National Park Service Comments on EPA's Proposed Rule Regarding PSD Increment Modeling Procedures - Clarification/Modification (ER No.: DEC-06/0006)

Please incorporate the following comments into the Department's response to EPA regarding the subject proposed rule:

New Source Review Workshop Manual (Manual)

This statement appears on page 20 with reference to the NSR Workshop Manual: "We never finalized this draft document, and accordingly never intended it as final EPA policy." The quoted statement could cause complications for EPA's position in other NSR-related areas, specifically the following two areas. (1) The NSR Workshop Manual is the primary reference for the procedure to be used by permit applicants and reviewing authorities in conducting a top-down BACT evaluation. (2) The Manual has been used by EPA and the courts in NSR enforcement cases. Although this guidance is "draft", it has been used as support to numerous Environmental Appeals Board decisions and used with the support of OAQPS to develop state regulations and other state modeling guidelines.

It is suggested that this document be acknowledged as past guidance and policy but that some of the material has become obsolete and revisions are needed – the reason for the proposed rule. This rulemaking represents EPA's opportunity to address some issues related to increment analysis and increment tracking that have plagued the program since its inception in 1980, and to revise and finalize the Manual accordingly. However, rather than addressing the issues and giving clear guidance to permitting authorities and permit applicants, this draft proposal would further confuse the issues. Instead, the Manual and the regulations should be revised concurrently to be consistent.

Cumulative Increment Consumption

Significant Impact Levels

The major thrust for changing the way we estimate increment consumption originates from difficulties encountered in conducting analyses of cumulative increment consumption.[1] Chapter C, section IV.B. of the Manual introduces the concept of the "significant ambient impact." The footnote on page 23 references the fact that the Class I Significant Impact Levels (SILs) that were proposed in 1996 were never finalized. NPS urges OAQPS to finalize these values.

Baseline Areas & Minor Source Baseline Dates

In current practice, if the predicted ambient impact from a proposed PSD source/modification exceeds a SIL, then a cumulative increment analysis is to be conducted to compare ambient impacts from emissions as of the relevant "baseline" period to impacts from future emissions when the new source is in operation. The problem is that it is usually difficult to estimate emissions from the baseline period due to insufficient emissions monitoring and/or recordkeeping.

[1] There is general understanding that maximum allowable emissions during each pertinent NAAQS/PSD averaging period must be modeled to demonstrate NAAQS attainment and Increment protection.

Once a cumulative increment analysis is triggered, the first step is to determine the applicable Minor Source Baseline Dates (MiSBDs) for the areas impacted. In pages 14 - 17, the discussion of PSD baseline areas and baseline dates misses an opportunity to clarify parts of the manual that deal with this issue. EPA should clarify that when conducting a cumulative increment analysis for a Class I area, the area of concern for other increment-consuming sources shifts from around the proposed source to around the Class I area. Therefore, there may be sources that consume increment at a nearby Class I area that may not actually affect the significant impact area of the proposed source. These sources need to be included in the Class I increment analysis.

It also uses many generalities such as stating that [all] emission increases that occur after the baseline date will be counted toward the amount of increment consumed whereas the definition of baseline concentration in the Act and the rules requires some increases to be included in the baseline and allows for some increases to be excluded from increment consumption.[2]

Period Used for Base Year Emission Estimates:[3]

According to the D.C. Circuit in the Alabama Power case:
Congress did not intend a simple measurement of air quality on a day with atypical conditions to control calculation of the baseline. Reasonable efforts to ascertain the actual but usual concentration levels, as of the date of the first application for a permit, are required.[4]

On page 52, EPA erroneously states, "The first part of the inventory generally contains actual emissions as of the minor source baseline, but for major sources, the emissions as of the major source baseline date must be used." EPA should strike the reference to major sources.

EPA is proposing that alternative years may be used if those two years prior to the baseline date are not considered representative of "normal source operations." The procedure of addressing "normal operations" to estimate actual emissions for PSD applicability is not the same as a concentration that existed on a particular date (i.e. PSD baseline concentrations). In allowing different two-year periods other than that preceding the baseline date to be selected for determining actual emissions from a given source, EPA appears to be confusing source-specific emissions determined for the purpose of determining if a major modification would occur, with the clear intent of the Act that ambient concentrations must be determined as of the baseline date. While the Act does not contemplate a determination of ambient concentrations on a specific day, neither does it allow for shopping about for emissions data from multiple time periods that may be far-removed from the baseline date. It is perfectly "normal" that any time period associated with a baseline date will include emissions that, for a given source, may be considered "abnormal," while overall emissions may be considered "normal" for the total population of

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[2] One of these errors is repeated on page 23.

[3] Sec. 169. For purposes of this part -
(4) 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. Such ambient concentration levels shall take into account all projected emissions in, or which may affect such area from any major emitting facility on which construction commenced prior to January 6, 1975, but which has not begun operation by the date of the baseline air quality concentration determination. Emissions of sulfur oxides and particulate matter from any major emitting facility on which construction commenced after January 6, 1975, shall not be included in the baseline and shall be counted against the maximum allowable increases in pollutant concentrations established under this part.

[4] See Alabama Power, 636 F.2d at 380 n. 44

sources. Only if some abnormal occurrence simultaneously affects a significant portion of the source population should a different time period be chosen. By allowing a different period to be chosen for each unit to represent actual emissions as of the baseline date, EPA is adding to the complexity and the potential for gaming of an already complex task. The application of the concept of "normal operations" to the PSD baseline concentration(s) does not appear appropriate as it makes PSD baseline concentration(s) up for interpretation by every applicant.

On page 68 EPA seeks to ensure that real increases in emissions that are outside of a normal range of variability will continue to be regarded as consuming increment, while recognizing that, due to the normal variability in source operations, some apparent ***increases*** in emissions are justifiably included in the baseline where they are representative of the emissions experienced by a source as of the baseline date. Would the same approach also apply to ***decreases*** in emissions?

Emission Averaging Period

The discussion of actual emission rates used to model short-term increment compliance represents a 180-degree about-face from recent OAQPS guidance which stated, "...we have no objection to your use of CEM data to determine a single emissions value that represents actual emissions patterns for each source, but we believe that you should use two consecutive years of CEM data to determine the maximum, or near maximum, emissions rate, just as you would if you were using permitted potential emissions. That single emissions value for each source would then be modeled over 5 years of meteorological data to identify expected increment violations under realistic conditions."[5]

The discussion of actual emission rates used to model short-term increment compliance fails to address the fundamental question which is, "What was intended to be protected as a result of establishing short-term increments?" Since there are thousands of discrete 3-hour and 24-hour periods in any year, is it the intent of Congress that no more than one individual period experience degradation more than the applicable increment? It could be argued that no 3-hour or 24-hour period should experience an increase greater than the applicable increment which would have to be evaluated by modeling the minimum emission rate during the baseline period and compared with the maximum emission rate during the current period.

Each of the approaches proposed by EPA will produce different results with respect to increment consumption based on whether long term and/or short term emissions are actually changing. The draft would allow the use of annual emission rates to assess short-term increment consumption. This will fail when, for example, a source is permitted to operate seasonally or is permitted to operate 8,760 hours per year but typically operates a much lower number of hours. For example, use of annual average emissions would not detect the peak impacts of a facility that previously operated a few hours each day for the entire year and then increases daily hours of operation but only operates seasonally.

The proposal suggests that annual average emissions divided by the operating hours will produce a short-term emission rate that may be used for protecting a short term increment. The protection of short term PSD increments cannot be assured using annual average emission rates. The proposed acceptance of evaluating compliance with 3-hour and 24-hour increments by

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[5] See Letter from John Seitz, EPA/OAQPS, to Francis Schwindt, North Dakota Dept. of Health (December 12, 2001).

dividing an annual emissions rate by the number of 24-hour or 3-hour time periods in a year provides the lowest possible degree of protection of short-term increments and it is usually the 24-hour increment that is the most critical. Dividing the annual emission rate (presumably expressed as tons per year) by the number of 24-hour or 3-hour time periods in the year makes the explicit, and probably false, assumption that the source did or will operate for all 365 days or 2,920 3-hour periods in the year.

The proposed approach is not consistent with existing guidance, as evidenced by the Seitz letter to North Dakota cited above, and EPA guidance in the NSR workshop manual: "for short term averaging period (24 hours and less), the change in the actual emission rate for the particular averaging period is calculated as the difference between: the current maximum actual emission rate and the maximum actual emission rate..." The underlined emphasis is as it appears in this guidance. The guidance also states that "the average rate is calculated as the average over the previous two-year period (unless the permitting agency determines that a different time period is more representative of normal source operation).

The calculation of actual emissions must not be at the total discretion of the reviewing authority. The current regulations allow use of reasonable, representative, rational and verifiable methodologies on a case-by-case basis after consultation between the source, state or local agency, and the EPA Regional office. Therefore, the addition of this specific regulation may undermine the consultation with the EPA Regional offices to determine the advisability of allowing a particular methodology. A more realistic and equitable approach would be to use a hierarchy approach in which options are ranked by their ability to protect increments. In those instances where it is not possible or practical to precisely specify the maximum short-term emission rate, it should be estimated by an appropriate method.[6]

On page 70 EPA states, "Although we have historically called for use of maximum short-term rates, more experience indicates that the modeled change in concentration may be less accurate when increment consumption modeling is based on maximum emissions rates from all sources that consume increment. In EPA's experience, it is unusual for increment-consuming sources to all be operating at their maximum short-term emissions rates at exactly the same time." This sentence implies that an analysis, or field study work, etc. has been done showing concentration change results compared to a known baseline. If this is the case, the studies should be cited. If not, the sentence should be reworded to make clear that the basis for the argument is theoretical.

The argument, in the preamble, that it is unlikely that multiple sources will experience maximum emissions on the same date is specious. It ignores the reality that some sources, such as EGUs, often have peak production in response to external factors and may well peak concurrently. Also, in the case where hotspots are due to single sources, the use of average short-term rates will likely underestimate expected actual short-term concentration increases. Because the draft regulation will change the way EPA reckons increment consumption, EPA should make a technical support document or regulatory impact analysis available for the proposed action.

Allowing the use of the annual emissions rate rather than a source's maximum emissions rate could seriously underestimate the change in concentration for the 24-hour or 3-hour time periods. The proposed revision does not provide any criteria for determining if using the annual emissions

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[6] For example, EPA Region 9 recently developed an approach that estimated past maximum short-term emissions by using current CEM data to generate peak-to-mean ratios which it then applied to historic annual emissions data.

rate in a case-by-case basis may be appropriate. Without a hierarchy of options, the states, contractors and project proponents will select the "lowest common denominator."

Meteorological Data and Modeling Procedures

The preamble shows emphasis on proprietary data or tools being reviewed in some way. Our office has experience with proprietary data fields with included faults. The rule should not leave this to the discretion of the state--this should be a mandatory requirement for an applicant to provide.

The NPS is in agreement with the proposed 5 years of NWS data, one year of on-site data and 3 to 5 years of prognostic data for long-range transport.

WESTAR Recommendations

The EPA proposal references several times the recommendations from the Western States Air Resources Council (WESTAR) regarding increment consumption. WESTAR's recommendations (14 in total) include other increment-related issues not included in the EPA proposal (e.g., periodic review of increment, significant impact levels) and other new source review issues besides increment consumption (e.g., AQRV Cumulative analyses, Use of FLAG guidance, Critical Loads, addressing adverse AQRV impacts). WESTAR was able to reach consensus on its recommendations with the understanding that EPA would act on them as a complete package. So, we assume EPA will act on these other recommendations in the near future. We would welcome participation in this process.

Implementation Issues

The concept expressed in V. Implementation Issues (A) "Is there a need for States to make revisions to their SIPS?" is inaccurate. There are several western states that require approval by the State legislatures to make changes to their NSR rules. The idea that states can just incorporate these new proposed NSR rule is against the existing laws of these states. SIP revisions will be required and it is not consistent with the Paperwork Reduction Act. These rule changes can take a whole legislative session and may even extend another year into the next legislative session. Also the issue arises when interstate transport is an issue. One state where a new source wishes to locate may have made these proposed NSR changes and a neighboring state which contains a Class I area being analyzed has not made the changes. Which State's rules apply? Note that many States can have rules that are more protective than the Federal rules.

Violations to the 24-hour PM10 increment should also be included in the discussion

Class I Variance

The exclusion as stated gives a permanent "pass" to sources that happen to obtain a variance regardless of subsequent events. EPA's long-standing interpretation of the Clean Air Act regarding sources issued a variance of the Class I increments by the Federal Land Manager was that those sources still consumed Class I increment and that States would have to amend their State Implementation Plan to eliminate any such Class I increment violations. We support this interpretation and recommend EPA not make the proposed change of excluding from Class I

increment consumption those concentrations attributed to sources that obtained a permit based on a variance issued by the Federal Land Manager.

It is possible that changing circumstances may alter the assessment of AQRVs. There should be a provision for the FLM to reconsider the variance and initiate a reconsideration of the source's increment consumption. If a state has an obligation to periodically review increment, it should also have the ability to reassess the contribution of regulated sources.

The variance process is source-specific. If the FLM determines that Air Quality Related Values (AQRVs) will not be adversely impacted by the proposed source (and other requirements are met), the source could still get a permit even if it caused Class I increment violations. The EPA proposal would now exclude those emissions from all future Class I increment analyses. This in essence would allow future sources to more easily show that the Class I increments are being met, when in fact, the total incremental concentrations could be well above the levels set by Congress to "Prevention Significant Deterioration" of air quality in our national parks. Furthermore, whether or not a proposed source "causes or contributes to" Class I increment violations establishes the burden of proof regarding AQRV impact assessments. As EPA states, an exceedance of Class I increment creates a presumption that AQRVs within the Class I area will be also adversely affected, but that presumption may be rebutted by the applicant. Likewise, the absence of an increment exceedance creates a presumption that there is no adverse impact on AQRVs, but that presumption may be rebutted by the FLM if he provides evidence sufficient to convince the reviewing authority that emissions from a proposed source will have an adverse impact on AQRVs. By eliminating "variance concentrations" from the increment assessment, the proposal would most likely unfairly shift the burden of proof of demonstrating no adverse impacts from the applicant to the FLM. At a minimum, EPA should continue to treat variance concentrations as increment-consuming and require future source applicants to consider those concentrations in their Class I increment analyses. If that analysis shows that the new source would contribute to the previous Class I increment violations or cause new ones, it could then still get a permit by demonstrating to the FLM's satisfaction that AQRVs would not be adversely impacted.

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Please incorporate the following comments into the Department's response to EPA regarding the subject proposed rule:

- EPA states in the proposal that the 1990 draft New Source Review Workshop Manual has become outdated and superseded by subsequent rulemakings, guidance memoranda, and adjudications by the Administrator and Environmental Appeals Board. Therefore, EPA is proposing to rescind the 1990 draft manual in its entirety. The 1990 draft manual has been a valuable resource for permit applicants and permitting authorities. Rather than rescinding the manual, we recommend that EPA update it to reflect the subsequent rulemakings, guidance memoranda, etc. cited above.

- EPA's long-standing interpretation of the Clean Air Act regarding sources issued a variance of the Class I increments by the Federal Land Manager was that those sources still consumed Class I increment and that States would have to amend their State Implementation Plan to eliminate any such Class I increment violations. We support this interpretation and recommend EPA not make the proposal change of excluding from Class I increment consumption those concentrations attributed to sources that obtained a permit based on a variance issued by the Federal Land Manager.

  The variance process is source-specific. If the FLM determines that Air Quality Related Values (AQRVs) will not be adversely impacted by the proposed source (and other requirements are met), the source could still get a permit even if it caused Class I increment violations. The EPA proposal would now exclude those emissions from all future Class I increment analyses. This in essence would allow future sources to more easily show that the Class I increments are being met, when in fact, the total incremental concentrations could be well above the levels set by Congress to "Prevention Significant Deterioration" of air quality in our national parks. Furthermore, whether or not a proposed source "causes or contributes to" Class I increment violations establishes the burden of proof regarding AQRV impact assessments. As EPA states, an exceedance of Class I increment creates a presumption that AQRVs within the Class I area will be also adversely affected, but that presumption may be rebutted by the applicant. Likewise, the absence of an increment exceedance creates a presumption that there is no adverse impact on AQRVs, but that presumption may be rebutted by the FLM if he provides evidence sufficient to convince the reviewing authority that emissions from a proposed source will have an adverse impact on AQRVs. By eliminating "variance concentrations" from the increment assessment, the proposal would most likely unfairly shift the burden of proof of demonstrating no adverse impacts from the applicant to the FLM. At a minimum, EPA should continue to treat variance concentrations as increment-consuming and require future source applicants to consider those concentrations in their Class I increment analyses. If that analysis shows that the new source would contribute to the previous Class I increment violations or cause new ones, it could then still get a permit by demonstrating to the FLM's satisfaction that AQRVs would not be adversely impacted.

- The proposal discusses the need to establish the source's impact area and the requirement for cumulative increment analyses to include other increment-consuming sources that affect the significant impact area. That is true for Class II increment analysis, but Class I analyses are treated differently. EPA should clarify that when conducting a cumulative increment analysis for a Class I area, the area of concern for other increment-consuming sources shifts from around the proposed source to around the Class I area. Therefore, there may be sources that consume increment at a nearby Class I area that may not actually affect the significant impact area of the proposed source. These sources need to be included in the Class I increment analysis.

- The EPA proposal references several times the recommendations from the Western States Air Resources Council (WESTAR) regarding increment consumption. WESTAR's recommendations (14 in total) include other increment-related issues not included in the EPA proposal (e.g., periodic review of increment, significant impact levels) and other new source review issues besides increment consumption (e.g., AQRV Cumulative analyses, Use of FLAG guidance, Critical Loads, addressing adverse AQRV impacts). WESTAR was able to reach consensus on its recommendations with the understanding that EPA would act on them as a complete package. So, we assume EPA will act on these other recommendations in the near future. We would welcome participation in this process.

- The EPA proposal provides States much discretion in calculating the actual emissions to be used in increment analyses. We agree that it is overly conservative to assume that all sources will be emitting at their maximum rate at the same time. However, allowing States to use annual emissions to assess short-term (i.e., 3-hr, 24-hour) impacts does not ensure that those short-term increments will be protected. We recommend that EPA provide States discretion, but require those States to use the best and most reliable emissions information available.

- The preamble shows emphasis on proprietary data or tools being reviewed in some way. Our office has experience with proprietary data fields with included faults, the rule should not leave this to the discretion of the State. This should be a mandatory requirement for an applicant to provide.