CAA § 165(d)(2)(C)(iv), 42 U.S.C. § 7475(d)(2)(C)(iv), discussed below.

  Taken together these provisions mean that when one "facility" is granted an FLM variance, the next "facility" that applies for a permit is not given a free ride all the way up to the alternative Class I increment. Rather, in "any case" where a proposed new "facility" will have an "adverse impact" on AQRVs, the permit application may be denied, "notwithstanding the fact that the change in air quality resulting from emissions from such facility will not cause or contribute to concentrations which exceed the maximum allowable increases for a class I area,"[131] i.e., notwithstanding whether either the § 163(b)(1) or the § 165(d)(2)(C)(iv) Class I increments are exceeded.

  Whether there is an "adverse impact" is the determinative test for Class I areas. This bears repeating. The legislative background and history discussed in section IB, pages 5-8, reinforces the plain meaning of clause (ii) just discussed. Congress intended that

[128] 42 U.S.C. § 7475(d)(2)(C)(ii).
[129] Id.
[130] CAA § 163(b)(1)—Class I, 42 U.S.C. § 7473(b)(1)—Class I.
[131] Id.

"adverse impact" on AQRVs be the determinative test for Class I areas, as the Senate Report stated that formed the basis of the version of the '77 bill that was adopted by the Conference Committee and finally enacted. The Senate Report described the § 163(b)(1) Class I increments as:

> *a flexible test* … for determining where *the burden of proof* lies and is an index of changes in air quality. *It is not the final determinant for approval or disapproval of the permit application.*[132] (Emphasis added.)

In sum, clause (ii)[133] enacts the "adverse impact" test, and makes it apply in "any case."

- CAA § 165(d)(2)(C)(iii)[134] (clause (iii) establishes the second exception to clause (i)'s general rule. Clause (iii) is the inverse of clause (ii) just discussed.[135]

  Once again, as with clause (ii), the permit decision turns on AQRVs. But in contrast to clause (ii), which requires that a permit application for a proposed "facility" be denied when an "adverse impact" on AQRVs is demonstrated, clause (iii) allows a permit application for a proposed "facility" to be granted when "no adverse impact"[136] upon AQRVs is shown—"notwithstanding the fact that the change in air quality resulting from emissions from such facility will cause or contribute to concentrations which exceed the maximum allowable increases for class I areas."[137]

  Two points are essential: (1) when "no adverse impact" is shown on AQRVs, "the State may issue a permit," notwithstanding that emissions from the facility "cause or contribute to concentrations … which exceed" a Class I increment;[138] and (2) on its face, the Class I variance granted under clause (iii) applies only to the "facility"[139] to

[132] S. Rep. 95-127, 95th Cong. 1st Session, at 35 (May 10, 1977).
[133] 42 U.S.C. § 7475(d)(2)(C)(ii).
[134] 42 U.S.C. § 7475(d)(2)(C)(iii).
[135] 42 U.S.C. § 7475(d)(2)(C)(ii).
[136] CAA § 165(d)(2)(C)(iii), 42 U.S.C. § 7475(d)(2)(C)(iii).
[137] Id.
[138] CAA § 165(d)(2)(C)(iii), 42 U.S.C. § 7475(d)(2)(C)(iii).
[139] Id.

which it is given—it does not apply to any other facility that has not received an FLM certification of no adverse impact. Nor does it apply to the Class I "area" itself. No facility gets a free ride based on a previous determination. Each NSR facility that receives a permit under clause (iii) must separately undergo an NSR or similar review[140] to determine whether its increased emissions will have an adverse impact on AQRVs.

- CAA § 165(d)(2)(C)(iv)[141] (clause (iv)) establishes the alternative Class I increments that apply to a "facility" that has been granted a Class I variance under clause (iii). The introductory phrases of clause (iv)[142] make clear that clause (iv)'s alternative Class I increments apply only to a "facility" that has been issued a permit under clause (iii), and do not apply to other facilities that have not:

  > "In the case of a permit issued pursuant to clause (iii), such facility…"[143]

  On its face, this language in clause (iv) makes plain that the alternative Class I increments apply only "[i]n the case of a permit issued pursuant to clause (iii)," and that only "such facility" is subject to "the following maximum allowable increases over the baseline concentration for such pollutants: [clause (iv) then lists the alternative increments for particulate matter and SO2 that apply to "such facility"]."

  This means, for example, that if a facility has not been issued a Class I variance under clause (iii), then it remains subject to the Class I increments established by CAA § 163(b)(1),[144] rather than the alternative Class I increments established by clause (iv).[145] To use a metaphor, only "facilities" that have been given "membership" in the "club" that have been issued Class I variances under clause (iii) are subject to that club's alternative increments under clause (iv). And to become members of that club, each new "facility" considered for

[140] Possibilities include a permit revision review, a SIP review, or a periodic review.
[141] 42 U.S.C. § 7475(d)(2)(C)(iv).
[142] Id.
[143] Id.
[144] CAA § 163(b)(1)—Class I, 42 U.S.C. § 7473(b)(1)—Class I.
[145] CAA § 165(d)(2)(C)(iv), 42 U.S.C. § 7475(d)(2)(C)(iv).

admission to the club must first go through an initiation test under clause (iii) that includes an AQRV review to determine their worthiness to be admitted. Only those facilities that have shown that they will have "no adverse impact" under a clause (iii) AQRV review are allowed to enter the club. Finally, any facility in that PSD "area" that has not been given membership into the variance club remains subject to the increments that apply to non-members, the CAA § 163(b)(1)[146] increments.

In sum, members of the Class I variance club are subject to the clause (iv) Class I increments; non-members of the variance club remain subject to the CAA § 163(b)(1) increments that apply to all non-members (i.e., all non-variance facilities) in that PSD "area." Membership in the variance club is a privilege earned through an AQRV-impacts analysis in an NSR review that shows "no adverse impact."[147]

So, for example, the two North Dakota facilities discussed in section IC, pages 10-12, Little Knife and DGC, are "facilities" that comply with the clause (iv) Class I increments, not the CAA § 163(b)(1) Class I increments. But all other major-source facilities in North Dakota—the ones that don't have a clause (iii)-variance—must continue to comply with the CAA § 163(b)(1) Class I increments. If the non-variance facilities cause a violation of the CAA § 163(b)(1) Class I increments, that violation must be corrected, or the facility must go through an NSR-AQRV review, and be determined to have "no adverse impact" to become a Class I variance facility.

The key factor is the AQRV test that applies in "any case." As noted, the Class I increment is "*a flexible test* … for determining where *the burden of proof* lies and is an index of changes in air quality. *It is not the final determinant for approval or disapproval of the permit application.*"[148] When the proposed facility is not causing or

[146] CAA § 163(b)(1)—Class I, 42 U.S.C. § 7473(b)(1)—Class I.
[147] These comments have already noted that there is a further § 165(d) process that applies when an FLM and a State's governor disagree whether there is an adverse impact on a Class I area from the proposed facility's increased emissions. See section IA, page 7, footnotes 38-41 of these comments above. Those provisions will not be discussed further in these comments, because they have not come into play in North Dakota.
[148] S. Rep. 95-127, 95th Cong. 1st Session, at 35 (May 10, 1977).

contributing to a violation of a Class I increment, the burden of proof under clause (ii) is on the FLM to show an "adverse impact" to deny the permit application, because there is a presumption that an impact is not occurring. When the proposed facility is causing or contributing to a violation of a Class I increment, under clause (iii) the burden of proof shifts to the facility to show that "no adverse impact" will occur, since the presumption now becomes that emissions at the proposed level will cause an adverse impact.

When more than one facility is causing or contributing to a violation of the § 163(b)(1) Class I increments, the analysis is more difficult, and involves more complex factual issues. But as Alabama Power II notes, the responsibility for management of the increments lies with the States, who must "manage the allocation of the available increments" and make "growth-management decisions" which "were left by Congress for resolution by the States."[149] This is consistent with Train v. Natural Res. Def. Council, which determined that as long as a state's choice of emission limitations complies with national standards, the state may adopt whatever mix of emission limitations it deems best in its particular situation.[150] The amendments to the PSD rules proposed in this rulemaking give state scientists, engineers, and administrators the flexibility to exercise best professional judgment in making the complex factual and technical decisions involved in managing the increments under the PSD program.

In its reference to clause (iv) ("7475(d)(2)(C)(iv)"), CAA § 163(a)[151] excepts facilities operating under a Class I variance from the one exceedence of the short-term increments allowed per year in § 163(b) Class I, Class II, and Class III areas:

> In the case of sulfur oxide and particulate matter, each applicable implementation plan shall contain measures assuring that maximum allowable increases over baseline concentrations of, and maximum allowable concentrations of, such pollutant shall not be exceeded. In the case of

[149] 636 F.2d at 364.
[150] 421 U.S. 60, 86-90 (1975). See generally "Legal Issues Relating to PSD Baseline and Increment Consumption," 2005 ND Periodic Review Record Docket Entry 2, pages 17-24.
[151] 42 U.S.C. § 7473(a).

> any maximum allowable increase (except an allowable increase specified under section 7475(d)(2)(C)(iv) of this title) for a pollutant based on concentrations permitted under national ambient air quality standards for any period other than an annual period, such regulations shall permit such maximum allowable increase to be exceeded during one such period per year.[152]

This language from § 163(a) is important for a couple reasons. First, except for the difference that the clause (iv) alternative short-term increments in § 165(d)(2)(C)(iv) ("section 7475(d)(2)(C)(iv)" can't be exceeded once as can the Class I, II, and III short-term increments in § 163(b)(1), (2), and (3), this language shows that Congress otherwise saw the § 163 and § 165 PSD as functioning the same way. The only other difference has already been discussed—that § 165's clause (iv) Class I increments apply to the facility, not the area. Nowhere in the PSD provisions of the Act is there any requirement that § 165's (i.e.,"7475(d)(2)(C)(iv)") clause (iv) Class I increments have to be offset by reductions from other sources. Where Congress wanted offsets, such as in nonattainment areas where the source must obtain sufficient emission reductions from existing sources to offset a new or modified source's increased emissions,[153] Congress put that requirement in the language of the Act. Congress put no language or provision in the Act that requires offsets from § 165(d)(2)(C)(iv) ("section 7475(d)(2)(C)(iv)" facilities.

Thus when the increment provisions of the Act are examined as part of a coherent regulatory scheme,[154] the interpretation EPA gives in the preamble to the § 165 Class I variance provisions of the Act, as summarized in footnote 115-117 and associated text above, may also be reached through a straightforward Chevron I analysis. Although NDDOH agrees (except for two points summarized below) with EPA's Chevron II analysis, the ambiguity EPA identifies in clause (iii) of § 165(d)(2)(C) arises from looking at that language in isolation, rather than looking at clause (iii)

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[152] Id.
[153] CAA § 173(c), 42 U.S.C. § 7503(c).
[154] Brown & Williamson Tobacco Corp., 529 U.S. at 132-33.

in the context of the Act as a whole. NDDOH asks that EPA consider including an additional analysis that gives to clause (iii) and clause (iv) their plain contextual meaning. When viewed in context, the Class I variance applies only to the "facility" to which it is given, and "such facility" is subject to "the following" alternative Class I increments listed in CAA § 165(d)(2)(C)(iv). As the above analysis shows, the PSD increment provisions of the Act contain no offset requirement anywhere in the statute.

b. The long-standing interpretations of the Class I variance provisions of § 165 are contained in the Federal Register documents that initially interpreted those provisions between 1982 and 1993 when the first variances issued under the Act were given to North Dakota facilities.

NDDOH disagrees in only two ways with the discussion of the PSD Class I variance issue in the preamble. The first, discussed in this subsection, is the discussion in the preamble that treats the December 12, 2001 Seitz letter as if it represented a first interpretation of the § 165 Class I variance provisions. Long-standing and established interpretations of those provisions had been published in the federal register for nearly 20 years prior to this letter. These interpretations, reviewed and used by EPA in its oversight capacity, were made when the § 165 Class I variances summarized in section IB, pages 10-12, were granted to numerous facilities in North Dakota. These interpretations, made between 1982-1993, are consistent with the just-discussed Chevron I analysis of §§ 163 and 165. Under them, AQRVs govern the analysis, and whether there is an "adverse impact" serves as the determinative factor in the air quality analysis required under § 165. NDDOH's report summarizes these original interpretations on pages 11-20 of "The PSD Variance Issue in North Dakota," Attachment H, to "North Dakota's SO2 PSD Air Modeling Report" that was submitted to EPA at the conclusion of NDDOH's PSD periodic review. NDDOH incorporates that summary by reference here.

Not one of these original interpretations of the PSD Class I variance provisions of the Act discussed or required any emission offsets from variance sources, nor, as discussed in the previous section, is there any

language in the Act or its legislative history that would support such an interpretation.

Two examples will be provided that are illustrative of the long-standing interpretation of the meaning of CAA § 165(d)(2)(C)(iii) & (iv).[155] The first is the notice in the federal register which provided the procedure and steps to be followed in making and reviewing Class I variance decisions:

> The following procedures apply to determinations under section 165(d)(2)(C)(ii) or (iii) of the Clean Air Act of whether a proposed new source will have an unacceptable, adverse impact on the air quality related values established for a class I area."
>
> ….
>
> > 3. Technical review of impact of proposed new source on air quality related values (including visibility) of class I area.
> >
> > 4. Compliance with other statutory authorities, as applicable, including the following:
> >
> > > a. Initiation of consultation with the U.S. Fish and Wildlife Service if required under Endangered Species Act, 16 U.S.C. 1536.
> > >
> > > b. Determination of effect, if appropriate, on properties included or eligible for inclusion in the National Register, and solicitation of comment from the Advisory Council on Historic Preservation if required under National Historic Preservation Act, 16 U.S.C. 470f.

[155] 42 U.S.C. § 7475(d)(2)(C)(iii) & (iv).

5. Technical review of “adverseness” of impact (if any), and submission of bureau recommendation on “adverse impact” or “no adverse impact” determination.

6. Assistant Secretarial review of bureau recommendation on “adverse impact” or “no adverse impact” determination, and formulation of Assistant Secretarial determination under section 165(d)(2)(C)(ii) or (iii).

7. Notification of preliminary determination by letters to owner/operator of proposed new source, State, and EPA. Simultaneous with 7, publication of preliminary determination in “Notice” section of Federal Register, including –

> a. Statement as to availability of supporting documentation for inspection and copying at NPS Air Quality Division offices in Denver, Colorado, and in Washington, D.C., and at affected park and refuge headquarters; and
>
> b. Announcement of thirty-day public comment period (not to be extended except in the most unusual circumstances) on issues directly relevant to the determination in question.

9. Timely review and brief summarization of relevant comments received within comment period, and responses thereto.

10. Final Assistant Secretarial determination, as soon as possible after end of comment period, of “adverse impact” or “no adverse impact”, with a

> clear and concise statement of reasons supporting that determination.
>
> 11. Notification of final determination by letters to owner/operator of proposed new source, State, and EPA. If final determination in a section 165(d)(2)(C)(iii) situation concludes "no adverse impact", Assistant Secretary (in role as "Federal Land Manager") shall so "certify" in letter.
>
> 12. Simultaneous with No. 11, publication of final determination in "Notice" section of Federal Register, including –
>
> > a. Clear and concise statement of reasons supporting that determination;
> >
> > b. Statement as to availability of supporting documentation for inspection and copying at NPS Air Quality Division offices in Denver, Colorado and in Washington, D.C.; and
> >
> > c. Statement as to immediate effective date (as of date signed) of final determination.

47 Fed. Reg. 30,226 (July 12, 1982). This procedure contains no requirements for consideration of any emissions offsets.

The second illustrative example is from the federal register notice requesting public comment on the last § 165 Class I variance granted in North Dakota (to DGC in early 1993):

> [I]n the case of a permit issued under a FLM certification of no adverse impact, the source must still comply with an alternative set of PSD increments. Because only 3-hr and 24-hr SO2 Class I increment exceedances were modeled, it is only necessary to

> compare the maximum modeled concentrations to the alternate SO2 increments for these averaging times. The alternate 3-hr and 24-hr SO2 increments are 325 and 91 ug/m3, respectively. The results of the State's modeling analysis reported above show that the maximum predicted concentrations at Theodore Roosevelt NP and Lostwood WA are well below the alternative Class I increments.

DGC Preliminary Determination of No Adverse Impact under CAA § 165(d)(2)(C)(iii), 57 Fed. Reg. 52,788, 52,790 (November 5, 1992). Again, there is no citing or discussion of any offset requirements. Rather, this makes plain that the alternative Class I variance increments apply to this facility.

In sum, no emission offsets were required from other facilities in order to operate under their CAA § 165(d)(2)(C)(iii) permits in any of approximately a dozen federal register notices and discussions interpreting CAA § 165(d)(2)(C)(iii) relating to the North Dakota facilities that had been granted and operating under § 165 clause (iii) Class I variances in nearly two decades prior to the Seitz letter in 2001. Nor was there ever any previous interpretation requiring that Class I variance facilities had to get offsets. The Seitz letter stands alone. In the 20 years prior to the Seitz letter, neither NDDOH, nor EPA, nor the Department of Interior, nor any of the facilities operating under those permits ever thought such a requirement applied.

Most importantly, no language or provision of the PSD provisions of the Act require any offsets. See discussion in IID2a above.

NDDOH has read comments filed in this rulemaking suggesting that the Seitz letter is a longstanding EPA interpretation that is being changed by this rulemaking. The opposite is the case. This rulemaking clarifies and confirms the long-standing interpretation everyone involved in permitting, regulating, and operating the only facilities ever granted such variances had placed on the relevant provisions of the Act for nearly 20 years prior to the 2001 Seitz letter. As discussed next, the Seitz letter is an aberrant interpretation based on misinterpretation of language of Alabama Power II

that addressed a different issue than offsets. Rather than being a long-standing interpretation that is being changed, as suggested in some comments filed in this docket, the Seitz letter is a misinterpretation that this rulemaking corrects.

c. The Seitz letter misinterprets dicta from the Alabama Power II opinion that addressed the issue of whether compliance with the Class I, Class II, and Class III increments (all three) had to be tracked outside of preconstruction review.

The second issue NDDOH disagrees with in the discussion of the PSD Class I variance issue in the preamble is EPA's discussion of the dicta from Alabama Power II relied on in the Seitz letter. As noted, no provision of the Act requires emission offsets from PSD sources when a Class I variance is granted. Nor were there any interpretations of the Act in the numerous entries in federal register made prior to the Seitz letter that had interpreted the Act as requiring emission offsets from facilities that were granted Class I variances and certifications of no adverse impact. Thus, the sole basis and authority for requiring emissions offsets is the Seitz letter. And the Seitz letter bases its interpretation that emissions offsets are required from Class I variance sources solely on the dicta in the Alabama Power II decision discussed below.

The paragraph containing the dicta relied on in the Seitz letter states:

> Industry representatives do not successfully counter the force of the statute and the legislative history. They argue that section 161 refers to incorporation into state plants of such other measures as may be necessary "as determined under regulations promulgated under this part," and they assert that the only regulations mentioned in the PSD part are those identified as relating to the preconstruction permitting process. This argument overlooks the Administrator's general rulemaking authority under section 301 of the Act to "prescribe such regulations as are necessary to carry out his functions under

> this Act," for a regulation promulgated under this general authority to ensure compliance with section 161 is a regulation promulgated under the PSD part. Industry petitioners also rely on those sections of the Act that provide for waiver provisions which, conceivably, could allow increments to be exceeded. The waiver has vitality and recognition in that facilities granted special consideration under these provisions are, in effect, treated as facilities operating in compliance with the provisions of the Act. But the totality of facilities in compliance, as a group, may be subject to measures necessary to cope with a condition of pollutants exceeding the PSD maximum.

Alabama II, 636 F.2d at 363 (portion of paragraph quoted in Seitz letter underlined).

In context, it is apparent that this paragraph is addressing the issue raised in the appeal of EPA's 1978 PSD rulemaking: Whether compliance with all the increments—Class I, Class II, Class III, and the various § 165 Class I variance increments—must be addressed only in preconstruction and NSR review, or, in the alternative, whether compliance must be tracked on a periodic basis outside of NSR permitting and preconstruction review?

Section IV of the Alabama Power II opinion, of which the above paragraph from the Seitz letter was a part, determined that the Act requires tracking compliance with all of the PSD increments (not just § 163(b)(1) Class I increments) on a periodic basis, not just in NSR and preconstruction review, as had been advocated in briefs and arguments made by "industry representatives" in that case.[156] This holding, as discussed previously, was the reason that EPA added "periodic review" to the PSD program in the 1980 PSD rule amendments.

The Seitz letter demonstrates the danger of quoting language outside of the context where it appears, and then interpreting it as addressing issues that it never addressed. Section IV of Alabama Power II addresses

[156] *See* Alabama Power II, Section IV, 636 F.2d at 361-64.

the issues just summarized, but it does not address emission offsets.[157] Nor are the two sentences quoted out of context in the Seitz letter limited to addressing just § 163(b)(1) Class I and § 165(d)(2)(C)(iv) Class I variance increments. Those sentences also refer to the § 163(b)(2) Class II increments that cover most of the United States, as well as to the § 163(b)(3) Class III increments[158] and to the other § 165 PSD increments.[159] A referential ambiguity exists in the last sentence from Alabama Power II quoted in the Seitz letter which the letter interprets as only referring to the § 163 Class I increments and the § Class I variance increments. But section IV addresses all of the increments, not just those two Class I increments. When read in context, the ambiguous language quoted from Alabama Power II refers to compliance with PSD increments in more than one PSD area, as illustrated in the following examples. These examples are provided, because how emissions from a single facility impact more than one PSD area is difficult to picture in the abstract. The particular sentence at issue from the language from Alabama Power II quoted in the Seitz letter provides:

> But the totality of facilities in compliance, as a group, may be subject to measures necessary to cope with a condition of pollutants exceeding the PSD maximum.[160]

The hypothetical examples will show how this language is applicable to more than just the § 163 Class I increments, because any of several increments may be complied with, while others are being violated.

Example 1: This hypothetical is based on the following assumptions:

- The major emitting facilities are all located in a Class II area more than 50 kilometers from a Class I area and are causing a violation of the short-term Class II SO2 increments at points that are within a few kilometers of the facilities.
- But those facilities are not causing any violation of the Class I increments that apply to them in the Class I areas that are 80-100 kilometers or more away.

[157] To the extent that it may arguably address offset issues, it is a prime example of the dangers that arise from using dicta as precedent. Such issues should carry the weight of precedent only after being fully considered and argued in a context where a court can fully consider the factual issues and the function and implication of the interpretation it places on the statute or rule at issue.
[158] CAA § 163(b)(3), 42 U.S.C. § 7473(b)(3).
[159] CAA § 165(d)(2)(C)(iv) & (d)(2)(D)(iii), 42 U.S.C. § 7475(d)(2)(C)(iv) & (d)(2)(D)(iii).
[160] 636 F.2d at 363.

- Two of the facilities are subject to § 165(d)(2)(C)(iv) Class I variance increments.

Result: Under these Example 1 facts, even though "the totality of facilities in compliance, as a group" don't violate the different Class I increments that apply to them, those same facilities "may be subject to measures necessary to cope with a condition of pollutants exceeding the PSD maximum" for the Class II area where they are located. For example, SO2 emissions from sources which are subject to the § 165(d)(2)(C)(iv) Class I variance increments in Class I areas would still be considered as contributing to the violation of the Class II increments in the PSD Class II area where they are located, and subject to control measures to address this Class II violation, even though they are not causing or contributing to a violation of the Class I variance increments that apply to them as facilities permitted under clause (iii) of § 165(d)(2)(C). Likewise, the non-variance major sources are also subject to control measures to stop the violation of the Class II increments, even though they were not causing a violation of the § 163(b)(1) Class I increments.

Example 2: This worst-case hypothetical is based on the following assumptions:

- All the largest SO2 emitting facilities are located in a tightly spaced group still within a Class II area but are located near (e.g., within 10 kilometers) of a Class I area.
- All of these facilities together were determined not to cause an adverse impact on AQRV's in the Class I areas,[161] were permitted, and are all now subject to § 165(d)(2)(C)'s clause (iv) Class I SO2 increments.
- While modeling conducted in ~~the~~ NSR review showed that these facilities would comply with the Class II SO2 increments and the lower Class I variance increments, ambient monitoring conducted in the Class I areas after they are constructed is now showing concentrations much higher than the modeling had predicted when these facilities were permitted in NSR. In fact,

[161]Remember, this is a worst-case hypothetical offered to illustrate, in extreme, several of the issues ND had to address in its periodic review. It also shows how much different than worst-case the conditions in North Dakota are.

the monitoring shows actual concentrations almost double what had been predicted by modeling expected potential-to-emit emissions of the facilities.

- The reviewing authority (e.g., state) therefore conducts a periodic review to determine why actual monitored concentrations were so much higher than the model-predicted concentrations in NSR, because bias in modeled concentrations also occurs in modeled changes in concentrations (which are compared to the PSD increments). The periodic review, which compared modeled to monitored concentrations, reveals some causes for the model inaccuracies: (1) model pollutant transport and dispersion physics are inadequate under the calm or stagnant weather patterns conducive to the largest monitored concentrations; (2) In NSR, there were no local—in the vicinity of sources—weather data (the facilities are located at great distances from above ground-surface, every 12th hour, weather-data (rawindsonde) collection stations), which can now be replaced with meteorological data produced by a weather forecast model; (3) both errors in, and inadequate model formulation of, the physics of the atmosphere, which have been recently corrected with new model computer codes; and (4) error in NRS coding of some input data for modeling.

Result: Under Example 2's complicated and unlikely worst-case facts, "<u>the totality of facilities in compliance, as a group</u>" would not violate any of the § 163 Class I increments, because all of their emissions count only against § 165's Class I variance SO2 increments. But those same facilities would "<u>be subject to measures necessary to cope with a condition of pollutants exceeding the PSD maximum</u>" of both the SO2 Class II increments and § 165 Class I variance SO2 increments. In clearer English, a periodic review, under this hypothetical, would require permit revisions that would bring compliance with the Class II increments in the Class II area, and the § 165 Class I variance SO2 increments in the nearby Class I area.

In sum, the Seitz letter misinterprets dicta from the Alabama Power II opinion that addressed the issue of whether compliance with the Class I, Class II, and Class III increments (all three) had to be tracked outside of NSR and preconstruction review. That section, Section IV of the Alabama Power II decision, held that it did. The decision on that issue, in fact, caused periodic review to be added to the PSD rules in 1980. When read in context, the Alabama Power II language cited in the Seitz letter addresses the issue of whether the Act requires periodic review of compliance with the PSD increments outside of NSR. It does not address offsets, nor is there any language in the PSD provisions of the Act that would require offsets of the type required in NSR nonattainment review. The PSD increments were adopted for different reasons, and based on different considerations, than the NAAQS standards. The NAAQS standards are based on criteria documents and are established at levels that protect health and welfare with an adequate margin of safety. The PSD increments, in contrast, are not based on health and welfare considerations.[162] The § 163 Class I increments, for example, are set at very low levels to trigger AQRV review, and shift the burden of proof to the facility making the NSR application to show that there is no "adverse impact" in that review.[163] Treating the Class I increments *as if* they were NAAQS standards is one of the fundamental misconceptions that underlie misinterpretations of the PSD provisions of the Act.

d. NDDOH's Conclusion: Class I Variance Comments

In sum, NDDOH supports how EPA will treat emissions from § 165 Class I variance sources (clause (iii) "facilities") as laid out in the preamble, but suggests an additional Chevron I analysis as an additional way to support that conclusion. Except for the two points of disagreement summarized above, EPA's Chevron II analysis in the preamble is a sound interpretation that also is consistent with the language and intent of the PSD provisions of the Act. EPA does not have to choose between the two. In fact, setting forth both bases would allow any review to examine whether EPA's interpretation is sound under either a Chevron I or a Chevron II analysis. We ask that you consider taking that approach.

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[162] *See* page 4 of these comments above.
[163] *See* pages 5-6 and 28-29 of these comments above.

The AQRV approach gives the advantage of considering the impact of all pollutants from all sources. Looking only at increment consuming emissions from sources constructed after the minor source baseline date can result in a very inaccurate picture of how AQRVs are being impacted from all sources. In contrast, tracking all emissions, and using best available data and model settings, allows better tracking of AQRV impacts and allows periodic review when model predictions are inaccurate and inconsistent with monitored concentrations. Section IIB, pages 20-22, and Example 2, pages 45-46 above, show a real world and a hypothetical example of how using unrepresentative emission data, weather data, or model settings can result in model predictions that are very different than actual conditions, including concentrations in the ambient air. The AQRV review, in fact, allows a permit to be denied because of an adverse impact even when no PSD increment is violated.[164] Periodic review allows facts, data, and consequences not fully considered in NSR to be identified and addressed. And, as example 2 above illustrates, periodic review—which may include examining the accuracy of model inputs and predictions as compared to the real world impacts as occurred in North Dakota—cuts both ways: both when the model significantly under-predicts, or significantly over-predicts, actual ambient concentrations.

This rulemaking clarifies the standards that apply when these highly technical, factual, and scientific issues are addressed in area-specific, site-specific, and facility-specific periodic and NSR reviews. In situations where default model settings, maximum permit emissions, inappropriate or out-dated models, or inadequate weather data result in model predictions that vary significantly from real-world impacts (either too low or too high), this rule will allow state agencies like NDDOH to gather more robust data and use professional judgment to make adjustments so that model predictions more accurately reflect real-world impacts and conditions. These are the reasons why the Alabama Power II court determined that Congress required that monitoring must be included in each NSR or preconstruction review. CAA § 165(e)(2) requires "the analysis required by this subsection [i.e., PSD preconstruction permit review, including AQRV analysis and

[164] CAA § 165(d)(2)(C)(ii), 42 U.S.C. § 7475(d)(2)(C)(ii) and discussion of clause (ii) at pages 28-29 above.

review] shall include continuous air quality monitoring data gathered for purposes of determining whether emissions from such facility will exceed the maximum allowable increases or the maximum allowable concentration permitted under this part."[165] Alabama Power II explains why monitoring is required as part of the PSD-NSR review. Monitoring provides meaningful checks and balances to computer model outputs by holding them "to earth" with monitoring data that, for example, can be compared to model-predicted concentrations, and which makes possible such things as accuracy testing and other related comparisons:

> We discern from the statute [CAA § 165(e)(2)] a technology-forcing objective. Congress intended that monitoring would impose a certain discipline on the use of modeling techniques, which would be the principal device relied upon for the projection of the impact on air quality of emissions from a regulated source. This projects that the employment of modeling techniques be held to earth by a continual process of confirmation and reassessment, a process that enhances confidence in modeling, as a means for realistic projection of air quality. This objective is furthered by the development of sophisticated monitoring techniques, and the collection of the data base that would result from monitoring's widespread use. Of course even a congressional mandate, such as a technology-forcing requirement based on a congressional projection of emergence of technology for the future, is subject to a justified excuse from compliance where good-faith effort to comply has not been fruitful of results. That is far different from the exemption created by EPA on the basis of current technological infeasibility. Though EPA has authority to require methods other than monitoring in its effort to ensure that allowable increments and NAAQS are not violated, and though it may choose to invoke that authority because of its perception that monitoring alone is inadequate to the task, it does not have authority to dispense with monitoring as at least one element of the overall enforcement effort where Congress has mandated the use of that technique.

[165] CAA § 165(e)(2), 42 U.S.C. § 7475(e)(2).

Alabama Power II, 636 F.2d at 372.

NDDOH agrees that modeling is the regulatory device Congress adopted as the primary way to track compliance with the PSD increments of allowable deterioration in different PSD areas—Class I, II and III—under the Act. But Congress required checking model outputs and accuracy by also requiring monitoring to make sure modeling was providing a "realistic projection of air quality," as the above language from Alabama Power II illustrates. This is consistent with the basic Daubert criteria that apply to the admissibility of scientific data and conclusions in contested administrative and court proceedings: that they are "'capable of empirical test;'"[166] and that they are falsifiable, refutable or testable.[167]

NDDOH found in its periodic review that by looking at all sources, and by modeling a full emissions inventory that included both baseline emissions and increment-consuming emissions form all sources, it was able to generate a full impacts analysis that was "capable of empirical test,"[168] and that was falsifiable, refutable, and testable. We believe this leads to results that are more scientifically and legally sound. And we found that modeling an emissions inventory that includes only increment consuming emissions is less legally and scientifically sound, because it leads to modeling results that are less capable of being put to an empirical test, and are not as easily falsifiable, refutable, or testable. Further, NDDOH found that modeling a full emissions inventory was the most accurate way of estimating AQRV impacts, because if we hadn't, we would not have been able to put the model outputs to an empirical test to determine their accuracy, or to estimate the full impacts of all sources within our state's air shed upon air quality related values in our Class I areas.

By saying this, we are not implying that a similar analysis will be needed in every state and region. But when model outputs are significantly different than concurrent monitored concentrations or other measurable

[166] Daubert v. Merrell Dow Pharmaceuticals, 509 U.S. 579, 593 (1993)(citations omitted).
[167] Id.
[168] Id.

real-world conditions and impacts—*either significantly lower or higher*—a process that allows the consideration of emission impacts from all sources provides a way of generating model outputs that are more easily testable and more scientifically sound. We support these rule changes, because they clarify the standards that apply when a more empirically-grounded process is needed, such as circumstances where a state or region is faced with circumstances similar to what NDDOH faced at the time it initiated its periodic review: modeling outputs that appear to be greatly at odds with the monitoring data. In states where that kind of problem does not exist—an area where actual emissions are much closer to allowable emissions than in North Dakota, for instance—then modeling only allowable emissions from only increment-consuming sources constructed after that PSD area's minor source baseline date may remain the easiest and most efficient way of generating model estimates of pollutant concentrations for PSD-NSR review.

NDDOH has filed these lengthy comments on this issue because comments filed so far in this rulemaking contain many of the misconceptions discussed above. Since these are issues that were raised in North Dakota's periodic review, we hope these comments help EPA address these issues. But we also hope that showing why North Dakota made several important legal and policy decisions may assist others faced with similar complex factual and technical issues.

The Class I variance "offsets" issue raised by the Seitz letter, as well as the issues relating to use of "actual emissions" in PSD review, are parts of what triggered North Dakota's periodic review. The remainder of these comments will, much more briefly than above, discuss legal and policy issues relating to the use of actual emissions and monitoring in PSD review, as they relate to the remaining issues addressed by the preamble. On these topics, NDDOH also attaches technical comments prepared by Martin Schock, a NDDOH engineer who has been working on the technical aspects of modeling PSD impacts since the early 1980s as described by Myron Uman in the article quoted in section IC, page 10, above.[169]

[169] *See*, e.g., Acknowledgment, Uman, "A Case History of the North Dakota PSD Program," Environ. Sci. Technol., Vol. 16, No. 7, at 393A. Uman's article is Exhibit 126 of North Dakota's Periodic Review Record.

3. Comments on Preamble section VB: "How are emissions estimated for 165 Class I variances?"

NDDOH supports the new definition of "actual emissions" proposed for 40 C.F.R. §§ 51.166(f) and 52.21(f). Some background and history relating to why an "actual emissions" definition became the basis for tracking PSD increment consumption is discussed in section IIB, pages 14-22 above. Page 5 of the attached "Comments on EPA'S Proposed Rule Revisions" contains technical comments on this issue. A few additional comments are made here about the history of using actual emissions to address two common objections made to using actual emissions based on average source emissions during hours of operation as a means to estimate short-term increment consumption.

One common objection that may be raised in this rulemaking to the use of the proposed definition of actual emissions at 40 C.F.R. §§ 51.166(f)(1)(iii) and 52.21(f)(1)(iii) for tracking for 3-hour or 24-hour averaging periods, is this: that using actual emissions for short-term periods will under-estimate increment consumption for short-term periods. NDDOH's period review revealed several things that are either wrong with this claim, or that are overlooked about the nature and purpose of the increments and the checks and balances built into AQRV analyses. This potential objection is especially unfounded when monitoring data is used as a means to check model accuracy—i.e., whether the model is over- or under-predicting actual concentrations—as NDDOH did in its recent periodic review:

- First, NDDOH used average source emissions during hours of operation as a means to estimate short-term increment consumption in its recent periodic review. When we did so, and compared the highest short-term model-predictions to the highest short-term monitored concentrations, we found that we were still getting higher model-predicted short-term concentrations than the highest short-term monitored concentrations in our Class I areas.[170] NDDOH is not

[170] *See*, e.g., "A proposed alternative air quality modeling protocol to examine te status of attainment of PSD Class I Increments," Attachment B to North Dakota's SO2 PSD Air Quality Modeling Report, Appendices G & H, pp. 56-67; Results of air quality modeling to examine the status of attainment of the

aware of empirical studies to back up the claim that average source emissions will under-predict short-term concentrations. In North Dakota's case, at least, this is not true.

- Second, when a new source makes an application for permit to construct, maximum potential emission rates are still used in estimating both short-term and annual increment consumption even when actual average emission rates are used for estimating impacts from existing sources. So the potential impact of the new source on both the increments and AQRVs is estimated using the presumption that the new source will operate at its maximum capacity 24 hours per day, 365 days per year. Since facilities seldom if ever operate at their maximum capacity after they are built, the use of maximum capacity to estimate increment consumption and impact on AQRVs in NSR review for the new source creates a built in conservative presumption that protects the increments and the AQRVs after the new source begins operation. Such conservative estimates are not necessary for existing sources, because their actual operating levels are known and may continue to be tracked in periodic review or subsequent NSR proceedings. Further, monitoring, which is required under the Act, will alert state and federal administrators of any significant rises in either short-term or long-term concentrations as they occur in the real world, and these, if they occur, may be used as a basis to trigger a periodic review. Continuous Emissions Monitoring Systems (CEMS) data are an additional means of determining when increases in actual emissions are occurring in a PSD area, and could be used as an additional possible trigger for periodic review.

- Third, unlike the NAAQS, which are based on scientific studies about when concentrations of a pollutant will have adverse impacts on human health or welfare, the PSD increments are not based on levels that cause health or welfare impacts.[171] Congress created the AQRV test to protect against "adverse impacts" in NSR and periodic review.[172] If either state or federal administrators in NSR or periodic review proceedings identify an under-prediction problem because of

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PSD Class I sulfur dioxide increments," Attachment C to North Dakota's SO2 PSD Air Quality Modeling Report, Appendix B, pp. 56-66.

[171] *See,* e.g., pages 4-5 of these comments.

[172] *See* pages 5-6 and 30-32 of these comments.

use of actual average emissions based on a comparison with monitoring data or other factors, that may serve as a basis for requesting use of maximum emission rates for some or all existing sources because, for example, they are located much closer to a Class I area where peak emissions are more likely to possibly cause higher short-term impacts than when they are located at greater distances.

In sum, use of annual average emissions is unlikely to cause problems relating to underestimating impacts on either increments or AQRVs for the reasons just stated, and will likely benefit other areas for the same reasons they were used in North Dakota, that is, where actual emissions are significantly lower than potential emissions, creating the paper offset and Gulf Coast problems summarized on pages 18-21 above.

A second common objection is that it isn't practical to use monitoring data as part of NSR and periodic review. This is a half-truth. It isn't very practical when a maximum emissions approach is used. If only increment consuming emissions are modeled, and no full-emissions inventory is modeled, and no total concentration is predicted that can be compared to the monitoring data, then, obviously, it becomes very difficult to compare monitoring data with model outputs. But when NDDOH modeled a full emissions inventory in its periodic review based on guidelines set forth in the 1980 preamble and other related documents, using its best professional judgment, it became relatively easy to incorporate monitoring data as a means of checking whether both the increments and AQRVs are being protected.

In 1978, EPA determined that it would track increment consumption: (1) by defining and modeling only increment consuming "allowable emissions"[173] rather than a full emissions inventory of "allowable emissions" (or actual emissions);[174] (2) by placing "primary emphasis on

[173] 43 Fed. Reg. 26,380, 26,383 (June 19, 1978).

[174] The preamble to the first PSD notice of rulemaking after the 1977 CAA amendments were passed by Congress would have required modeling 1974 emissions to estimate the baseline concentration. That approach would have established a single high-second-high concentration for each short-term period for each Class I area over which increment consumption could have using either modeling or monitoring. See 42 Fed. Reg. 57,479, 57480 ((November 3, 1977) (top of third column). But, as noted, the 1978 preamble went to tracking increment only using allowable emissions, then the 1980 rules adopted the current actual emissions approach, although most states continued to use the option in the definition of

tracking emission changes rather than establishing a baseline concentration," and (3) by determining that it would "no longer suggest that the baseline concentration be formally established."[175] When it did so, one consequence was the generation of increment consumption estimates by computer models that could not be tested against monitored concentrations to see if the models were over-predicting or under-predicting increment consumption. When this methodology is used, a meaningful monitoring/modeling comparison is difficult to achieve. Further, use of this methodology forced a paired-in-space-and-time calculation of increment consumption, leading to the problems and issues outlined in "Responses to Recurring Issues Related to North Dakota's Computer Modeling of Sulfur Dioxide in CAA PSD Class I Areas," section 6.2, pages 80-81, and section 8.10, pages 114-117, attached to this letter.

When EPA promulgated the post Alabama Power amendments to the PSD rules in 1980, EPA established the primary definition of "actual emissions" as the rate of emissions in tons per year[176] combined with a methodology for estimating total baseline and increment concentrations using both monitoring and modeling.[177] In addition, EPA gave a detailed

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actual emissions to continue to use allowable emissions as a substitute to the primary definition of actual emissions.

[175] 43 Fed. Reg. at 26,400.

[176] N.D. Admin. Code § 33-15-15-01(1)(a)(1)(superseded); *see* definition of "actual emissions" at 40 C.F.R. §§ 51.166(b)(21)(i)&(ii) and 51.21(b)(21)(i) & (ii).

[177] *See* § C.8.3 "Establishing Existing Air Quality," of "Prevention of Significant Deterioration Workshop Manual (October 1980)," where EPA tells the source to begin with the "continuous" air monitoring data collected by the state, id. at p. I-C-30, determine its sufficiency, its representativeness, and its reliability for the proposed location, id. at p. I-C-32, and then determine whether any new sources had "commenced construction or operation" in the preceding year. Id. at p. I-C-33. If these criteria are satisfied, "the monitored air quality levels" may be used "as representing existing air quality in the impact areas of the proposed source." Id. The next step in the 1980 guidance manual was to model air quality and increment consumption, id., § C.8.5, under which "allowable emissions of all sources" may be modeled as "a conservative first attempt." Id. at p. I-C-36. "If there is a significant difference between actual and allowable emissions" of a particular source, however, "modeling can be performed using actual rather than allowable emissions." Id. at p. I-C-37.

To determine the "total projected air quality" of the proposed new or modified source or sources, the "maximum increment consumed" as determined "at [the] point of highest increment concentration in [the] impact area" is added to the "existing air quality" (as determined primarily by monitoring as described above). Id. at p. I-C-40, Table C-5. This is essentially what the FLM did in the first Class I variance certification of no adverse impact for Little Knife by adding "modeled estimates plus monitored concentration," (i.e., increment consumption determined by modeling to monitored SO2 concentrations) to determine "predicted concentrations." 47 Fed. Reg. at 41,483.

example of how to use the "rate in tons per year" definition of actual emissions and other definitions in the PSD rules when determining increment compliance.[178] When this approach is used, a modeling to monitoring comparison, and an analysis of AQRVs, are both much easier to accomplish.

But even the 1978 preamble—which minimized the use of monitoring data before Alabama Power II determined that monitoring has an important role in PSD review[179]—recognized that if someone examines the accuracy of the modeling predictions, "EPA welcomes the submission of data which will more precisely define the impact of the source."[180]

NDDOH used monitoring data to "hold to earth" its model predictions in its periodic review, and found monitoring data can serve the functions they were intended to serve as summarized in Alabama Power II, 636 F.2d at 372, when appropriate emission inventories and other adjustments are made that make comparisons possible. The use of monitoring data has always been allowed, if not required, to be a part of NSR and preconstruction review. NDDOH's periodic review shows that it may be a valuable tool in, and meaningful part of, both PSD increment and AQRV analyses.

In its periodic review, NDDOH used hourly CEMS emissions data paired with concurrent hourly weather conditions as an additional way of checking the accuracy of model predictions against monitoring data. In our case, NDDOH found that the predicted model concentrations using CEMS data were not significantly different than when actual average emission rates were used. But this could be different in states or regions where the largest emitting facilities are closer to the Class I areas than in North Dakota. In such a case, use of hourly CEMS data to model maximum short-term concentrations may be a valuable third option, if using average

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[178] Preamble to 1980 PSD rules, "Example of How the Definitions Work," 45 Fed. Reg. at 52,704-705.

[179] Alabama Power, 636 F.2d at 372, 381, and 387.

[180] Preamble to 1978 PSD rules, 43 Fed. Reg. at 26,399. The passage states in context: "Although increment consumption must of necessity be tracked through modeling, EPA does not intend that there be no 'real world' checks on the accuracy of modeling. If an applicant or other party believes that a model used by EPA has either overpredicted or underpredicted the air quality impact of a source, EPA welcomes the submission of data which will more precisely define the impact of the source."

emission rates is significantly under-predicting actual concentrations, and using maximum emission rates is significantly over-predicting actual concentrations. This option could be added to 40 C.F.R. §§ 51.166(f)(1)(iii) and 52.21(f)(1)(iii) by adding the last sentence of 40 C.F.R. §§ 51.166(f)(1)(i) and 52.21(f)(1)(i) to §§ 51.166(f)(1)(iii) and 52.21(f)(1)(iii).

a. Comments on Preamble subsection VB1: "Data and Calculation methods to Establish Actual Emissions"

These comments have already provided numerous examples of why a "best professional judgment" standard is needed. NDDOH supports this approach, and agrees with the proposal to codify this policy in 40 C.F.R. §§ 51.166(f)(1)(iv) and 52.21(f)(1)(iv). Pages 5-8 of the attached "Comments on EPA'S Proposed Rule Revisions" contain NDDOH's additional policy and technical comments on this issue.

b. Comments on Preamble subsection VB2: "Time Period of Emissions Used to Model Pollutant Concentrations"

In addition to comments made above, pages 8-9 of the attached "Comments on EPA'S Proposed Rule Revisions" contain NDDOH's policy and technical comments on this issue.

c. Comments on Preamble subsection VB3: "Actual Emission Rates Used to Model Short-Term Increment Compliance"

In addition to comments made above, pages 10-11 of the attached "Comments on EPA'S Proposed Rule Revisions" contain NDDOH's policy and technical comments on this issue.

d. Comments on Preamble subsection VB4: "Use of Allowable Emission Rates"

In addition to comments made above, pages 11-12 of the attached "Comments on EPA'S Proposed Rule Revisions" contain NDDOH's policy and technical comments on this issue.

e. Comments on Preamble subsection VB5: "Emissions from a New or Modified Source"

In addition to comments made above, page 12 of the attached "Comments on EPA'S Proposed Rule Revisions" contain NDDOH's policy and technical comments on this issue.

4. Comments on Preamble section VB: "What meteorological models and data should be used in increment consumption modeling?"

a. Comments on Preamble subsection VC1: "Types of Meteorological Data and Processing"

In addition to comments made above, pages 13-16 of the attached "Comments on EPA'S Proposed Rule Revisions" contain NDDOH's policy and technical comments on this issue.

b. Comments on Preamble subsection VC2: "Years of Meteorological Data"

In addition to comments made above, pages 16-17 of the attached "Comments on EPA'S Proposed Rule Revisions" contain NDDOH's policy and technical comments on this issue.

c. Comments on Preamble subsection VC3: "Evaluating the Appropriateness of Data Years from Prognostic Meteorological Models for Modeling Worst-Case Impacts"

In addition to comments made above, pages 17-19 of the attached "Comments on EPA'S Proposed Rule Revisions" contain NDDOH's policy and technical comments on this issue.

5. Comments on Preamble subsection VD: "What are my documentation and data and software availability requirements?"

In addition to comments made above, pages 19-20 of the attached "Comments on EPA'S Proposed Rule Revisions" contain NDDOH's policy and technical comments on this issue.

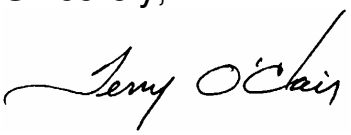
6. Supplemental Comments Regarding Modeling for Worst-case and Ambient Monitoring

Pages 20-21 of the attached "Comments on EPA'S Proposed Rule Revisions" contain supplemental comments regarding modeling for worst-case modeling conditions and the use of ambient monitoring in PSD review not addressed elsewhere in these comments and attachments.

III. Conclusion

For the reasons stated above, the NDDOH supports EPA's proposed amendments to the PSD rules—40 C.F.R. § 51.166 (PSD rules for SIP-approved states) and 40 C.F.R. § 52.21 (PSD rules for PSD non-SIP states). We hope these comments will assist EPA in addressing these important issues.

Sincerely,



Terry O'Clair, Director
Division of Air Quality
North Dakota Department of Health

Attachments incorporated:

"Comments on EPA'S Proposed Rule Revisions"

"Responses to Recurring Issues Related to North Dakota's Computer Modeling of Sulfur Dioxide in CAA PSD Class I Areas,"

cc: Terry Dwelle, M.D., M.P.H.T.M.
State Health Officer

David Glatt, Environmental Chief, NDDOH

Wayne Stenehjem
North Dakota Attorney General

Lyle Witham, Assistant Attorney General