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**NYSDEC and NESCAUM Comments on:**

**EPA's Proposed rule for Prevention of Significant Deterioration (PSD) New Source  
Review: Refinement of Increment Modeling Procedures.**

**Federal Register, June 6, 2007.**

In this proposal, EPA is attempting to re-define certain terms and to refine aspects of the PSD regulations which it finds were previously lacking, unclear or no longer in line with their interpretations of the Clean Air Act. In addition EPA would like to replace previous EPA interpretations it finds inconsistent in existing EPA guidance documents with current thinking on the part of EPA and to codify certain of these proposed schemes in the corresponding regulations at 40CFR 51.166 and 52.21. Some of the discussions in the proposal do not seem to lead to any regulatory change, but are apparently meant to clarify EPA's positions on the status of guidance documents and meteorological data usage. Other proposed changes are to be incorporated in existing or new sections of the PSD regulations, including recommendations from the Western States Air Resources Council (WESTAR) on how emissions should be calculated in PSD increment modeling analysis.

There are eight topics in the proposal which are summarized in Section III (page 31379) of the FR Notice on which EPA seeks comment, but these can be broken down to the following three areas:

1) Status and usage of: i) EPA's "New Source Review (NSR) Workshop Manual", ii) certain meteorological data bases and processors, and iii) proprietary softwares and data. Comments are solicited on EPA's position on these, but no regulatory revisions are planned.

2) How to treat sources which have received Federal Land Managers (FLMs) "variances" under the PSD requirements applicable to Class I areas in future PSD increment analyses.

3) Procedures, data and source types to be used to estimate emissions from increment consuming or expanding sources, with emphasis on defining actual emissions for short term periods (24 hour or less). Some of the proposal is in accord with the recommendations from

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WESTAR on improving the PSD program.

Our comments are mainly directed and detailed at specifics of the proposal related to items 2 and 3, but we will also provided comments on the issues in item (1) related to the status of guidance contained in the NSR Workshop manual book and on EPA clarifications for prognostic meteorological models used for dispersion analysis. EPA aim in this proposal is an attempt to providing greater clarity and to satisfy WESTAR's recommendation that a balance be reached between flexibility granted to states in case by case determinations and in achieving national or regional standardization necessary to ensure equality among states. We agree with WESTAR and EPA's desire for such a balance, especially when dealing with important issues involving cross-jurisdictional analysis approaches in Class I assessments. We believe that such a balance has been achieved in the past in many regions of the country when the involved agencies, including states, EPA and the Federal Land Managers of Class I areas, have developed and agreed upon a set of standard approaches to analyzing impacts on Class I areas. Such cooperation between the regulatory agencies is best exemplified by the Interagency Workgroup on Air Quality (IWAQM) which developed modeling guidance specific for addressing Class I area impacts, starting in the early 1990's and which was subsequently augmented by the Federal Land Managers' Air Quality Related Values Workgroup (FLAG), starting in the late 1990s. As discussed below, we believe some of EPA's proposed clarifications are best addressed through these forums.

On the other hand, issues dealing with how emissions and other source parameter are used in PSD permit modeling, whether for Class I or Class II areas, are best dealt by and within the context of the experience and expertise of state and EPA modelers who have developed these schemes and guidance over the past thirty years. That is, merely referring to a specific definition or a term in regulation and to certain arguments implicitly extracted from the Clean Air Act should not serve as the basis of establishing new guidance or regulatory change when these latter fly in the face of both the Act as well as technically sound judgement. Unfortunately, that is

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exactly what we find in the main of this proposal. In addition to proposing technically unfounded approaches, this proposal is replete with EPA's attempt to justify approaches which seems to be more in line with its prejudged conclusions rather than an objective outline of the issues in light of, for example, comments it had previously receive from Northeast States for Coordinated Air Use Management (NESCAUM) and in recognition of concerns expressed by National Association of Clean Air Agencies( formerly STAPPA and ALAPCO) on certain aspects of the WESTAR recommendations.

Our specific concerns will become obvious in the details which follow. We summarize that unless EPA significantly modifies this proposal or abandons many aspects, it will abdicate its responsibility to protect the air quality in the areas of the Country which stand to be impacted by a potential for irreversible damage. To that end, we have included in our comments specific recommendations which are in line with the intent of the Clean Air Act, PSD regulations and the generally acceptable approach necessary to err on the side of projecting air quality by dispersion modeling which does not underestimate expected impacts.

**1. Proposed Clarifications Regarding the Effects of the Draft New Source Review**

**Workshop Manual, Section IV( pages 31379-31380).** The proposal seek to clarify that the draft, 1990 NSR Workshop Manual does not represent binding EPA regulation nor does it reflect or establish a final EPA policy or interpretation of EPA regulations. EPA notes in the "Background" section of the proposal that although entities such as the Environmental Appeals Board (EAB) has at times reference the Manual as EPA's thinking on certain PSD issues, the Board has also recognized that the Manual is not binding regulation. Apparently, some of the latter determinations have been recently prompted by new thinking at the Office of Air and Radiation which interprets the NSR Manual, along with some parts of the EPA Modeling Guidelines, codified as Appendix W of 40 CFR, Part 51, as mere guidelines or suggestions on how to conduct an increment analysis. With due respect to the improved thinking on the part of EPA, we will show that what is contained in the recommendations of the NSR Manual which

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EPA seek to replace are by far more technically sound and better justified by PSD regulations than what is found in the current proposal.

We do not see the need nor the rationale for EPA to highlight one of the multitude of policy documents and determinations developed over the years which interpret the PSD regulations to make the obvious statement that policy documents are not binding regulation; it has numerous Environmental Appeals Board references it quotes which make that point. EPA's purpose is to eliminate from the document limited aspects which have over the years provided sound guidance and allowed the regulatory and regulated communities to achieve as much of a common approach to specific issues as possible within the void of specifics in regulations, as procedures which do not establish authoritative interpretation of EPA's regulations. To that end, the EAB has also spoken.

As EPA notes, while certain aspects of this Manual have been replaced by regulations over the years and rendered the former guidance mute, but there are other aspects such as top-down BACT which continue to be in line with EPA's current thinking, even if not in a binding regulatory framework. Thus, it is transparent that EPA's proposal is meant to replace the specific procedures it finds no longer palatable in the PSD Manual on how to conduct an increment analysis. And it is to that end that it is critical to fully consider any replacement of the Manual's approach and assure it be both technically valid and consistent with regulatory requirements. Whether EPA updates the Manual or put specific procedures in regulation, our comments conclude that EPA has not considered all of appropriate concerns expressed previously and further expanded upon below to justify its plans to replace the guidance in the NSR Workshop manual on short term increment modeling and related issues with a totally inadequate approach found in this proposal.

**2. Proposed clarifications on the application of types of meteorological processors, required years of meteorological data use, and the use of "worst case" meteorological data year in subsequent modeling. Sections IV.C.1 to 3 (pages 31391-31393).** In this proposal,

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EPA offers certain clarifications they believe are necessary on how meteorological processors and data years should be used in dispersion modeling. In the introductory part of section C, EPA seeks comments on whether additional guidance is needed on particular issues outlined in subsections 1 to 3, but in the latter subsections, EPA proposes certain specifics on how these issues can be resolved. In all of the these proposed clarifications, there is no action identified on the part of EPA to either implement these “clarifications” nor how binding these should be, in light of their desire to have such clarifications in a regulatory framework.

It is important to recognize that although EPA notes that these issues have come to light through recent experiences with PSD increment modeling, there is nothing in the discussions nor suggested resolutions of the proposed clarifications which pertain to PSD modeling only. It is not clear, but it seems that the clarifications are meant to further EPA’s position in certain applications without full consideration of the repercussions these would have on their own current guidance or on the complex nature involved in the topics. To the extent that EPA seeks to provide additional non-binding guidance in instances where it would assist the review of determinations such as the use of prognostic meteorological models, it can provide such guidance on the EPA SCRAM webpage, along the lines of the guidance available in the draft report it references for attainment demonstration for Ozone and PM2.5 (finalized on April 4, 2007).

On the other hand, if EPA is seeking to modify or replace current guidance on permit modeling and associated meteorological data bases, such as on the issue of which meteorological data years are appropriate in permit modeling, then it is our position that EPA’s proposal is misplaced and contrary to the procedural requirements already in place to address these types of modeling issues. That is, EPA’s proposal refers essentially to current regulatory guidance found in Appendix W of 40 CFR 51 and any proposed guidance changes or additions must be made through that forum. Although the proposal offers certain “clarifications” and seeks comments on some of these, we believe it still circumvents the proper process and flies in the face of

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regulation and even the Clean Air Act. Recognizing that Appendix W partly originated to address Section 165(e)(3) PSD regulations, these modeling guidelines were nonetheless mandated by Section 320 of the Act which calls for national conferences to standardize these methodologies for general applications, not just for PSD purposes. Section 320 makes specific reference for a need for a thorough public involvement process through these conferences and mentions specific entities which must have a say in any proposed modifications to the modeling guidelines.

EPA has held 8 such national conferences and the next one is planned in 2008. As noted previously, there is nothing in this proposal which pertains specific to PSD increment modeling and it is highly likely that those who have a stake or experience to bring to these issues are not given through this proposal on PSD increment modeling the proper forum to address the issues. An example of such a group is the FLAG workgroup whose application of prognostic modeling for Class I areas will be effected by any such proposal.

Notwithstanding our opposition to EPA's attempt to circumvent the proper process to implement some of the guidance on permit modeling, we will briefly address each of the proposed clarifications. With respect to the issue of using expanded phenomenological criteria in choosing the appropriate the types of prognostic meteorological model outputs (item IV.C.1), EPA itself recognizes that factors specific to "single source" permit modeling must be accounted for when extracting information from regional scale generated wind data fields applied specific for regional modeling. However, just how well their proposal to extract the effects of, for example, boundary conditions should be more systematically analyzed and reviewed by the modeling community. The best forum for the latter would be the discussions on this subject which have been ongoing at the annual EPA regional and state modelers workshops.

With respect to the two issues related to what years of meteorological data should be used in modeling, EPA references the requirements in Appendix W and proposes to allow states

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to use any data years it can justify for use in a specific applications. First, we must clarify that EPA's proposal to allow more flexibility in the choice of data years seems to be limited, as it should be, to the use of wind fields derived from prognostic models. In this instance, the minimum 3 years of non-consecutive data requirement in the modeling guidelines is clear enough. However, it should be noted that the limit of 3 years of data was set through the IWAQM/FLAG workgroups in recognitions of the data intensive nature of these applications and the available computer resources at the time. It, in no way, contradicted the requirement to have 5 years of consecutive, readily available, hourly surface and upper air data, as noted in the proposal. On the other hand, EPA's proposal to allow the use of any year of prognostic model in defining the worst case impacts misinterprets the guidance in Section 8.3.1.2.c. That section merely recommends the future use of the year of meteorological data which caused the worst case impact from a source when an emission limits has been set specifically by the modeling results. The purpose is to assure that an argument cannot be made to relax the permit limit based only on the meteorological data base. Obviously, as models improve or a better approach to meteorological data simulation is available, these can be used on a case by case basis.

**3. Treatment of sources with an FLM variance from Class I increments in subsequent increment consumption modeling.** Under this proposal EPA has relied on their interpretation of provisions of Section 165(c) of the Clean Air Act to come to the conclusion that it has discretion to allow the omission from future Class I increment analysis those sources which have been given a variance by the Federal Land Manager (FLM) from complying with the Class I increments in a specific area. EPA arrives at this conclusion after it points to an "ambiguity" between the provisions which allow an FLM certification of no adverse effects on Air Quality Related Values (AQRVs) versus the terms under which a gubernatorial/presidential variance can be granted. This ambiguity, at least in EPA's mind, leads to two alternative solutions, one of which in not "workable" while the other seems too extreme of an interpretation. Thus, EPA proposes a "compromise" between these interpretation. The alternatives which EPA rationale come to are: 1) a variance needs to be corrected in a state's SIP, possibly by offsetting the

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source's impacts, if the Class I increments remain valid after the variance or 2) the Class I increments should be replaced by Class II increments in areas where a variance is issued since the latter means that the Class I increments are no longer a valid indicator of adverse impacts on AQRVs. EPA's compromise is to remove the source with a variance from future Class I increment analysis and only consider it in the assessments using increments at essentially Class II level.

Viewed from the standpoint of the ludicrous nature of alternative (2) at which EPA arrives, the proposal might seem like a compromise. However, the rationale EPA provides in its discussions as well as its interpretations of certain provisions of Section 165(d) which leads to this position are unfounded and misguided. In effect, EPA finds themselves in a dilemma of their own making and the only solution it can then offer is to ignore the problem and dismiss the need to properly consider the consequences of a variance issues to a source impacting a Class I area. Before we point out where we believe EPA has erred in its proposal, it is important to recognize a few issues either not fully addressed or incorrectly surmised.

First, as EPA notes, when Congress established the AQRV provisions of Section 165(d) of the Act, it fully intended that these Class I area levels be used as another layer, albeit a more critical level of protection, in addition to the Class I increment protection it established with Section 165(a) and Section 163 of the Act. As has been the position of the FLMs since these provisions were established, their affirmative responsibility to protect these pristine areas does not rest with a static determination of general AQRVs for class I areas nor with exclusive reliance on ambient concentrations relative to Class I area increments to determine adverse impacts. At the time of the Clean Air Act revisions incorporating the Class I protection, many AQRVs were not identified nor quantified, and some remain so, to a level where generic determinations can be made by the FLMs for all areas. In addition, specific AQRVs' importance will vary amongst, if not within, each of the Class I areas. For example, the National Park

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Service's "Permit Application Guidance" document<sup>1</sup> notes that while visibility, aquatic and terrestrial resources are of concern in the Shenandoah National Park, other AQRVs in Theodore Roosevelt National Park are more sensitive to SO<sub>2</sub> concentrations. Similar delineations of Class I areas have been made by the Forest Service in Eastern US regions<sup>2</sup> where aquatic and terrestrial levels of concern for adverse impacts have been identified using "red line" and "green line" values. Thus, in most instances, determinations have to be made on a case by case basis, which is a dynamic and ongoing process incorporating any new information gathered or assessments made which might be necessary to protect a particular Class I area.

Therefore, it is not the case, as EPA claims is an allowable reading of the Act (page 31382-3), that once the Class I increments are rendered ineffective predictor of the adverse impacts on a particular area's AQRV, these can be dismissed from future consideration as no longer representative of degree of harm on AQRVs and be replaced by the Class II increments. Such a reading would effectively dismiss the FLM's ability to reassess or define new AQRVs in that area and be able to (along with the Administrator or the Governor of a neighboring state with a Class I area) rely on the provisions of 165(d)(2)(C)(i) wherein a source has the responsibility to demonstrate impacts below class I increments even in the instance of no explicit demonstration of adverse effects on AQRVs. EPA's conclusion that ultimately it is the AQRVs and Class II increments which determine the disposition of a permit in Class I areas, is based on a fallacious argument that not only is there a presumption of adverse impacts if the Class I increments are exceeded, but also there is a presumption of the absence of harm to AQRVs if these increments are not exceeded.

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<sup>1</sup> "Permit Application Guidance for New Air Pollution Sources", John Bunyak, US Department of Interior, NPS, Report NPS/NRAQD/NRR-93/09, March, 1993.

<sup>2</sup> "Screening Procedure to Evaluate Effects of Air Pollution on Eastern Region Wilderness Cited as Class I Air Quality Areas", Mary Beth Adams, et.al. FS General Technical Report NE-151, September, 1991.

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The latter conclusion flies in the face of the Act and the intentions of Congress in establishing the two prong approach to Class I protection. As noted in the NPS guidance document “*The Federal Land Manager holds a powerful too. He is required to protect Federal lands from deterioration of an established value, even when Class I numbers are not exceeded...*” (Senate Report No. 95-127, 95<sup>th</sup> Congress, 1<sup>st</sup> session, 1977). If we were to follow EPA’s logic, then sources which demonstrate impacts below Class I increments need not perform any AQRV analysis since the presumption would be the lack of an adverse impact. It does not help to point to the fact that the FLM can then rebut this argument per 165(d)(2)(C)(ii) by demonstrating an adverse impact. For a long time, and in some instances now, source applicants relied on this incorrect logic to fight any attempt by the FLM to demonstrate an adverse impacts when Class I increments were met. Although we agree with EPA that AQRVs are the more important or stringent criteria in Class I assessments and correctly points out that these values establish who has the burden of proof in demonstrating the status of adverse effects in an area per Section 165(d)(2), the use of these increments as such a criterion does not lead to the conclusion that once no adverse impacts are demonstrated, the increments no longer serve a useful purpose. As noted previously, the provision in 165(d)(2)(C)(i) does not require the explicit demonstration of an adverse impact, but does require the demonstration of impacts below the PSD Class I increments for a permit to be issued.

The fact is that the commonplace occurrence is just the opposite of what EPA believes should happen. In many instances, the FLM have demonstrated that adverse impacts occur in Class I areas regardless of ongoing demonstrations of compliance with the Class I area increments. This leads to the conclusion that the Class I increments are not protective enough in many instances, as was envisioned by Congress. To remedy this situation, in the early 1990s EPA and FLM policy established that applicants cannot rely on not only the increments, but even the more stringent “significance levels” (propose to be incorporated in regulation by EPA in 1996) for Class I areas to avoid the need to perform an AQRV assessment (see footnote 1, pages 10-12). We do not believe it was the intention of Congress to have the Class I increments

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replaced by the Class II increments as soon as a variance is issued in a given area. The analogy to this would be the case in which a town sets a low speed limit and further augments it by a crossing guard at a school to protect children. If someone was reckless and drove faster than the speed limit, but obeyed the guard's instructions to watch out for the children and no one got hurt, then per EPA's interpretation in alternative (2), the authorities can remove the speed limit since it was "ineffective" and left it to the guard, whether on the job or not, to assure that no one gets hurt at the school crossing.

The place where EPA's arguments started to fail and forces them to come up with the proposed exclusion of the variance source from further analysis of Class I increments is in their comparison of the requirements of subparagraphs 165(d)(2)(C) and (D). These provisions provide for an FLM or a gubernatorial/presidential variance, respectively, under certain requirements. In contrasting the content of these provisions with respect to "alternative increments" in the Act to the Class I values, when the latter are exceeded, EPA finds an "ambiguity" in not finding reference to the "otherwise applicable maximum allowable increase", or the Class I increments in Section 163, in the FLM variance provision.

However, this ambiguity arises solely from EPA's mental exercise when it contrast the two provisions. These provisions, in fact, must be viewed as a progression and not as dichotomous requirements. If that was not the case, then subparagraph (D) would not start with the specific case of certification denial per item (C)(iii). The correct and simpler way to view the requirements of the FLM Class I provisions in 165(d) relating to a variance is as follows. In the case where the FLM demonstrates an adverse effect on AQRVs, even if the Class I increments are met, the permit is to be denied (165(d)(2)(C)(ii)). If the source demonstrates no adverse AQRV impacts and the FLM so certifies, even with the increments being exceeded (165(d)(2)(C)(ii)), then the permitting authority may issue the permit with this "variance". In this case, the facility must still meet higher allowable increases which are the Class II increment levels, except for a lower value for 3 hour SO<sub>2</sub>. However, in the instant where the FLM has not

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certified the source's "no adverse AQRV demonstration", the source owner can demonstrate to the governor of no such adverse impacts, but only to the extent involving short term SO<sub>2</sub> increment exceedences (165(d)(2)(i)). In other words, this latter provision for getting a gubernatorial (or, subsequently a presidential) waiver only comes into play in the limiting case where the FLM determination of adverse impact relates to short term SO<sub>2</sub> levels. Thus, if the FLM has based its decision on adverse impacts due to particulate emissions from the source causing an adverse effect, the source owner does not have recourse to the gubernatorial waiver. However, if the FLM agrees with the governor's determination of no adverse impacts from short term SO<sub>2</sub> levels on AQRVs, then the governor can grant the permit per 165(d)(2)(D)(i). In the case where the FLM does not agree with the governor's determination of no adverse impacts, the governor can recommend to the president to grant the variance (165(d)(2)(D)(ii)). Although not specifically repeated in the subparagraph, it is a given that under these condition also, the source cannot exceed the higher "Class II" increments of 165(d)(2)(C)(iv) especially when it pertains to other than the short term SO<sub>2</sub> impacts. Otherwise, these variances would allow the specific Class I area to be polluted more than even the dirties of our metropolitan areas. Just because Congress decided, for whatever reason, to further require that in the case of the gubernatorial/presidential waiver, the source must meet certain lower SO<sub>2</sub> maximum increments in low and high terrain situations on the specific days of exceedences of the Class I increments and, in addition, required under 165(d)(2)(D)(iii) that these source exceedences by limited to 18 days in a year, does not establish the former as some "alternate increments" which do not have a counter part in subparagraph 165(d)(2)(C). Instead, for the specific protection of the Class I areas where a gubernatorial/presidential waiver is granted for SO<sub>2</sub> impacts in light of the FLM initial opposition, the expectation is for the source impacts to meet a more stringent requirement for that pollutant.

The above discussions point to at least one of the problems with the EPA proposal to omit the variance source from future analysis of the Class I increments in the particular area. In the instance where the FLM is satisfied that no adverse impacts would occur and a variance is

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warranted even though the SO<sub>2</sub> increments were exceeded, but the PM<sub>10</sub> and NO<sub>2</sub> increments were not, the EPA approach would eliminate that source from any future assessments of all PSD Class I increment, even though the variance was not specifically affected by all of the pollutants. Thus, the source would get the bonus of not ever having to comply with an pollutant increment which was not the basis of its variance. This, of course, would lead to a level of pollution impact not contemplated by Congress nor allowed by the Act.

Turning now to the alternative which EPA rejects in the proposal, but which apparently it had determined workable in the past. That alternative starts with the determination that the specific variance granted by the FLM would be considered a variance from section 165(a)(3) requirements for the individual source, but the reviewing agency would still have to comply with the requirements to correct the exceedence of the Class I increment though the SIP. EPA further argues that this could force the source to obtain “offsetting” impacts and, in fact, as soon as the entire increment is consumed, but no adverse impacts follow, the State would be forced to revoke the permit as soon as it grants it. EPA finds some support for their arguments in quoting the *Alabama Power vs Costle* case.

We agree that a variance granted to a particular source effects that source’s disposition, but we disagree with the follow-up interpretation of what would happen when a variance is granted as far as the SIP or other actions which are necessary. A variance granted under the PSD Class FLM provisions is essentially the same as any other “variances” or potential SIP “violation”. In the case where the state SIP does not incorporate approved procedures to accommodate a variance, a single source SIP revision can be submitted to EPA for approval. This, for instance, happens when a variance from the NO<sub>x</sub> RACT provisions are requested. In instances where there is another form of violation, such as the PSD increment, the source specific SIP action could be allowed through the proper treatment of the permitting of such an instance, if the “variance” provision of the Act are incorporated in the SIP and allow for the higher increments to become effective, or a source specific SIP variance. Thus, as long as the

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SIP provisions comply with what is allowed in the Act, including the variance provisions and the associated higher increment, there is no need to find the SIP deficient. Thus, the requirements of 165(a)(3) and the general requirement in 40CFR 51.166(a)(3) that increment violations be corrected, would be met in that the “applicable “ increments for the variance source would be in effect. The language in the Alabama Power vs Costle case states that the “waiver” granted to the facilities has vitality and the facilities are in compliance with the Act. The follow up sentence expresses a concern on how the facilities in total would cope with the exceedences of the PSD increment, but this does not then force a certain action on the part of the state to revise its SIP and meet the Section 163 PSD class I increments.

Having provided what we believe is the proper way to interpret the waiver provisions in Section 165(d), along with the provisions in Section 163 and 165(a) of the Act, we suggest a revised approach to EPA’s proposal which we believe offer the protection granted by the Act to Class I areas through the PSD increments and the AQRVs. We start by noting that the concern with PSD increment exceedences must be viewed in the context of both space and time. This context is lost in the simple example EPA provides on how 4 sources might be addressed in their version of how to handle a case with 2 source with and 2 without FLM variances. In many instances, PSD sources which impact Class I areas are at far distances from these areas and, as such, project impacts of any significance or of exceedences in only a small portion of the Class I area. In many cases, that area could be just a fraction of the total Class I area. Thus, any “waiver” from future consideration of that source from the Section 163 PSD increments can rightly be allowed only on those specific areas. This is especially true since AQRV variations within a Class I area could be such that variances can be granted if the no-adverse determination is made per the impacted area. Furthermore, the “waiver” from future modeling would be pollutant specific. That is, if the PSD increment for SO<sub>2</sub> are exceeded at certain receptors where the FLM can certify no adverse AQRV impact and a waiver is granted, then any future increment analysis for that area only, and only for SO<sub>2</sub> can be limited to the alternative maximum increments in 165(d)(2)(C) or (D). In all other areas, the source with a specific waiver for SO<sub>2</sub>,

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along with all other increment consuming sources, must still meet the SO<sub>2</sub> PSD increments in Section 163 of the Act. For other pollutants, the increments of Section 163 would still apply in all of the Class I area. To be more precise, this “omission of the waiver source” provision should only be applied to the averaging time of the increment which was exceeded.

Furthermore, given that Section 165(d)(2)(D) recognizes the importance of minimizing the number of occurrences of the exceedences of the Section 163 and subparagraph (D)(iii) increments in terms of number of days on which these are allowed, a strong case exists that the future projected increment analysis must also limited the exceedences to the days on which the source with a waiver had projected exceedences. Such a system would then conform to the requirements of the Act and would not necessitate a revision to the SIP, as long as the latter has the appropriate provisions. In addition, although such a system would require some sort of tracking of past actions, it is still very workable given the limited instances and areas where waivers from the Class I increments analysis would be allowed.

**4. Emission estimation methods for increment modeling.** In this proposal, EPA is seeking to replace long standing acceptable approaches to the estimation of emissions specific to the modeling of increment which they believe are too rigid and do not allow the flexibility to states to decide on a proper approach using guidance criteria, such as reliability and consistency. As part of their proposal, EPA seeks comments on recommendations submitted by WESTAR which include a set of guiding principals to be used along with a menu of approaches and which each reviewing authority can choose from, given the availability of backup information it deems appropriate. Before we get to the specific issues we have with the EPA proposal and certain items of the WESTAR recommendations, it is instructive to look at some of the underlying assumptions and regulatory references EPA uses to advance their viewpoint.

First, however, we note that EPA proposes in Section V.B. to promulgate a new definition of actual emissions specific to PSD increment calculations to be included in a new

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section (40 CFR 51.166(f)) which would be easier to find, and articulates a policy in Section V.B.1 (page 31386) which would give the reviewing authority discretion to select the appropriate data based on available records and be rationally based. EPA seems to note that the policy is contained in the proposed language to be codified at 40 CFR 51.166(f)(1)(iv). However, the specific language in this subsection as well as in all of 40 CFR 51.166(f) provides a clear indication that the proposal boils down to the allowance of using annual average emissions for even short term impact estimates. As such, this proposal should be rejected outright, even by the WESTAR states, who had qualified the conditions under which certain emission choices might not be appropriate. In addition, in making their argument for allowing more discretion to the reviewing authority to use most appropriate data available, EPA references an introductory section 8.0.a and other language from Appendix W of 40 CFR, Part 51 (page 31386). This selective reference on the part of EPA does not qualify that specific recommendations on calculating emissions in Section 8.1.2 of Appendix W are very prescriptive, but which they had already dismissed as applicable only to NAAQS on the previous page.

EPA bases many of their arguments on the distinction between the PSD and NAAQS programs wherein the former has to account for actual emissions changes in performing an increment analysis, while for NAAQS compliance, the requirements is to use allowable emissions. We agree with this distinction. In fact, EPA's draft 1990 NSR Workshop Manual recommend a specific approach to the calculation of actual emissions for PSD increments, which states that for short term averaging times, the maximum actual emission of the sources should be used, as distinct from the use of annual average emissions for annual impacts. This guidance has been used in multitude of applications in the last half a century, but EPA is now asserting that the approach is too rigid and might not give enough weight to certain qualifiers such as the availability of data, especially at the time of the baseline dates, and to consistency between the baseline and current inventories.

One of EPA's arguments repeat that of WESTAR's in referencing a specific definition of actual emissions at 40 CFR 51.166(b)(21). EPA notes that the same definition is also referenced

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in the “baseline concentration” definition at 40 CFR 51.166(b)(13)(I), but that is true only to the extent of the use of the term “actual emissions”, not with respect to the qualifier EPA uses to advance their arguments. That qualifier starts with one of the definitions of actual emissions at 40 CFR 51.166(b)(21)(ii) which states that, in general, actual emissions shall equal the average emission in tons/year over a given 2 year period. This particular definition has been the cornerstone of PSD applicability determinations since the Clean Air Act revisions incorporating the provisions. EPA correctly notes on page 31389 that the latter definition does not directly address how to calculate actual emission for increment modeling purposes, but we note that EPA’s proposal does not recognize other sections of the regulations which provide better guidance.

In particular, EPA does not recognize the presumption which the reviewing agency may make under 40 CFR 51.166(b)(21)(iii): “*The reviewing authority may presume that source specific allowable emissions for the unit are equivalent to the actual emissions of the unit*”. The use of annual average emissions in PSD applicability and netting determinations are commonplace, but these do not establish the use of that specific definition for other aspects of the PSD program. Furthermore, and more germane to modeling, EPA does not recognize that the use of allowable emissions is specifically referenced in the section dealing with source impact analysis, at 40 CFR 51.166(k), where the proposed source and all other applicable emission increases and decreases are to be assessed. Lastly, WESTAR’s recommendations reference guidance given in the preamble of the 1980 PSD rules (45FR at 52718, col. 3) wherein in determining baseline emission rates, it notes “*When EPA or a state devotes the resources necessary to develop source-specific emissions limitations, EPA believes it is reasonable to presume those limitations closely reflect actual source operation. EPA, states, and sources should then be able to rely on those emissions limitations when modeling increment consumption.*” In this discussion, EPA also cautions that “*The presumption that federally enforceable source-specific requirements correctly reflect actual operating conditions should be rejected by EPA or a state, if reliable evidence is available which shows that actual emissions differ from the level established in the permit.*”. All in all, these additional references clarify the requirement and the importance of erring on the side

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of predicting conservative PSD increments when actual data is limited.

We note these differences between the definitions of actual emissions not only because of their effect in identifying the proper approach to increment modeling, but also because EPA uses the definition specific to on actual annual emissions in 40 CFR 51.166(b)(21)(ii) to argue that the needed data to calculate these emission is at times lacking. That is, data on production rates, operating hours, and types of materials are scarce, especially when the desire is to model conditions at the time of the baseline dates which can be in the distant past. We acknowledge the difficulties agencies face when attempting to make emission estimates not only in the past, but also for minor source changes since the baseline date, as articulated by the WESTAR report. However, certain of the data needs which are important to determine annual averages, such as hours of operations, are not the controlling parameters for determining maximum actual short term emissions for modeling purposes. Furthermore, EPA's main emphasis seems to be in trying to quantify the emissions at the time of the baseline dates and only then to worry about how best to carry out the same approach to increment consumption calculations at the "current time". This emphasis seems to be misplaced and biases the conclusions which follow as to the appropriate data bases.

In most instances, states have determined the baseline concentrations as of the baseline dates by other means than using baseline inventories and have modeled changes since these dates in terms subsequent increases and decreases in emissions at sources which consume increment. That is, in establishing the baseline concentrations, many states have relied on the language of the Clean Air Act at Section 169(4) which encourages the use of available "*air quality data available in the EPA or a State air pollution control agency and on such monitoring data as a permit applicant is required to submit*". Once this baseline concentration is established, all subsequent increment analysis is based on the modeling exercises and any talk of using subsequent monitoring data to somehow establish the change in air quality since the baseline dates, as was one of the WESTAR recommendations, is unworkable due to the multifaceted

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difficulties which would be encountered. We understand that at times monitoring data might not be available and there might be a need to establish the change in concentrations since baseline using a modeling approach. However, whatever concessions one has to make in such case by case and specific determination should not set the tone for all the rest of the increment analysis procedures.

What is further troubling in EPA's proposal is the notion that the emissions calculations methodology chosen by the reviewing authority can use the data availability and consistency concept to potentially force the use of unreliable or undesirable emissions. That is, by insisting that "fairness" dictate the establishment of the current emission inventory on the same basis as the baseline inventory in order to perform an "apples to apples" comparison, EPA and WESTAR would have the reviewing agencies allow the choice of the lowest common denominator to dictate how the increment consumption should be performed. It is then but a simple step to allowing the use of weakly supported annual average data from the past, in addition to annual averages in the current inventory (from a choice of any two years of data sources might choose per EPA's complementary proposal) to determine whether air quality has degraded in an area on all averaging times, including the short term impacts, where annual average emission rates would clearly result in underestimation of PSD increment consumption. This proposal is thus a far cry from the Act's and regulatory mandate that EPA and state agencies use valid and the best available information to assure that the air quality of the area is not degraded.

However, EPA's proposal to allow the agencies to strive for mediocrity does not end there. On page 31385-6 of the proposal, EPA puts forth the proposition that Congress never intended the PSD increment calculations to be as precise as those for NAAQS compliance demonstrations. In its view, EPA argues that these increment analysis are artificial assessments in that actual emissions as of the baseline date change and certain emissions can be used to adjust the baseline concentrations, and it is only the relative magnitude of the concentrations due to these changes versus the baseline concentration that is important. It is clear to all involved

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that the increment analysis should account for all applicable increases and decreases in emissions which would affect a corresponding dynamic change in the status of the increment consumption for a given area after the baseline date. Once the baseline concentrations are set and it has been demonstrated that either the total PSD increments Congress quantified in Section 163 of the Act or smaller values relative to a more constraining NAAQS are available, the modeling then predicts impacts relative to these latter values and not relative to the baseline concentrations for each permit action under 165(a)(3). Similarly, an NAAQS analysis allows for variation of concentrations in an area which can go up or down over time in terms of changing background levels which are to be incorporated in the assessment of total impacts relative to the NAAQS.

Thus, the increment consumption analysis needs to be as, if not more, precise since it is wholly a modeling exercise after the baseline concentrations are established. What is lacking in EPA's discussions is the fact that in addition to performing a PSD increment analysis, modifications at major sources and minor sources will also need to demonstrate NAAQS compliance using emissions data developed by the sources and verified by the review agency. Just what data is available and the proper methods used to develop that source inventory is as much of an issue and requirement in that instance as it is for the PSD increment analysis. Thus, to achieve the proper end in both cases, EPA should rather assure that permit applicant and source owners take their responsibility seriously to take steps necessary to provide adequate and accurate information. In instances, such as for minor and mobile source impact management as discussed by WESTAR, where accurate information is hard to come by and is left to the agencies to develop, a case by case determination of how to address the data gaps in the data and the level of modeling can be the review agency's determination. However, that discretion does not need to be passed on wholesale to the rest of the permitted world, especially for those which fall under the requirements of Section 165(a)(3).

Having addressed some of the background information and assertions which EPA relies upon in this proposal, we now turn to comments EPA seeks on the WESTAR recommended

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approach for the determination of actual emissions for modeling of short term increments and the associated guiding principals which would govern the choice of the approach from a menu of choices (in sections V.B.3 and V.B.1, respectively). We note that the majority of WESTAR's fourteen recommendations contain a number of suggestion which are supportable in many respects. However, a few of them have been identified in the past by a number of entities to be based on technically unsound and unsupportable concepts. In particular, the issue at hand of how emissions for short term impact calculations should be estimated has not found support from a number of front. EPA's proposal acknowledges receipt of the NESCAUM states October 18, 2005 comments, at footnote 7 of page 31378, which in particular expressed concern with Recommendation 4 dealing with the issue of emissions for short term average increments. Some details on the technical and regulatory limitations of the WESTAR method are provided in the comments and are adopted for the purpose of the current set of comment.

In addition to NESCAUM concerns, NACAA (formerly STAPPA and ALAPCO) also provided comments at WESTAR's request on these recommendations through its PSD Reform Subcommittee. The NACAA Subcommittee also noted its support for many of the WESTAR recommendations, but could not support the package as a whole precisely because of the issues which NESCAUM identified problematic. NACAA's comment letter of May 10, 2005, which was copied to EPA staff, is included here as attachment I. Furthermore, a April 7, 2005 memorandum transmitting the set of final Recommendations the WESTAR PSD Workgroup to the Council states "*The Workgroup also believes it is important to note that while the attached document contains consensus recommendations from participating WESTAR States and FLM representatives, there was one area (Recommendation 4) where EPA Regions 8 and 10 staff participating in a consultive role to the process indicated that they do not support the approach recommended by WESTAR.*" It is important to note that EPA staff who participated in these discussions are the regional meteorologist with specific expertise in modeling.

These concerns apparently did not dissuade EPA from merely parroting WESTAR's

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recommendations in their proposal and seeking further comments. It is possible that EPA did not understand the precise concerns and to that end we will attempt to provide more details of our comments. We will not repeat the comments in the attachment to the NESCAUM 10/18/05 letter, but rather will try to expand on some of the concerns. WESTAR's six guiding principles to be used in choosing the appropriate emissions from a set of menu methods are listed on page 31386 of the proposal. The rationale behind these principals are detailed under Recommendation 4 of the WESTAR May, 2005 report. The latter indicates WESTAR's believes that the principle of maximizing the accuracy of methods (the first principle) should have primacy in the selection of the appropriate method. We agree and suggest that the principle to conform to the Clean Air Act and PSD regulations should carry as much weight as well. The arguments set forth in the WESTAR report for the other principles and as expressed by EPA in the proposal cover the issues of: a) consistence between the baseline and current inventory emissions, b) practicality and availability of data to calculated emissions and c) equitable and fair treatment of all source within and across jurisdictions were addressed to some extent in our previous discussions.

As we noted before, we do not believe the agencies should be forced to find the sources with the lowest common denominator calculation methods or data bases, from the set of sources in the inventories, to fit the aforementioned principles, especially in the case, as it is here, where the menu of approaches contain technically and regulatory un-defensible options. As the WESTAR report notes, some of their Workgroup members also felt the menu of options approach might limit their ability to choose the most appropriate option.

EPA's argument that the determination of maximum actual short term emission typically require the use of Continuous Emission Monitoring (CEM) data, which is not usually available, is not in line with WESTAR's discussions nor with acceptable emission estimation techniques. WESTAR's arguments merely note that for major and minor sources (including area sources) CEM data or short term emissions information are unavailable and agencies must rely on other

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techniques to calculate emissions. To the extent the concern is with minor sources, we previously indicated that we agree with WESTAR that states should have discretion on how to address the issue on a case by case basis. However, with respect to EPA's and WESTAR's arguments that a rigid requirement of certain emission methods can counteract the States and EPA's air quality management efforts, we deemed these unfounded. Specifically, in terms of discouraging sources from adopting CEMs, keeping emission records and encouraging more permitted increment consuming, the arguments are a red herring. It is not the PSD increment analysis which dictates the requirements of CEMs, emission records or what a specific permit applicant seeks are permit limits associated with it's specific case, but rather other specific regulations and the project's business and operational needs, mitigated by regulatory requirements such as BACT determinations and NAAQS and PSD increment calculations.

The WESTAR report proposes a set of menu of options for emission calculations from the standpoint that several Workgroup members indicated that there are a range of interpretations that can be drawn from EPA regulations and guidance regarding appropriate approaches for calculating actual point source emissions in the context of PSD program implementation. However, a spot check of available guidance and policy statements from EPA, before and since the 1990 draft NSR Workshop Manual, indicate conformance to the general recommendation found in Section IV.D.4 of the Manul. That is, for short term emission, the highest occurrence or the highest percentile actual short-term emission rates are be used. EPA's proposal notes that some states and EPA regions have allowed the use of the annual average emissions for these calculations. To see if these are outliers and to more objectively determine how these emissions have been calculated in individual States, one only needs to check the results of EPA's *PSD Questionnaire Summary* presented at the Modeler's Workshop in May, 2005. These results are summarized at the EPA SCRAM webpage<sup>3</sup> and provide both a national summary and EPA regional breakdown statistics. A copy of the national summary is contained in Attachment II.

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<sup>3</sup> [http://cleanairinfo.com/modelingworkshop/presentations/rls\\_dispersion.htm](http://cleanairinfo.com/modelingworkshop/presentations/rls_dispersion.htm)

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It is clear from the responses from EPA regional and state modelers that staff specifically responsible for the review and concurrence of the proper methodologies for calculating PSD increments and the associated emissions methods indicate that, in the vast majority of cases, they quantify emission by the use of either the allowable, maximum actual or average actual short term emissions, while the use of annual average rate has occurred in less than 10% of cases (see question #16). In addition, in the majority of cases, the annual emissions are only used for annual impacts (question #17). Furthermore, the methodology used to model changes in emissions from a source previously in the baseline or sources coming in after the baseline, have almost always relied on the allowable or actual emissions other than the annual rate (see questions 9b and 9c). A review of the regional breakdown of the results shows that the states in WESTAR (EPA regions 8 to 10) have conformed to these methods.

The explanation of this discrepancy between past and current practice on the one hand and EPA's proposed methods is not, as some will likely assume, the fact that the former has just followed what was in the NSR Manual guidance (especially if there is also a claim that a range of interpretations can be had). Rather, the explanation lies in the fact that EPA and State modelers who are knowledgeable in the complexities of dispersion modeling have pointed out some of the pitfalls in increment analysis which the WESTAR menu approach and EPA's proposal have not fully recognized. It seems clear that, contrary to the warnings of its expert staff, EPA has determined that they know best how to address dispersion modeling of increments. As the saying goes, just because you can hold three eggs in one hand, does not mean you know how to make an omelette.

Before we note some of the technical issues of concern, we would like to first address the two approaches contained in the WESTAR recommendations on how to determine emissions for short term increment modeling. These are listed on page 31390 of the proposal. Two separate menu approaches are presented, depending on whether or not CEM data is available, but both contain a set of choices which can be used without a preferred hierarchy. An approach without a

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hierarchy could work only to the extent that each of the methods are equally acceptable and technically sound, but unfortunately, that is not the case with many of the methods in the EPA proposal which will clearly lead to underestimation of short term PSD increments. Of the two alternative “bins” of choices, some noted under the CEM available data set can be supported, but essentially none of the ones under the non-CEM list are technically sound or acceptable. EPA’s proposal and WESTAR report note that CEM data are rarely available and, based on a check of information at some of the NESCAUM states, we find that CEM data availability is less than 10% of minor sources and only for one quarter of the Title V facilities. In addition, there is no CEM data for PM10, nor will there be any for PM2.5 emissions when PSD increments are developed for that pollutant. Therefore, by default, WESTAR’s approach and EPA’s proposal (invoking their fairness and consistency of inventories doctrine) means that essentially in all circumstances, the sources and the reviewing authorities are left with four choices under the menu with no-CEM data.

The first three choices under this latter menu are all related one way or another to the calculation of actual annual emissions. This is clearly not unacceptable for use for short term (3 and 24 hour) increment analyses. From the analogy we gave under the FLM variance discussions, this would equate to the authorities pulling over the driver who was speeding, but not being able to determine if he was speeding until they averages his speed over the whole of the year. The last choice under this menu, that of the allowable emissions rate, is the only acceptable method. For the set of choices when the availability of CEM data menu, we would point out that only the approaches using the maximum or upper percentile short term emissions for each source (not the entire facility) are technically acceptable. The use of hourly CEM data (last entry) might be acceptable under certain conditions, as noted below.

The last issue to address in EPA’s proposal is the discussions on page 31390 that stakeholders have suggested, and EPA agrees, that it is unreasonable to assume that a multitude of sources included in an emission inventory will all operate simultaneously at their maximum

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emission rates throughout the year and that such an assumption leads to overly conservative impact calculations, and that a more representative emission rate should be used. Although everyone agrees with the basic assertion that continuous operations at maximum rates at all sources is very unlikely, we point out that it is not how the modeling is carried out, nor is it the aim of the modeling exercise. The conclusion reached by EPA, then, reveals a misunderstanding of what the modeling exercise is really trying to achieve. A detailed discussion of the latter is presented in a paper by the Leon Sedefian of New York State, contained in attachment III.

We will not repeat the details, except to point out that the reason for assuming the hourly emission rate is best represented in the modeling by the allowable or maximum short term emissions is related to the fact that it is not possible to determine *a priori* which combination of a large set of meteorological conditions, and the multitude of their combinations which could be associated with maximum impacts in specific source combinations, will result in the determination of case specific maxima from either a single or multiple set of sources. As each discrete meteorological data hour is analyzed by the model, it looks to see if interactions of plumes from different sources could occur within the limited wind flow for that particular hour (and not for all of the sources in the inventory) and then calculates whether the set of other meteorological parameters lead to the overall maxima (or highest-second-highest value) from this set for comparison to the increments. This process is repeated for every hour of a 5 year period to assure all potential combinations of meteorological cases have been considered and then the corresponding averages are calculated for each of the averaging times of the increment. At the end, the specific maxima for 3 and 24 hour cases are related to specific meteorological conditions, receptor locations and a set of combined sources which were not known ahead of time not can be simulated any other way. As noted in the Sedefian paper “*Thus, modelers are not fixated on the need to assume simultaneous hourly operations of all sources at their maximum emission rates under the delusion that such operations are commonplace*”.

The above discussion lead us to reject the menu approach and many of its entries

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proposed by WESTAR and instead suggest an alternative scheme which is based on a hierarchy of choices and which are defensible both on technical grounds and on regulatory guidance. For determining emissions to be used for short term increment calculations, we propose the following hierarchy:

1) Use allowable emissions if data to properly quantify actual maximum emissions is not available or cannot be substantiated by the reviewing agency. Using the allowable rate as the first entry conforms to the presumptions found in the PSD regulations at 40 CFR 51.166(b)(21)(iii) and 51.166(k), but can be bypassed in valid short term actual data is available.

2) Use maximum actual emissions calculated per guidance in Section IV.D.4 of EPA's draft NSR Workshop manual. If CEM data is used for this purpose, then the maximum or upper percentile values have to be determined per individual sources and not as an average for the facility.

3) Use hourly CEM data only to the extent that the concerns raised in Attachment II on the representativeness of the CEM variability over time of day and year can be overcome.

These conclude our comments on EPA's proposal. We hope the explanations and the concerns provided will lead to substantial modifications to what is in EPA's proposal EPA. Otherwise, we are concerned that, as it stands, there is clear possibility that it will lead to underestimation of PSD increment consumption modeling and a corresponding inability on the part of the regulatory agencies to assure that unacceptable air quality degradation does not occur.

