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*EPA's Midnight Deregulation
Under the Clean Air Act*

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In a Washington Post article published appropriately enough on Halloween this year, entitled “A Last Push to Deregulate: White House to Ease Many Rules,” EPA spokesperson Jonathan Shrader was asked about the highly controversial Clean Air Act rulemaking that EPA intends to adopt that will effectively eliminate the new source review (NSR) protections that apply to existing power plants. He replied that any rule that EPA completes in the remaining time under this administration will be “more stringent than the previous one.” The only way for that statement to be true with respect to this NSR rulemaking – or the national parks rule discussed in the following section of my testimony -- would be for EPA to abandon these rulemakings. EPA is rushing to adopt these two Clean Air Act (CAA) rules that will dramatically weaken current law and are in *no* respect more stringent than existing rules.

Indeed, the statement by EPA’s spokesperson is demonstrably false. And the proof is to be found within the Bush administration itself: (1) in the very words of outraged, dissenting officials from EPA and the National Park Service; and (2) in the formal objections (or nonconcurrences) lodged by principled EPA offices and officials in opposition to these two dangerous rules.

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EPA will issue several controversial, harmful and in all likelihood illegal rules under the Clean Air Act prior to January 20th, 2009. For example, the agency has signaled its intention to weaken the Act’s NSR rules to allow emissions increases from oil refineries, chemical plants, and other major industrial polluters to escape review and control, by artificially separating – and thereby ignoring – emissions increases that occur at multiple pieces of equipment at a facility. See generally the proposed EPA rule published on September 14th, 2006 at 71 Fed. Reg. 54,235.

Similarly, EPA plans to adopt a rule that weakens the Act's NSR program (yet again) by allowing mining operations and factory farms to ignore so-called "fugitive emissions" that under today's law must be included in determining whether a facility is a "major source" subject to Clean Air Act control programs. EPA's weakening rule change effectively will exempt mines and factory farms from important Clean Air Act regulations. See generally the proposed EPA rule published on November 13th, 2007 at 72 Fed. Reg. 63,850.

Finally, there are controversial, damaging and unlawful Clean Air Act rules that EPA has issued in recent months, such as a rule in which the White House overruled EPA fewer than 24 hours before the rule's signature, prohibiting EPA from monitoring lead emissions from facilities that emit more than 1,000 pounds per year of lead. Instead, the White House allowed EPA only to monitor facilities emitting more than 2,000 pounds of lead per year, resulting in more than 200 lead polluters nationwide that now will go unmonitored. For example, residents of Cass County, Indiana, Charlevoix County, Michigan, Lawrence County, Pennsylvania, Cuyahoga County, Ohio, Oswego County, New York, Harris County, Texas and Dakota County, Minnesota won't have the benefit of lead monitors downwind of the cement plants, oil refineries or lead smelters in their communities, thanks to the irresponsible White House intervention. (To find out if a community has a facility that should have a lead air monitor (but won't), check out NRDC's map of lead polluters here: http://www.nrdc.org/health/effects/lead/lead_emitters_maps.asp.)

My testimony today, however, will focus on two new source review (NSR) rules under the Clean Air Act that the EPA plans to finalize in the coming weeks: one eviscerating air quality safeguards that apply to industrial air pollution near national parks and wilderness areas; and the second effectively eliminating NSR control obligations covering existing power plants – the

largest industrial source of criteria air pollution, toxic air pollution and global warming pollution in the United States.

I. EPA's Rule to Allow Significant Air Pollution Increases From Power Plants

The Clean Air Act requires an existing industrial facility such as a power plant to undergo new source review (NSR) – requiring pollution controls and air quality review and sometimes emissions offsets -- whenever it makes a “modification.” This is defined in the statute as, *inter alia*, any physical or operational change that “*increases* the amount of any pollutant emitted.” CAA § 111(a)(4) (emphasis added). EPA has always – quite logically and across Republican and Democratic administrations alike – defined a pollution “increase” as more pollution after a facility change than there was before, measuring that pollution in tons per year. For example, a change that causes pollution to increase by more than 40 tons per year requires the facility either to offset that pollution increase (with a pollution decrease elsewhere at the plant), or to install pollution controls such as Best Available Control Technology (BACT).

In a 2005 decision, the U.S. Court of Appeals for the D.C. Circuit held that “the CAA unambiguously defines ‘increases’ in terms of actual emissions.” 413 F.3d 3, 39 (D.C. Cir. 2005). Specifically, after reviewing the various ways that the 1977 Congress chose to modify the terms “emit” and “emitted, the Court concluded that Congress was “conscious of the distinction between actual and potential emissions,” and “use[d] the term ‘emitted’ to refer to actual emissions.” *Id.*

In the 1977 amendments to the CAA, Congress further defined “major emitting facilit[ies]” as “stationary sources of air pollutants which emit, or have the potential to emit, one hundred *tons per year or more* of any air pollutant.” 42 U.S.C. § 7479(1) (emphasis added). Thus, brand new sources of air pollution such as a new plant must obtain NSR permits and install

BACT if they will create more than 250 tons per year of pollution. For new power plants, Congress set that threshold even lower – 100 tons per year. And as noted above, existing plants that undertake changes causing more than 40 tons per year of pollution, for example, must also install pollution controls or offset those pollution increases with decreases.

In a proposed rulemaking in 2005, 70 Fed. Reg. 61,081 (October 20, 2005), followed by a supplemental rulemaking proposal in 2007 (72 Fed. Reg. 26,202 (May 8, 2007)), EPA proposed to redefine emissions “increases” at power plants under the NSR program. EPA proposed to no longer define emissions increases for power plant modifications based upon actual emissions increases on an annual basis (measured in tons per year, following the statute). Instead, EPA’s planned rule would define emissions increases based upon a facility’s potential emissions (relating to its highest historic capacity levels), measured on an hourly basis.

In its proposal, EPA asserted that it has discretion “to propose a reasonable method” to decide how emissions increases are to be measured” 72 Fed. Reg. 26,219/2. And in an eyebrow-raising passage, EPA expressed “respectful[] disagree[ment]” with the D.C. Circuit’s 2005 ruling that the Clean Air Act requires emissions increases to be measured based upon “actual, not potential” emissions. 70 Fed. Reg. at 61,091. The D.C. Circuit and Supreme Court subsequently rejected EPA and utility industry appeals of the D.C. Circuit’s 2005 holding, yet EPA has not explained how its planned rule would be consistent with that binding court precedent.

The crux of EPA’s weakening rule change is to render irrelevant *how many* hours a power plant operates each year after it undertakes construction activity that enables it to run longer and harder and thereby pollute more. A dirty, grandfathered power plant that undertakes a so-called “life extension” project in order to prolong its operating life and increase power generation may well experience marginal improvements in its hourly pollution rate. But if that

power plant runs longer and harder than it did before the life extension project, as history shows power plant operators invariably do, then the increased operating time will swamp any marginal emission improvements in hourly emissions rates; the *total* annual pollution levels from that power plant will be vastly higher after the construction project than before. In other words, the power plant and surrounding air quality will be dirtier, by hundreds, thousands or even tens of thousands of tons per year. This situation – with its higher (*i.e.*, “increased”) air pollution levels – is precisely what Congress intended to be controlled through the NSR program, and precisely what the planned EPA rule change exempts from pollution control.

Thus, on the question of measuring emissions “increases” based on annual emissions (longstanding, current law) versus grossly weaker hourly emissions (EPA’s planned rule change), it is important to appreciate the absurdity of EPA’s position. EPA pretends that Congress meant to allow the agency to interpret “increases” in section 111(a)(4) to allow constructive activity at *existing* power plants to escape control when pollution increases exceed thousands or even tens of thousands of tons per year, while Congress applied BACT on *new* major sources of 250 and even 100 tons per year, 42 U.S.C. § 7479(1), (and even stricter controls and offsets on new major sources at even lower thresholds in nonattainment areas). In EPA’s view, Congress was acutely concerned with controlling new power plants that produced over 100 tons of additional air pollution each year, but Congress was perfectly apathetic and even accepting in the face of existing, grandfathered, and *uncontrolled* power plants that would produce over *tens of thousands* of additional tons of air pollution each year that would escape control.

Revealingly, neither EPA’s proposal nor supplemental proposal offers a rational explanation for this outcome flowing from EPA’s strained legal interpretation. Nor does EPA

proffer any explanation or legislative history justification why Congress would make such an absurd choice -- allowing air quality to degrade in this fashion from existing power plants but not from new ones.

EPA Itself Projects its NSR Rule Will Increase Pollution in Many Parts of the Country

Materials accompanying EPA's supplemental proposal reveal EPA admissions that the rule would result in: entire counties in Tennessee, Pennsylvania and Ohio experiencing SO₂ emissions increases between 3,001 – 34,275 tons per year, with no adjacent or nearby counties experiencing emissions decreases that would offset those emissions increases. Humphreys County, Tennessee alone experiences a projected SO₂ emissions increase of 34,275 tons per year. Counties in eastern Michigan, Georgia, Indiana and Wisconsin each would experience SO₂ emissions increases between 3,000 – 6,801 tons per year, and counties in Illinois, Indiana, South Carolina, Georgia, Alabama, Pennsylvania, Ohio and New York each would experience SO₂ increases between 1,001 – 3,000 tons per year.

EPA admits further that the rule would result in widespread NO_x emissions increases that would not be allowed under current law: entire counties in Michigan, Utah, Arizona, New Mexico and Wisconsin would experience NO_x emissions increases between 1,000 – 3,172 tons per year. Counties in Washington, California, Arizona, New Mexico, Utah, Colorado, Wyoming, Montana, Minnesota, Wisconsin, Michigan, Illinois, Florida, South Carolina, North Carolina, Alabama, Pennsylvania and New York, among many others, would experience county-wide NO_x emissions increases between 40 – 1,000 tons per year.

Examining several case studies in which the proposed rule was applied to actual emissions data and identified plants, EPA's Office of Enforcement of Compliance Assurance (OECA) concluded that the proposed rule would allow increased SO₂ emissions exceeding

13,000 tons per year from a *single* analyzed plant to escape control, when those increases would require control under current law. In other plant-specific case studies, OECA projected emissions increases under the rule of 939 tpy of SO₂ and 1,405 tpy of NO_x in one example, and 1,700 tpy of SO₂ and 507 tpy of NO_x in another. In one example, the annual SO₂ emissions increase that the rule would allow to escape control is over 327 times the *de minimis* threshold for SO₂ under current law. The OECA pollution analysis of the proposed rule is available here:

<http://www.nrdc.org/media/docs/051013a.pdf>.

Finally, EPA has admitted further that the NSR rule could allow power plants to increase their CO₂ emissions by up to *74 million tons per year*, in a July 24, 2008 letter from Robert J. Meyers, Principal Deputy Assistant Administrator for EPA's Office of Air & Radiation to Congressman Waxman. 74 million tons of CO₂ is roughly equivalent to the total annual CO₂ emissions of about 14 average coal-fired power plants, or the annual emissions from *50 million vehicles*. Adding 74 million tons of CO₂ emissions to the atmosphere *each year* would nearly double the amount of greenhouse gas emissions that EPA's Energy Star program helped prevent in 2007.

These are EPA's own figures. And it is absolutely crucial to recognize that all of these analyses were conducted *prior* to the D.C. Circuit's vacatur of EPA's Clean Air Interstate Rule (CAIR) and Clean Air Mercury Rule (CAMR). (See below.) Following those vacatures, without those rules to suppress some of the emissions increases, the NSR rule would result in significantly higher emissions increases of SO₂, NO_x, PM_{2.5} and global warming pollution than even the projections above from individual power plants and entire states.

With CAIR and CAMR Vacated, the Emperor's Rule Has No Clothes

On July 11th, 2008, the U.S. Court of Appeals for the D.C. Circuit vacated EPA's Clean Air Interstate Rule (CAIR) in its entirety. See *State of North Carolina v. EPA*, No. 05-1244 (D.C. Cir.), 2008 U.S. App. Lexis 14733 (July 11th, 2008). In addition, on February 8, 2008, the D.C. Circuit vacated EPA's Clean Air Mercury Rule (CAMR) in its entirety. *New Jersey v. EPA*, 517 F.3d 574 (D.C. Cir. 2008). Finally, although the D.C. Circuit upheld EPA's Clean Air Visibility Rule in *Utility Air Regulatory Group v. EPA*, 471 F.3d 1333, 1339 (D.C. Cir. 2006), the court did so primarily based upon EPA's reliance on CAIR to satisfy the Clean Air Act's requirements for "Best Available Retrofit Technology" (BART). See generally 471 F.3d at 1337-1341.

EPA relied upon the presence and application of CAIR, CAMR and CAVR as its primary and fundamental rationale for declaring that the instant NSR rule change would not have a harmful impact on local air quality or county-level power plant emissions:

Nonetheless, we want to comprehensively examine the outcomes of a maximum hourly emissions increase test, using a robust methodology based on conservative (that is, protective of the environment) estimates. We therefore developed two IPM scenarios, which we call the CAIR/CAMR/CAVR NSR Availability Scenarios, or, more simply, the NSR Availability Scenarios, to examine how changes to major NSR applicability under the proposed regulations could, by allowing sources to make repairs or improvements that increase hours of operation, affect emissions and control technology installation.

72 Fed. Reg. at 26,208/3.

States' implementation of the Acid Rain, CAIR, and [Best Available Retrofit Technology (BART)] programs will generate significant reductions in pollution and thereby decrease the likelihood that an unreviewed source could cause an increment violation. We conducted modeling to estimate the impact of the CAIR program on nationwide emissions trends and ambient concentrations. The modeling shows that emissions are predicted to decline in all parts of the country. With nationwide emissions declining, there is a decreased likelihood that unpermitted emissions increases could violate a PSD increment by returning a given geographical area to levels above that area's historical actual levels.

70 Fed. Reg. at 61,094. See also 72 Fed. Reg. 26,208/2 (repeating the same argument).

EPA failed to evaluate SO₂ and NO_x control device installations, national emissions, regional, county-level and local emissions, and impacts on air quality for power plants *without* assuming implementation of CAIR, CAMR and CAVR. *Id.* at 26,208-26,213. Moreover, basic EPA assumptions about local and national emissions behavior from the power sector no longer hold true following the vacatur of CAIR, to the extent there was even any truth in those assumptions before the court decision.

I have previously critiqued EPA's fundamentally flawed reasoning pretending that CAIR could supplant the statutory NSR program. But EPA's rationale has a special poignancy and indefensible ring following the judicial vacatures of CAIR and CAMR: EPA's "modeling to estimate the impact of the CAIR program on nationwide emissions trends and ambient concentrations" now no longer holds any relevance or support for adoption of the instant NSR rulemaking, even as it yielded no support for this rule prior to vacatur of CAIR. And the Acid Rain program has already achieved its second phase SO₂ emissions targets, meaning that program will not produce "declining" nationwide emissions of SO₂, nor does it even require reductions in the other NSR-regulated air pollutants to which EPA's deregulatory rulemaking would apply. Finally, the BART program does not cover all of the EGUs to which this deregulatory rulemaking would apply, the BART program does not have the geographic sweep of this rulemaking, and the BART program does not cover all of the NSR-regulated pollutants to which EPA's rulemaking would apply.

In light of the vacatures of CAMR and CAIR, and the failure of CAIR to satisfy the obligation for BART in CAVR, EPA no longer has any basis for relying upon CAIR, CAMR or CAVR to provide any rationale sounding in law, policy, air quality, public health, environmental

protection or emissions control that would justify adopting the instant NSR rulemaking.

Following these fundamentally changed circumstances since EPA first proposed the NSR rulemaking in 2005 and later published its supplemental notice of proposed rulemaking in 2007, EPA was called upon by NRDC, Senators Boxer and Carper, and Congressman Waxman either to abandon the instant NSR rulemaking or to convene a new round of notice and comment rulemaking. The latter would offer the public, state and local air quality regulators and regulated industry the chance to comment on the changed circumstances following the vacatur of CAIR and CAMR, and any additional modeling that EPA should perform to assess the air quality impact of its rulemaking. To date, EPA has refused to grant or even so much as respond to these requests. Instead, all indications are that EPA will finalize the NSR rule before this administration leaves office.

Even CAIR Would Not Have Cleaned Up the Electric Power Sector to Justify This Rule

In a spreadsheet that EPA submitted to members of the Senate Environment and Public Works Committee in 2005, EPA identified the specific electric generating units (EGUs) in the 28-state plus District of Columbia CAIR region that would still lack scrubbers (for SO₂) or SCR (for NO_x) or both under a CAIR-CAMR-CAVR scenario in 2010, 2015, and 2020. The results of EPA's own projections are truly astonishing:

Year	No SCR or Scrubber ≤ 25MW	No SCR or Scrubber ≥ 25 MW	SCR Only (No Scrubber)	Scrubber Only (No SCR)	SCR & Scrubber	Total EGUs
2010	97	475	106	110	187	975
2015	152	350	92	107	294	995
2020	154	373	59	127	328	1041

In 2010, under EPA's CAIR-CAMR-CAVR national trading programs, a remarkable 81% of 975 total EGUs still would lack scrubbers or SCR or both. In 2015, 70% of 995 total

EGUs still would lack scrubbers or SCR or both. And nearly fifteen years from now, in 2020, an astonishing 68% of 1041 total EGUs still would lack scrubbers or SCR or both. EPA does not project beyond 2020, but considering that the phase II CAIR deadline was 2015 and the phase II CAMR deadline was 2018, it is safe to predict that the 2020 figures for control device installation would not change significantly or even materially. EPA does not refute any of this information in its proposals or the accompanying administrative record.

Accordingly, even EPA's original CAIR-CAMR-CAVR programs – prior to the sweeping vacatur by the D.C. Circuit Court of Appeals – would have left well over half of the nation's EGUs lacking what are *today* considered available controls for SO₂ or NO_x or both for an indefinite period. And of course technology will continue to advance over those periods, meaning even scrubbers and SCR will become outdated technologies. It is this state of affairs that EPA deemed sufficient to control EGUs “nationwide” in a manner justifying the essential elimination of the NSR program for existing EGUs, when it issued its supplemental proposal in 2007. But as discussed above, even those insupportable assertions are demonstrably erroneous following the vacatur of CAMR and CAIR.

The Bush Administration EPA Knows This Rule Change is so Harmful and Irresponsible, It Already Refused to Adopt it Once Before

One of the paradoxes and perverse ironies of this NSR rulemaking is that the Bush administration itself opposed the very same approach in 2002 when the utility industry was clamoring for it, because EPA had concluded the approach would harm air quality and public health. That earlier approach allowed emissions increases to be calculated based on “the unit's pre-change and post-change *potential* emissions, measured in terms of *hourly* emissions.” 67 Fed. Reg. 80,186, 80,205 (Dec. 31, 2002) (emphasis added).

Here is what the EPA said about this rejected approach in 2002:

- “[W]e also expressed concern about the environmental consequences associated with the Exhibit B provisions. For one, you could modernize your aging facilities (restoring lost efficiency and reliability while lowering operating costs) without undergoing preconstruction review, while increasing annual pollution levels as long as hourly potential emissions did not change.” 67 Fed. Reg. at 80,205/2.
- “We agree that a potential-to-potential test for major NSR applicability could lead to unreviewed increases in emissions that would be detrimental to air quality and could make it difficult to implement the statutory requirements for state-of-the-art controls.” *Id.* at 80,205/3.

Like the instant rulemaking, that earlier *EPA-rejected* approach to defining emissions “increases” would have permitted sources to increase actual annual emissions without NSR review and pollution controls as long as they did not increase their achievable hourly emission rates. *Id.* Thus, large annual emissions increases would have gone unreviewed and uncontrolled based upon sources increasing emissions up to their historic highest capacity levels based on hourly emissions rates. As it was this very feature that caused the Bush administration to reject this earlier approach in 2002 due to its air quality hazards, it is deeply cynical for EPA to adopt the same approach today and disingenuous for the administration to misrepresent and dismiss the rule’s harmful impacts.

EPA’s Enforcement Office Has Blasted and Formally Objected to the Planned Rule

In a highly critical August 25, 2005 memorandum commenting on a draft of EPA’s proposed rule, the Air Enforcement Division (AED) of the Office of Enforcement and Compliance Assurance (OECA) attacked many key premises that EPA nevertheless went on to rely upon in its proposed rulemaking. OECA made the following points, among others:

- Under the proposed “achievable” test, no change causing an emissions increase, capacity or otherwise, at an EGU would trigger NSR.
- Under the “achieved” test, in only the rarest of operational circumstances would a change causing an emissions increase, capacity or otherwise, trigger NSR.

- Neither test measures “actual” emissions.
- Neither test would provide nationwide consistency in emissions calculations.
- EPA cannot rely on CAIR and BART alone to obtain emissions reductions from EGUs.
- The rule does not address how CAIR and BART will protect local air quality.
- The rule is inconsistent with Congressional intent.
- The rule is inconsistent with case law.

The OECA memorandum is available here: <http://www.nrdc.org/media/docs/051013.pdf>.

In short, OECA’s critique convincingly shows that the planned rule serves no beneficial purpose at all, let alone the intended purposes of the Clean Air Act, which it blatantly flouts. EPA addressed very few, if any, of the “significant concerns” raised in OECA’s comments – either in the original proposal or the supplemental proposal.

Although OECA has long expressed serious concerns about the “adverse[] impact” the proposed rule would have on its pending NSR enforcement cases against power plant defendants, OECA Mem. at 1, these concerns fell on deaf ears. OECA repeatedly emphasized the importance of including language in the rule to “expressly and plainly state” that it would only be applied to prospective conduct. *Id.* at 14; *see id.* at 11. OECA also pointed out that the rule did not address recordkeeping or reporting requirements, absent which the rule would be “effectively unenforceable.” *Id.* at 10. Despite these recommendations, EPA did not include language in the proposed rules that would limit the rule to prospective conduct or require recordkeeping and reporting specific to the new emissions test.

OECA also critiques the agency’s contention that Congress was concerned about regulating capacity, as opposed to emissions, as “fatal” to the enforcement cases. Indeed, the notion that “we have not expanded capacity, and consequently NSR was not triggered” is

industry's "favorite defense." *Id.* at 13. Unconcerned, EPA's proposal repeated these erroneous contentions.

In sum, OECA expressed the view that "a better approach [than the proposed tests] would be not to tinker with the NSR test at all." *Id.* at 5 (emphasis added). Such a strong statement from OECA should have triggered major revisions and reconsideration of the proposed tests. Instead, the agency barreled ahead, ignoring the concerns of its enforcement staff and finalizing a proposed rule that is for all material purposes identical to the one so severely critiqued within the agency. It is this rule that EPA plans to adopt before the current administration leaves office.

Finally, there are reports that OECA and several EPA Regional offices have formally objected to EPA's adoption of the NSR power plant rule in recent weeks, registering what are known as "nonconcurrences" at the highest levels within the relevant offices. In my experience, such nonconcurrences are exceedingly rare and mark a profound professional disagreement with an EPA rule. If the current administration does proceed with this rulemaking, it will be over the objections of the professional and political officials responsible for enforcing the Clean Air Act's protections on behalf of all Americans.

Power Plant Capacity Factors, Emissions Headroom and the NSR Rule

NRDC and the Clean Air Task Force retained the respected firm MSB Energy Associates to examine the current usage levels of coal-fired power plants and emissions headroom related to this capacity, in the context of the aforementioned NSR rulemaking. Specifically, MSB Energy Associates examined the proposition underlying and fundamental to the NSR rulemaking -- that existing plants are currently operating at or very close to full utilization, and therefore that there is little or no potential for increased emissions as a result of the EPA rule change.

The MSB analysis demonstrates that the NSR rulemaking would allow massive and widespread uncontrolled increases in SO₂ and NO_x emissions increases from the

vast majority of coal-fired power plants in the country. This result occurs because the rule permits physical and operational changes to operate at up to – and even beyond -- an 85% capacity factor level, to increase total annual emissions significantly and escape NSR review, and therefore to escape the requirement to control those increased emissions.

The MSB analysis, moreover, is conservative, yielding projected emissions increases under the NSR rulemaking that are lower than actually may be experienced through the rule's implementation. That is because the various options under EPA's NSR rulemaking allow power plants to increase their capacity factors *above* the 85% level examined by MSB, since the rule allows physical and operational changes that enable or facilitate capacity increases up to a plant's *maximum* physical and operational capacity.

Specifically, the MSB Energy Associates analysis finds:

- The 439 coal-fired power plants analyzed, including utility and non-utility plants, had an overall capacity factor of 74% in 2007. Individual capacity factors for plants in the group ranged from highs close to 100% down to lows in the 5-6% range. About 6% of the coal-fired capacity had capacity factors greater than or equal to 90%, while about 15% of the capacity had capacity factors greater than or equal to 85%. Put differently, approximately 85% of the plants analyzed currently have capacity factors less than 85% -- they have headroom to increase capacity and therefore emissions under the PSD/NSR rule.
- If one assumes that all of the existing coal-fired power plants will make changes in order to achieve the capacity factor of at least 85% under the revised rule, this would lead to an increase in coal-fired generation of 16% (over 2007 levels) from these plants. This increased level of generation would result in an additional 18% of SO₂ and NO_x and 15% of CO₂ emitted by these plants.¹ These emission increases total 1.6 million tons of SO₂, 0.5 million tons of NO_x, and 319 million tons of CO₂.
- Of the 439 plants analyzed, identified in a spreadsheet accompanying the MSB Energy Associates memorandum, 308 have the headroom to be able increase SO₂ emissions by more than 100 tons per year, and 322 have the headroom to be able to increase NO_x

¹ As the MSB Energy Associates memorandum notes, these increases are actually understated. A number of power plants – especially non-utility plants – do not report SO₂ and CO₂ emissions to the EPA, so the MSB analyst was unable to develop actual emission rates to use to convert the additional generation to emissions. He estimated that, substituting the overall average emission rates for actual emissions rates for the plants for which we do not have actual emission rate data, the potential SO₂ increase would be 19% rather than 18%, and the potential CO₂ increase would be 16% rather than 15%.

emissions by more than 100 tons per year. 100 tons per year, of course, is the *major source* threshold for power plants. 42 U.S.C. § 7479(1). Also, 335 plants out of the 439 have potential SO₂ increases, NO_x increases, or both of more than 100 tons per year.

Regarding SO₂, it is true of course, as the MSB memorandum notes, that the Clean Air Act limits the total amount of SO₂ that can be emitted from power plants under Title IV; so there could not actually be an overall increase of 1.6 million tons from the utility sector. And there is a regional cap on summertime NO_x emissions in the eastern U.S. under the NO_x SIP Call – which does not, however, cap overall or annual NO_x emissions from the utility sector. In both cases, however, these programs do not do not strictly limit emissions from any particular plant, so the potential for localized SO₂ and NO_x emissions increases under the instant rule would be significant and alarming for purposes of local and regional air quality, public health, the environment, national parks and visibility – all the province of the NSR program.

The MSB analysis shows that under the planned NSR rule, 335 power plants out of the 439 examined – or over 76% -- could increase emissions of SO₂ or NO_x or both by 100 tons per year, or more, while completely escaping any requirement to add pollution controls. Such an outcome is especially indefensible and unlawful, as an emissions increase of 100 tons per year is the *major source* threshold for *new* power plants, and this rule is addressing *modifications* at existing power plants under CAA section 111(a)(4). EPA's proposed tests would allow changes that cause enormous annual emission increases to evade review, well in excess of 100 tons per year. In embracing this approach, EPA disregards Congress' clear intent for NSR to guard against such actual, annual pollution increases.

II. EPA's Rule to Weaken Air Quality Protections for National Parks

A central tenet of the Clean Air Act's Prevention of Significant Deterioration (PSD) program is:

. . . to preserve, protect, and enhance the air quality in national parks, national wilderness areas, national monuments, national seashores, and other areas of special national or regional natural, recreational, scenic, or historical value.

42 U.S.C. 7470(2) (emphasis added).

National parks and wilderness areas exceeding a certain size threshold that existed on the date of enactment of the 1977 Clean Air Act Amendments (August 7, 1977) were designated by Congress as mandatory "Class I areas," a designation that EPA may not change by rule. 42 U.S.C. § 7472. Such national parks and wilderness areas are to receive the greatest protections afforded by the Act's PSD program against the degradation of air quality in these treasured national areas. There are currently 158 Class I areas across the United States, including 48 National Parks, 21 Fish & Wildlife refuges, and 88 Forest Service wilderness areas.

As concisely described in an attached fact sheet by the National Parks and Conservation Association:

Under PSD, Congress established limits (known as increments) on additional amounts of pollution in class I areas over baseline conditions that existed in 1977 when PSD was enacted. Increments are in place for emissions of sulfur dioxide, particulate matter, and nitrogen oxides. Because Congress sought to protect air quality not just from long-term pollution increases, but also from fluctuations and "spikes" that occur at certain times of year (e.g., peak summer energy demand), it created both annual and short-term (3 and 24 hours) increments for these pollutants.

In June 2007, EPA proposed a rulemaking to substantially weaken the PSD increment modeling procedures used to determine both short-term and annual impacts on air quality from plants locating or expanding near national parks and wilderness areas. 72 Fed. Reg. 31,372-99 (June 6, 2007) (Docket ID No. EPA-HQ-OAR-2006-0888). EPA reopened the comment period on this proposed rulemaking in August 2007. 72 Fed. Reg. 49,678 (August 29, 2007).

Fundamentally, EPA's planned rule change allows greater levels of harmful smog, soot, toxic and global warming pollution in and near national parks and wilderness areas. The rule change does so by weakening current, stronger rules designed to protect air quality and visibility in these special places, with the planned rule resorting to annual averaging gimmicks in order to hide and thereby ignore air pollution spikes that occur on an hourly, daily or weekly basis.

As detailed in comments to EPA submitted by NRDC, NPCA and other environmental groups in 2007, the EPA proposal suffered from numerous, serious defects:

(1) The planned rule masks short term peak pollution levels

Pollution levels in class I areas can vary significantly over the course of a day, week, month and year. For instance higher pollution can occur during the daytime when more commercial activities take place, and during summer months, when power plants increase operations to meet air conditioning energy demand. Congress created short-term pollution increments to protect class I areas from these periods of higher emissions.

EPA's proposed rule would undermine short-term increments by turning them into annual average pollution limits. A facility looking to locate near a class I area could average the hourly and daily emissions of all pollution sources over the course of a year, thus hiding pollution spikes that can cause real harm in class I areas or even exceed the short-term increment limits. Having created a false picture of actual pollution levels in the class I area, the new facility could then claim the right to emit far more pollution than otherwise would be allowed.

(2) The planned rule ignores major pollution sources in class I areas

Under current modeling rules, a pollution source that has received a variance to exceed a class I increment will nonetheless still have its emissions counted when new sources are seeking to add pollution in the class I area. This makes sense because a variance source, by definition, is known to be a major contributor of pollution in the class I area.

Under EPA's proposed rule, the emissions from any pollution source operating under a variance would not be included in a class I increment analysis. When calculating pollution levels in a class I area, a new facility could simply pretend that those sources don't exist. By ignoring these emissions, a new facility can claim there is more "room" for new pollution, thus degrading class I air quality to an even greater extent.

(3) The planned rule allows manipulation of pollution accounting methods.

Under current rules, both baseline emissions and current emissions from existing facilities that impact a class I area are established by looking at the most recent two years of operating data prior to the applicable baseline date or current date. The proposed rule allows actual emissions to be computed based on any time period that is

claimed to be “more representative” of normal source operations. The alternative time period could even be two non-consecutive 12-month periods picked from anytime in the past. This opens the door to manipulation of pollution accounting by new facilities that have a vested interest in producing the lowest possible pollution estimates for class I areas they are seeking to locate near.

(4) The planned rule opens the door to 50 different standards.

Air pollution does not respect state boundaries, and class I areas may be polluted by sources in many different states. It is therefore important that the methods for estimating class I pollution levels are the most accurate and are consistent from state to state.

EPA’s proposal opens the door to 50 different standards for estimating class I pollution levels: Emissions “...shall be calculated based on information that, *in the judgment of the reviewing authority*, provides the most reliable, consistent and representative indication of the emissions from a unit or group of units in an increment consumption analysis....” Some states are likely to use methods that make the air in class I areas appear cleaner than it actually is, but EPA’s rule provides no check against such practices.

July 19, 2007 Comments from Chesapeake Bay Foundation *et al.* to EPA, Document ID: EPA-HQ-OAR-2006-0888-0066.1.

By eliminating concern and tools for short-term emissions spikes in favor of annualized, averaged pollution levels, the planned EPA rule change is fundamentally dishonest, cynical and harmful to air quality. As rightly pointed out by my colleague Mark Wenzler, Director of Clean Air and Climate Programs with the National Parks and Conservation Association, “pollution levels do vary greatly, with emissions generally peaking during the daytime in the summer, when most of our families are visiting the parks. It's no comfort to the parents of a child suffering an asthma attack on a hike in July that the dirty air they're breathing is supposedly mitigated by somewhat cleaner air in the middle of January.”

The National Park Service has strongly criticized EPA’s planned rule change. I am attaching to my testimony a highly critical December 2nd, 2008 email from Don Shepherd with the Air Resources Division of the National Park Service (NPS), along with his supporting spreadsheet analysis. Mr. Shepherd writes that he wished to test the proposition asserted by

EPA's political management – and vigorously disputed by EPA professional staff, as discussed below – that the upcoming parks rule would not worsen air quality in or near national parks and wilderness areas. To do so, Mr. Shepherd turned to EPA's own Clean Air Markets database to analyze SO₂ emissions data from eleven power plants in one test state, North Dakota.

Here is how Mr. Shepherd describes his inquiry and methodology:

"So what?" is usually a good question when considering engaging over some policy question, so i (sic) decided to satisfy my curiosity and take a look at how EPA's proposal to estimate emissions for the purpose of evaluating [Prevention of Significant Deterioration] increment consumption might play out in the real world. (Or, in ND, as the case may be.) EPA has tried to justify its proposed approach on the basis that, since it is unlikely that all [Electric Generating Units (EGUs)] will operate at their maximum actual emission rates simultaneously, it would be more realistic to assume that they all operate continuously at their annual average emission rates. If that is true, then the sum of their annual averages should always exceed the sum of their actual emissions over the 3-hour and 24-hour averaging periods relevant to [National Ambient Air Quality Standards] and PSD for SO₂. Let's find out if EPA is correct.

December 2, 2008 email from Don Shepherd, NPS, to John Bunyak *et al.*, NPS. Mr. Shepherd's conclusions, backed by the spreadsheets accompanying his email, are a searing indictment of the EPA rule. His results directly contradict EPA's purely political and rhetorical claims that the rule will not allow or result in dirtier air. Comparing EPA's planned dirtier approach to the approaches mandated by current agency rules, which protect against air pollution spikes over short term (3-hour and 24-hour) periods, he finds that the planned approach would:

- “underestimate[] total actual 3-hour (block average) SO₂ emissions from these eleven EGUs 761 times (26% of the possible results) in 2006, with the worst case underestimating 3-hour SO₂ by 25%”;
- “underestimate[] total actual 24-hour (block average) SO₂ emissions from these eleven EGUs 89 times (24% of the possible results) in 2006, with the worst case underestimating 24-hour SO₂ by 14%”;
- “underestimate[] total actual 30-day (rolling average) SO₂ emissions from these eleven EGUs 52 times (15% of the possible results) in 2006, with the worst case underestimating 30-day SO₂ by 7%.”

Mr. Shepherd rightly concludes: “[t]he approach proposed by EPA clearly fails this test and frequently and significantly underestimates actual emissions from this group of EGUs. This leads me to wonder if anyone at EPA actually bothered to do a ‘reality check’ on its proposal?”

The inescapable and tragic truth is that no evidence or analysis in EPA’s proposed rulemaking or administrative record contradicts the National Park Service analysis. Indeed, we now know that internal EPA analysis and conclusions by professional staff in EPA’s Regional offices echo and amplify upon these same conclusions.

For example, an internal analysis prepared by EPA’s regional office in Kansas City, Kansas, examined a candidate power plant in Kansas. (Attached.) The analysis reveals that the dirtier approach that EPA plans to finalize would allow SO₂ emissions during 2,857 operating hours at this plant, covering a period of 121 days out of the year, to be higher than under the more protective approach codified in current law. The analysis states: “[t]his would mean that 2857 hours/121 days with higher hourly emissions than the annual mean would not be evaluated under current proposal and would be compared against a standard which allows only one exceedance per year.” The Regional officials conclude that under the approach reflected in the upcoming rule, violations of the limits (“increments”) that Congress imposed on additional air pollution allowed in national parks “would be underestimated by *1.5 – 13 times*.”

Accordingly, the Regional analysis reached the following damning conclusions about the approach planned for adoption by political officials in EPA headquarters, the Office of Air

Quality Planning and Standards:

- “OAQPS made erroneous assumption that a more representative picture of actual conditions can be found by promoting annualizing emission rates. Little source interaction is observed in many cases based upon over 20 years of reviewing PSD modeling.”
- “When little source interaction is observed, increment consumption is literally a function of individual source release characteristics and emission rates.”

- “Annualized emission rates will relieve increment violations derived from maximum actual emission rates, contrary to OAQPS stated opinion that proposed rulemaking will still remain protective of increments.”

The National Parks and Conservation Association fact sheet discussed earlier contains a series of astonishing statements – remarkable for their sheer number, bluntness and principled objection – from the National Park Service (NPS) and EPA regional officials, blasting EPA’s planned rule change and the adverse air quality impacts from coal-fired power plants. I excerpt only some of the more revealing criticisms here:

- “The [Clean Air] Act does not ... allow for *shopping about for emissions data* from multiple time periods that may be far-removed from the baseline date.” NPS;
- “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 gaming* of an already complex task ... [because] it makes PSD baseline concentration(s) up for interpretation by every applicant.” NPS;
- The new EPA approach “represents a *180-degree about-face from*” recent EPA guidance. NPS;
- “[U]se 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 ... operation[s]” NPS;
- The proposed EPA methodology “provides the lowest possible degree of protection of short-term increments and it is usually the 24-hour increment that is the most critical” for protecting air quality. NPS;
- The proposed rule “ignores the reality that some sources, such as EGUs, often have peak production in response to external factors and may well peak concurrently.” NPS;
- “[T]he current draft may actually muddle matters more....” EPA Region 1;
- “[T]he draft appears to 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 8760 hours per but typically operates a much lower number of hours.” EPA Region 1;
- “[The final rule] could significantly underestimate the emission and therefore underestimate the actual impacts.” EPA Region 2;
- “[W]e do not agree that using annual average emissions for short term impacts is an improvement over the method that is in the [existing] guidance ... [which] has been successfully implemented for many years.” EPA Region 2;

- “We believe that the proposed approach ... for defining the baseline or current year concentrations is inappropriate and could lead to “gaming” the increment calculation. [T]he rule would allow the source to arbitrarily pick and choose which years to model. It could allow sources to pick a year solely because it is most beneficial to the outcome of the modeling. We believe this is not consistent with the intent of Congress.” EPA Region 2;
- “[A]llowing the use of proprietary models without requiring that the workings of the model be disclosed for both the reviewing agency and the public could erode the credibility of the Agency's permitting actions.” EPA Region 3;
- “The proposed addition to the definition of Actual Emissions ... is grossly inadequate” and “opens the door to totally frivolous documentation” of a source’s emissions. EPA Region 3;
- “The exclusion [from the baseline of certain sources that have received variances] gives a permanent ‘pass’ to sources that happen to obtain a variance regardless of subsequent events [or that are] granted based upon error or mischief.” EPA Region 3;
- “[T]here remain a number of revisions to the increment calculating procedures that would reduce consistency, accuracy and public review as provided in EPA’s current guidance and regulations and could allow greater deterioration of air quality in clean areas rather than preventing significant deterioration.” EPA Region 4;
- “[I]n 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.” EPA Region 5;
- “Using annual emissions smoothes out the actual emission peaks and valleys and could result in the modeling significantly underestimating the actual maximum short-term impacts for many source categories. That means that compliance with the short-term PSD increments cannot be assured.” EPA Region 5;
- “Our main concern continues to be that this action allows short-term emission rates to be estimated from annualized average emission rates. This estimation will result in a significant underprediction of the actual impact and lead to worsening air quality.” EPA Region 6;
- “To change the guidance would undermine many of the permits issued in our Region. From our experience, the use of annual averaged emissions is often significantly different for many industrial emissions, including coal burning power plants and the resultant impacts of annual averaged values would not be protective of short-term increments. It has also been our experience that short-term increment issues have driven the level of controls for some facilities and resulted in overall less emissions from a project. This affect would be weakened by the use of an annual average emission rate.” EPA Region 6;
- EPA is arguing that it can use annual emissions as an accurate measure of increment consumption. But “the argument ...lacks foundation” and “will likely mask the peak short term concentrations of pollutants.” EPA Region 7;

- “Dating back only to 2005, the EPA stated that use of annualized emission rates likely underestimates short-term impacts. In the Regional Haze Regulations and Guidelines for Best Available Retrofit Technology (BART) Determinations, EPA opined that the use of an annualized emission rate potentially underestimate visibility impacts.” EPA Region 7;
- “Since the inception of this rule, Region 7 has expressed its concern that codification of any procedures which allow for the use of long-term emission rates when modeling against short-term increments would not be reflective of the goal of the PSD program – to minimize the degradation of air quality and preserve the existing air quality in areas of the country that currently enjoy clean air.” EPA Region 7;
- “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.” EPA Region 9;
- The proposed rule’s preamble states that a PSD permit applicant is not required to release “proprietary data and/or software that may be used in the development of model inputs.” “We believe that the public should be entitled to review all of the data used to analyze increment consumption, and should also be able to understand how the model is treating data.” EPA Region 9;
- “[T]his proposal ... would jeopardize protection of PSD increments and limit the public’s ability to be involved contrary to the provisions of CAA Section 160.” EPA Region 9;
- “The proposed revisions to the regulatory definitions and procedures for calculating increment consumption would likely result in significant underestimation of emissions, and cause greater deterioration of air quality.” EPA Region 9;
- EPA Region 10 notes dozens of inaccuracies in how the proposal describes the legal requirements of the PSD program, describing the document as “full of errors.” EPA Region 10;
- “Because of this fundamental misunderstanding of the permit process and the lack of understanding of how variances work, this rulemaking misses the mark on the appropriate solution to the issue of increment consumption for sources with variances.” EPA Region 10;
- There needs to be a “hierarchy” of methods for estimating emissions. Without one, the “lowest common denominator” will prevail. EPA Region 10;
- “[T]here are still several ‘fatal flaws’ with this rulemaking. These flaws are ones that we raised previously and which, in our opinion, have not been adequately addressed. The result of these flaws is that the revised rule would substantially weaken EPA’s current regulations and would effectively allow for nearly unfettered deterioration of air quality in clean areas rather than preventing significant deterioration of air quality as required by Part C of Title I of the Act.” EPA Region 10; and
- “[A]llowing the permit applicant to manipulate the emissions inventories in this manner completely undermines the entire increment program. . . . [U]sing allowable

emissions to establish the baseline concentration for PSD increment consumption analyses is NOT conservative as this will overestimate the baseline emissions and hence underestimate the amount of increment consumption.” EPA Region 10.

Notably, copies of these internal EPA comments reveal that multiple EPA regional offices formally objected to the planned adoption of the weaker parks rule, through the EPA “nonconcurrence” process. (Remarkably, despite the very rare practice of nonconcurrences at EPA, both the NSR power plant rule and national parks rule prompted nonconcurrences *en masse* by EPA political and professional officials protesting these irresponsible, harmful rules.) We also know that the EPA parks rule is currently under review at the White House Office of Management and Budget, meaning that the regional nonconcurrences have been disregarded. The dirty parks rule – like the destructive NSR power plants rule -- is planned for adoption by the Bush administration as parting midnight deregulations for power plants and other major industrial polluters.

JOHN D. WALKE

John D. Walke is a senior attorney and Director of Clean Air Programs with the Natural Resources Defense Council, where he has general responsibility for Clean Air Act implementation. His work focuses on the Act's new source review (NSR) preconstruction review programs and a variety of State Implementation Plan measures under Title I of the Act; air toxics programs under Title III of the Act; Title IV's acid rain program; and the Title V operating permits program. Prior to joining NRDC in 2000, John worked for the United States Environmental Protection Agency, in the air and radiation law office of the Office of General Counsel, from 1997-2000. At EPA, John was the primary attorney responsible for the operating permits program under Title V of the Clean Air Act. He also worked extensively on issues relating to NSR programs, air toxics, monitoring, and enforcement under the Clean Air Act. Before working at EPA, John was an associate in the Washington, D.C. office of Beveridge & Diamond, P.C. from 1993-1997, where his practice concentrated on the Clean Air Act, the Clean Water Act, and the representation of individuals and corporations in criminal and administrative proceedings. John has a bachelor's degree in English from Duke University and a law degree from Harvard Law School.

Witness Disclosure Form

Clause 2(g) of rule XI of the Rules of the House of Representatives requires non-governmental witnesses to disclose to the Committee the following information. A non-governmental witness is any witness appearing on behalf of himself/herself or on behalf of an organization other than a federal agency, or a state, local or tribal government.

Your Name, Business Address, and Telephone Number:

John Walke
1200 New York Avenue NW, Suite 400
Washington, DC 20005
202-289-6868

1. Are you appearing on behalf of yourself or a non-governmental organization? Please list organization(s) you are representing.

Natural Resources Defense Council

2. Have you or any organization you are representing received any Federal grants or contracts (including any subgrants or subcontracts) since October 1, 2004?

Yes No

3. If your response to question #2 is "Yes", please list the amount and source (by agency and program) of each grant or contract, and indicate whether the recipient of such grant or contract was you or the organization(s) you are representing.

US EPA CFDA 66.034: to NRDC
 XA 83033101 \$226,119
 XA 83222601 \$528,824
US EPA CFDA 66.606: to NRDC
 X 82891301 \$8,712
 X 83066401 \$44,949
 X4 83116601 \$11,472
US AID: To NRDC
OUT-LAG-I-00-98-00-00004-00 \$35,188

Signature:

John D. Walke

Date:

12/10/08

Please attach a copy of this form, along with your curriculum vitae (resume) to your written testimony.



MEMORANDUM

TO: Conrad Schneider
FROM: David Schoengold
SUBJECT: Current Usage Level of Coal-Fired Power Plants and the Proposed
New Source Review Rules
DATE: October 21, 2008

I have been analyzing the current level of usage of coal-fired power plants to test the proposition that these plants are fully utilized and that there is little or no potential for increased emissions from increased usage. My source of data for this analysis has been the Platts COALdat database. COALdat is updated monthly by Platts using forms and reports from the US EPA and the Energy Information Agency. I relied on COALdat for data on the power generated by coal-fired power plants and the SO₂, NO_x, and CO₂ emissions from those plants. I focused on 2007, the most recent year for which there was a full year's data. It is important to use a full year's data because power plant usage varies with the season. Using a partial year like 2008 would have the potential for skewing the results of the analysis.

I was able to obtain generation data for 439 coal-fired power plants. This group of plants included both utility and non-utility plants. Taken as a group, these plants had an overall capacity factor of 74% in 2007. On an individual basis, capacity factors ranged from highs close to 100% down to lows in the 5-6% range. About 6% of the coal-fired capacity had capacity factors greater than or equal to 90%, while about 15% of the capacity had capacity factors greater than or equal to 85%.

I believe it is reasonable to expect that, under pressure for the production of more power, a coal-fired power plant should be able to perform at the 85% capacity factor level. For many of the older plants this might require significant refurbishments, but since that is the key issue in the New Source Review rules, it is appropriate to assume that such refurbishment will take place under the proposed rules.

If we assume that all of the existing coal-fired power plants achieve a capacity factor of at least 85%, this would lead to an increase in coal-fired generation of 16% (over 2007 levels) from these plants. This increased level of generation would result in an additional 18% of SO₂ and NO_x and 15% of CO₂.¹ These emission increases total 1.6

¹ This increase is actually understated. A number of power plants – especially non-utility plants – do not report SO₂ and CO₂ emissions to the EPA, so I was unable to develop actual emission rates to use to

million tons of SO₂, 0.5 million tons of NO_x, and 319 million tons of CO₂.

Of course, the Clean Air Act Amendments of 1990 limit the total amount of SO₂ which can be emitted, so there could not actually be an increase of 1.6 million tons. However, the CAAA does not limit emissions from any particular plant, so the potential for localized emission increases could be great.

I have added a table beginning on the next page which shows the headroom by plant (both MWH and emissions) for each of the coal-fired power plants in the COALdat database. Of the plants in the table, 308 have the headroom to be able increase SO₂ emissions by more than 100 tons per year, and 322 have the headroom to be able to increase NO_x emissions by more than 100 tons per year. Also, 335 plants have potential SO₂ increases, NO_x increases, or both of more than 100 tons per year.

convert the additional generation to emissions. I have estimated that, using the overall average emission rates with the plants for which we do not have actual emission rates, the potential SO₂ increase would be 19% rather than 18%, and the potential CO₂ increase would be 16% rather than 15%.

Table 1. Plant Specific MWH and Emissions Headroom
Based on 2007 Operations

ORIS-ID	Plant	State	MWH	MW	CF	MWH Headroom	SO2 Headroom (Tons)	NOx Headroom (Tons)	CO2 Headroom (Tons)
3	Barry (ALAP)	AL	11,043,397	1,636	77%	1,138,259	3,642	1,150	925,450
8	Gorgas	AL	7,401,201	1,247	68%	1,883,961	17,436	3,005	1,839,716
10	Greene County (ALAP)	AL	3,630,070	497	83%	70,592	510	105	74,493
26	Gaston (ALAP)	AL	12,151,849	1,881	74%	1,854,077	20,348	3,013	1,858,554
47	Colbert	AL	7,536,293	1,197	72%	1,376,569	5,623	2,251	1,345,390
50	Widows Creek	AL	10,017,661	1,628	70%	2,104,427	6,408	3,462	2,207,281
51	Dolet Hills	LA	3,810,763	650	67%	1,029,137	2,887	1,343	1,134,438
56	Lowman (Tombigbee)	AL	3,563,206	556	73%	576,770	2,396	1,494	645,368
59	Platte	NE	609,970	100	70%	134,630	530	284	163,842
87	Escalante	NM	1,853,421	247	86%	0	0	0	0
108	Holcomb	KS	2,849,409	360	90%	0	0	0	0
113	Cholla	AZ	7,935,969	1,021	89%	0	0	0	0
126	Irvington	AZ	752,617	156	55%	408,959	1,043	765	382,812
127	Oklaunion	TX	4,200,859	690	70%	936,881	918	1,611	954,110
130	Cross	SC	12,314,529	1,800	78%	1,088,271	756	446	1,082,247
136	Seminole Generating Station	FL	8,860,755	1,330	76%	1,042,425	2,106	1,876	1,022,374
160	Apache	AZ	2,953,647	350	96%	0	0	0	0
165	Grand River Dam (GRDA)	OK	7,000,952	1,010	79%	519,508	1,221	1,026	580,615
207	St. Johns River Power	FL	8,838,659	1,276	79%	662,437	884	1,428	670,532
298	Limestone (TEGE)	TX	13,567,700	1,614	96%	0	0	0	0
384	Joliet 29	IL	5,400,473	1,044	59%	2,373,151	6,324	1,282	2,467,923
462	W. N. Clark	CO	240,064	43	64%	76,391			
469	Cherokee (PSCO)	CO	4,519,347	717	72%	819,435	1,114	1,627	860,960
470	Comanche 1 and 2 (PSCO)	CO	4,434,142	660	77%	480,218	1,237	732	493,489
477	Valmont (PSCO)	CO	1,306,454	186	80%	78,502	44	131	81,596
492	Drake	CO	1,920,826	254	86%	0	0	0	0
525	Hayden	CO	3,583,486	446	92%	0	0	0	0
527	Nucla	CO	687,622	100	78%	56,978	90	131	64,836
564	Stanton Energy Center I	FL	6,102,920	889	78%	516,574	509	690	514,900
568	Bridgeport Harbor	CT	2,322,119	372	71%	449,282	499	326	493,031
593	Edgemoor	DE	1,611,910	260	71%	324,050	1,421	400	306,295
594	Indian River (NRG)	DE	3,802,100	780	56%	2,005,780	11,463	3,450	2,032,146
602	Brandon Shores	MD	8,370,973	1,297	74%	1,286,489	6,040	1,846	1,164,774
628	Crystal River	FL	15,292,965	2,350	74%	2,205,135	12,613	4,917	2,188,376
641	Crist	FL	6,344,902	930	78%	579,878	3,514	542	622,940

ORIS-ID	Plant	State	MWH	MW	CF	MWH Headroom	SO2 Headroom (Tons)	NOx Headroom (Tons)	CO2 Headroom (Tons)
642	Scholz	FL	411,144	92	51%	273,888	3,102	1,041	356,215
643	Lansing Smith (GUPC)	FL	2,378,645	357	76%	279,577	902	358	224,432
645	Big Bend	FL	8,579,337	1,751	56%	4,458,609	4,815	9,809	5,108,518
663	Deerhaven	FL	1,267,471	228	63%	430,217	2,024	985	443,229
667	Northside	FL	621,005	562	13%	3,559,924	3,026	1,584	3,514,072
676	McIntosh (LALW)	FL	2,515,625	342	84%	30,907	64	47	29,505
703	Bowen	GA	22,963,347	3,222	81%	1,027,665	8,417	791	993,716
708	Hammond (GPCO)	GA	4,813,935	846	65%	1,485,381	13,940	2,265	1,512,615
709	Harlee Branch	GA	10,359,717	1,623	73%	1,725,141	15,587	3,321	1,568,412
710	McDonough	GA	3,761,742	517	83%	87,840	616	99	83,989
727	Mitchell (GPCO)	GA	560,479	155	41%	593,651	4,746	1,915	655,610
728	Yates	GA	7,209,788	1,295	64%	2,432,782	23,197	3,990	2,426,384
733	Plant Kraft (Port Wentworth)	GA	1,242,296	201	71%	254,350	1,427	799	306,268
856	Edwards	IL	4,768,387	749	73%	808,667	4,977	881	472,597
861	Coffeen	IL	5,757,061	900	73%	944,339	3,678	1,586	1,002,033
863	Hutsonville	IL	836,522	156	61%	325,054	1,333	444	400,374
864	Meredosia	IL	1,790,552	343	60%	763,426	5,752	1,603	1,076,690
867	Crawford (MIDGEN)	IL	2,680,000	542	56%	1,355,732	4,121	1,030	1,478,378
874	Joliet 9	IL	1,681,317	314	61%	656,727	1,721	1,392	703,995
876	Kincaid	IL	6,495,172	1,168	63%	2,201,756	5,427	4,833	2,435,351
879	Powerton Generating Station	IL	8,257,468	1,538	61%	3,194,480	7,427	9,599	3,256,549
883	Waukegan (MIDGEN)	IL	4,877,258	789	71%	997,636	2,729	988	1,041,043
884	Will County	IL	5,494,771	1,092	57%	2,636,261	7,698	3,032	2,706,135
886	Fisk	IL	1,626,952	326	57%	800,444	2,257	536	812,895
887	Joppa Steam	IL	8,087,687	1,002	92%	0	0	0	0
889	Baldwin Energy Complex	IL	13,473,856	1,800	85%	0	0	0	0
891	Havana	IL	3,060,973	441	79%	222,713	470	53	236,961
892	Hennepin	IL	2,028,358	305	76%	242,672	536	129	250,601
897	Vermilion (DMG)	IL	790,415	176	51%	520,081	1,199	679	581,224
898	Wood River (DMG)	IL	2,863,586	460	71%	561,574	1,193	418	554,192
963	Dallman	IL	1,753,537	372	54%	1,016,375	1,748	2,292	1,196,655
964	Lakeside (SPRIL)	IL	259,824	78	38%	320,964	11,312	1,785	396,442
976	Marion (SIPC)	IL	1,765,374	280	72%	319,358	808	781	447,800
981	Stateline (DOMENE)	IN	3,102,951	515	69%	731,739	2,009	1,767	737,955
983	Clifty Creek	IN	8,292,975	1,230	77%	865,605	6,466	1,978	783,347
988	Tanners Creek	IN	6,041,569	995	69%	1,367,201	7,198	1,859	1,281,949
990	Harding Street	IN	3,767,353	653	66%	1,094,885	11,858	1,226	1,019,573
991	Eagle Valley	IN	1,456,487	263	63%	501,811	5,126	916	508,139

ORIS-ID	Plant	State	MWH	MW	CF	MWH Headroom	SO2 Headroom (Tons)	NOx Headroom (Tons)	CO2 Headroom (Tons)
994	Pete 1 (IP&L)	IN	11,874,176	1,694	80%	739,348	1,283	943	747,078
995	Bailly	IN	2,346,712	480	56%	1,227,368	1,810	4,732	1,334,032
997	Michigan City	IN	2,547,459	469	62%	944,715	4,615	1,842	990,472
1001	Cayuga	IN	6,942,107	1,005	79%	541,123	6,661	749	483,066
1004	Edwardsport	IN	235,278	120	22%	658,242	17,414	2,965	1,021,745
1008	Gallagher	IN	3,043,302	560	62%	1,126,458	20,361	1,825	1,079,045
1010	Wabash River	IN	4,218,094	668	72%	755,834	8,390	1,119	787,908
1012	Culley	IN	2,607,426	360	83%	73,134	123	82	111,143
1043	Ratts	IN	1,749,268	250	80%	112,232	1,295	293	114,580
1047	Lansing	IA	1,618,324	329	56%	828,208	3,545	2,617	1,122,396
1048	Milton L.Kapp	IA	1,052,692	215	56%	548,645	1,893	346	591,977
1058	Sixth Street	IA	68,175	63	12%	400,253	6,614	3,239	2,633,413
1073	Prairie Creek	IA	808,881	218	42%	811,518	3,873	2,549	1,268,738
1082	Council Bluffs	IA	9,130,634	1,613	65%	2,879,764	5,731	2,174	2,761,204
1091	George Neal North	IA	6,176,287	950	74%	897,413	3,168	1,346	914,711
1104	Burlington (IPL)	IA	1,226,504	213	66%	358,377	1,313	299	421,982
1122	Ames Electric	IA	429,400	107	46%	367,322	784	878	467,478
1167	Muscatine (MPW)	IA	1,462,801	218	77%	161,544	323	433	193,759
1241	Lacygne	KS	10,271,286	1,432	82%	391,386	814	644	394,077
1250	Lawrence Energy Center	KS	3,503,616	533	75%	465,102	307	563	522,963
1252	Tecumseh Energy Center	KS	1,426,987	214	76%	166,457	460	332	190,231
1295	Quindaro	KS	1,167,796	207	64%	373,526	1,335	1,025	422,428
1353	Big Sandy (KPC)	KY	7,522,630	1,060	81%	370,130	2,195	703	336,968
1355	Brown (KUC)	KY	3,899,340	704	63%	1,342,644	15,118	2,128	1,302,888
1356	Ghent	KY	11,938,248	1,949	70%	2,574,006	10,656	3,887	2,503,285
1357	Green River (KUC)	KY	995,101	217	52%	620,681	12,817	1,285	678,696
1363	Cane Run	KY	3,530,399	563	72%	661,699	2,551	1,122	648,157
1364	Mill Creek (LGEC)	KY	10,472,522	1,493	80%	644,356	1,559	786	610,779
1374	Smith (OMU)	KY	2,176,473	409	61%	871,100	1,141	0	965,053
1378	Paradise (TVA)	KY	13,221,567	2,303	66%	3,926,571	13,017	16,256	5,358,081
1379	Shawnee (TVA)	KY	9,621,589	1,369	80%	571,985	2,065	1,084	598,291
1381	Coleman (WKEC)	KY	2,940,714	455	74%	447,216	8,307	742	494,480
1382	Henderson II	KY	1,473,939	312	54%	849,213	1,304	1,316	882,587
1383	Reid	KY	208,584	65	37%	275,406	6,796	763	318,667
1384	Cooper	KY	1,955,315	341	65%	583,771	5,528	1,267	538,932
1385	Dale (EKPC)	KY	1,011,821	196	59%	447,595	3,355	1,097	484,669
1393	Nelson (EGULF)	LA	3,433,704	550	71%	661,596	1,965	708	689,294
1552	C. P. Crane	MD	2,006,981	385	60%	859,729	12,212	2,304	893,168

ORIS-ID	Plant	State	MWH	MW	CF	MWH Headroom	SO2 Headroom (Tons)	NOx Headroom (Tons)	CO2 Headroom (Tons)
1554	Herbert A Wagner	MD	2,858,203	459	71%	559,511	3,712	820	590,572
1571	Chalk Point	MD	3,982,206	684	66%	1,110,858	9,420	2,194	1,074,983
1572	Dickerson	MD	3,027,584	546	63%	1,037,932	10,878	1,609	1,006,374
1573	Morgantown	MD	7,009,216	1,244	64%	2,253,608	28,407	2,997	2,058,862
1619	Brayton Point	MA	8,405,150	1,135	85%	46,954	160	26	41,044
1626	Salem Harbor	MA	1,809,018	314	66%	531,930	1,684	391	543,066
1695	B. C. Cobb	MI	2,133,338	320	76%	249,382	1,162	310	242,568
1702	Dan E. Karn	MI	3,480,499	515	77%	354,191	1,457	381	354,094
1710	J. H. Campbell (CEC)	MI	8,100,980	1,440	64%	2,621,260	9,056	4,509	2,671,234
1720	J. C. Weadock	MI	1,821,448	310	67%	486,812	2,208	818	496,887
1723	J. R. Whiting (CEC)	MI	2,389,140	328	83%	53,148	210	68	59,843
1733	Monroe (DETED)	MI	20,838,176	3,045	78%	1,834,894	10,615	3,092	1,730,461
1740	River Rouge	MI	3,411,752	540	72%	609,088	2,606	946	655,621
1743	St. Clair	MI	7,618,860	1,417	61%	2,932,122	13,634	3,812	2,860,696
1745	Trenton Channel	MI	3,866,111	730	60%	1,569,469	11,617	2,271	1,732,589
1769	Presque Isle	MI	3,435,213	609	64%	1,099,401	4,172	2,292	1,233,456
1831	Eckert	MI	1,579,378	344	52%	982,865	3,268	1,278	1,278,398
1866	Wyandotte (WYAN)	MI	271,911	40	79%	22,206	117	50	26,252
1893	Clay Boswell Energy Center	MN	6,701,160	917	83%	123,322	370	116	137,053
1897	M.L. Hibbard	MN	39,009	16	28%	80,127	727	1,511	871,329
1904	Black Dog	MN	1,472,815	282	60%	626,957	953	1,646	583,073
1915	King	MN	726,942	583	14%	3,614,076	11,330	17,311	4,032,170
1927	Riverside (NSP)	MN	2,004,027	381	60%	834,761	4,620	4,395	991,854
1943	Hoot Lake	MN	954,802	144	76%	116,454	411	200	141,136
2049	Jack Watson	MS	4,761,112	775	70%	1,009,538	4,609	3,084	987,136
2076	Asbury	MO	1,038,488	210	56%	525,172	4,545	1,914	558,389
2079	Hawthorn	MO	3,722,001	563	75%	470,097	207	162	479,344
2080	Montrose	MO	3,070,689	510	69%	726,771	3,103	1,363	823,406
2094	Sibley (UTIL)	MO	3,032,630	508	68%	752,172	2,772	2,343	774,571
2098	Lake Road (UTIL)	MO	671,554	119	64%	215,265	850	768	233,505
2103	Labadie	MO	18,910,229	2,430	89%	0	0	0	0
2104	Meramec	MO	5,863,029	860	78%	540,531	1,951	481	593,603
2107	Sioux	MO	6,642,810	1,007	75%	855,312	5,701	783	783,769
2161	James River (SPCIUT)	MO	1,513,200	219	79%	117,474	317	181	123,011
2167	New Madrid - ASEC	MO	7,620,326	1,160	75%	1,017,034	1,846	3,031	987,148
2168	Thomas Hill	MO	6,965,389	1,120	71%	1,374,131	2,851	2,913	1,432,710
2187	J. E. Corette	MT	1,185,364	158	86%	0	0	0	0
2240	Wright (FRE)	NE	549,916	120	52%	343,604	1,309	371	367,196

ORIS-ID	Plant	State	MWH	MW	CF	MWH Headroom	SO2 Headroom (Tons)	NOx Headroom (Tons)	CO2 Headroom (Tons)
2277	Sheldon (NPPD)	NE	1,521,885	225	77%	153,465	423	771	171,897
2291	North Omaha	NE	3,311,990	663	57%	1,623,219	6,598	2,743	1,718,266
2324	Gardner (NEVP)	NV	3,749,669	595	72%	680,701	191	1,222	783,242
2364	Merrimack	NH	3,287,462	434	86%	0	0	0	0
2367	Schiller Station	NH	652,463	97	77%	66,821	239	58	82,857
2378	B.L. England	NJ	1,357,373	284	55%	757,291	6,062	2,086	800,714
2384	Deepwater (CONEC)	NJ	486,847	81	69%	116,279	540	227	109,807
2403	Hudson (PSEGF)	NJ	1,936,945	608	36%	2,590,223	4,973	3,782	2,933,415
2408	Mercer	NJ	2,861,045	648	50%	1,963,963	8,769	845	2,007,101
2442	Four Corners (AZPS)	NM	14,566,304	2,060	81%	772,456			
2451	San Juan (PNM)	NM	11,180,803	1,643	78%	1,052,975	1,306	2,059	981,689
2480	Danskammer	NY	2,527,525	369	78%	220,049	987	311	223,626
2527	AES Greenidge	NY	703,613	161	50%	495,193	2,013	582	509,469
2535	AES Cayuga	NY	2,256,084	306	84%	22,392	33	23	21,411
2549	Huntley	NY	2,590,770	436	68%	655,686	2,469	646	688,919
2554	Dunkirk (NRG)	NY	3,442,479	591	66%	958,107	2,611	757	962,893
2629	Lovett	NY	1,259,163	191	75%	163,023	826	344	191,659
2642	Rochester 7 (Russell Station)	NY	1,219,343	257	54%	694,279	11,466	1,201	756,584
2706	Asheville	NC	2,286,513	390	67%	617,427	120	374	581,613
2708	Cape Fear	NC	2,088,013	323	74%	317,045	1,858	311	278,730
2709	Wayne Lee	NC	2,296,709	418	63%	815,719	5,078	1,358	767,514
2712	Roxboro (CPLC)	NC	15,489,483	2,492	71%	3,065,949	26,980	2,545	5,979,888
2713	Sutton	NC	3,015,520	623	55%	1,623,338	10,316	2,687	1,651,462
2716	Weatherspoon	NC	943,674	182	59%	411,498	3,880	1,512	484,989
2718	Allen (DUPC)	NC	6,903,503	1,179	67%	1,875,331	12,827	1,632	1,763,608
2720	Buck (DUPC)	NC	1,714,997	377	52%	1,092,145	6,056	983	1,064,033
2721	Cliffside	NC	4,061,214	770	60%	1,672,206	10,635	962	1,619,623
2723	Dan River	NC	1,054,981	283	43%	1,052,237	7,076	1,426	1,134,917
2727	Marshall (DUPC)	NC	14,861,439	2,110	80%	849,621	2,910	850	788,125
2732	Riverbend	NC	2,236,115	464	55%	1,218,829	8,050	1,140	1,209,883
2817	Leland Olds	ND	4,384,749	669	75%	596,625	6,020	1,330	651,422
2823	Young	ND	4,492,726	705	73%	756,704	4,336	3,121	817,172
2828	Cardinal	OH	10,680,795	1,830	67%	2,945,385	21,354	4,094	2,784,523
2830	Beckjord	OH	6,103,502	1,125	62%	2,273,248	17,856	4,308	2,201,766
2832	Miami Fort	OH	6,883,950	1,243	63%	2,371,428	15,153	3,130	2,290,349
2835	Ashtabula (FIRGEN)	OH	1,381,641	244	65%	435,183	1,856	455	470,259
2836	Avon Lake	OH	2,903,034	721	46%	2,465,532	34,863	5,239	2,679,540
2837	Eastlake	OH	7,882,657	1,233	73%	1,298,261	9,341	1,435	1,194,738

ORIS-ID	Plant	State	MWH	MW	CF	MWH Headroom	SO2 Headroom (Tons)	NOx Headroom (Tons)	CO2 Headroom (Tons)
2838	Lake Shore	OH	1,224,029	245	57%	600,241	2,371	981	657,105
2840	Conesville	OH	10,334,121	1,695	70%	2,286,849	23,372	4,551	2,275,918
2843	Picway	OH	340,832	100	39%	403,768	7,805	1,215	527,254
2848	Hutchings	OH	608,874	371	19%	2,153,592	14,741	4,738	2,338,155
2850	Stuart (DP&L)	OH	15,078,413	2,388	72%	2,702,635	18,054	4,216	2,400,413
2861	Niles (ORION)	OH	1,161,437	216	61%	446,899	5,262	1,692	448,868
2864	Burger	OH	1,718,978	312	63%	604,174	7,913	1,196	716,518
2866	Sammiss	OH	15,364,175	2,220	79%	1,165,945	7,281	1,428	1,121,866
2872	Muskingum River	OH	8,481,929	1,425	68%	2,128,621	31,674	5,024	1,924,625
2876	Kyger Creek	OH	6,805,576	1,023	76%	811,682	6,327	1,485	755,420
2878	Bay Shore	OH	3,073,601	631	56%	1,624,825	6,296	3,591	2,265,567
2952	Muskogee	OK	8,372,764	1,547	62%	3,146,943	7,789	4,846	3,087,796
2963	Northeastern	OK	6,282,495	918	78%	552,933	1,631	735	460,350
3098	Elrama	PA	1,978,718	487	46%	1,647,484	3,155	4,448	1,730,608
3113	Portland (RRI)	PA	2,238,729	401	64%	747,117	10,187	1,132	741,917
3115	Titus	PA	1,365,856	249	63%	488,198	5,263	757	488,464
3118	Conemaugh	PA	12,937,188	1,700	87%	0	0	0	0
3122	Homer City	PA	13,611,744	1,914	81%	639,900	5,321	768	598,223
3131	Shawville	PA	3,443,868	618	64%	1,157,760	15,282	2,292	1,114,188
3136	Keystone (RRI)	PA	12,253,580	1,700	82%	404,620	5,321	382	370,116
3138	New Castle	PA	1,434,983	333	49%	1,044,535	12,519	2,063	1,061,979
3140	PPL Brunner Island	PA	10,428,960	1,483	80%	613,458	5,926	877	523,792
3149	Montour	PA	10,081,826	1,525	75%	1,273,324	15,350	1,611	1,111,535
3152	Sunbury	PA	2,035,249	389	60%	861,245	12,615	1,597	1,152,391
3159	Cromby	PA	668,928	147	52%	425,634	1,585	909	488,572
3161	Eddystone	PA	2,349,291	606	44%	2,162,985	4,358	3,450	2,447,710
3178	Armstrong Power Station	PA	2,099,745	356	67%	551,031	7,651	912	533,461
3179	Hatfields Ferry Power Station	PA	10,501,489	1,710	70%	2,231,171	29,318	4,786	2,058,144
3181	Mitchell Power Station	PA	871,878	288	35%	1,272,570	846	1,992	1,213,478
3251	Robinson	SC	1,175,480	184	73%	194,584	1,962	440	184,953
3264	Lee Station (DUPC)	SC	1,498,665	372	46%	1,271,247	8,333	1,456	1,260,874
3280	Canadys	SC	2,274,378	396	66%	674,238	4,922	1,261	658,302
3287	McMeekin	SC	1,544,592	250	71%	316,908	1,973	474	276,588
3295	Urquhart - SCEG	SC	706,989	94	86%	0	0	0	0
3297	Wateree (SOCG)	SC	4,299,151	710	69%	987,509	6,671	1,136	855,795
3298	Williams-ST	SC	3,820,672	615	71%	758,618	4,146	1,024	642,675
3319	Jefferies	SC	1,752,701	306	65%	525,775	6,115	1,364	585,782
3393	Allen (TVA)	TN	5,282,189	744	81%	257,635	581	556	240,943

ORIS-ID	Plant	State	MWH	MW	CF	MWH Headroom	SO2 Headroom (Tons)	NOx Headroom (Tons)	CO2 Headroom (Tons)
3396	Bull Run (TVA)	TN	6,638,828	889	85%	0	0	0	0
3399	Cumberland (TVA)	TN	16,947,037	2,524	77%	1,846,667	1,745	3,342	1,832,060
3403	Gallatin (TVA)	TN	7,327,319	976	86%	0	0	0	0
3405	John Sevier	TN	4,781,126	712	77%	520,426	2,789	864	492,139
3406	Johnsonville (TVA)	TN	7,708,137	1,248	71%	1,584,471	11,567	3,248	1,664,891
3407	Kingston	TN	10,134,366	1,433	81%	535,752	2,523	619	540,850
3470	Parish	TX	19,228,332	2,490	88%	0	0	0	0
3497	Big Brown	TX	8,526,768	1,150	85%	36,132	305	26	39,576
3775	Clinch River	VA	4,047,712	705	66%	1,201,718	7,427	2,181	1,055,181
3776	Glen Lyn	VA	1,536,403	335	52%	958,007	6,831	2,050	983,327
3788	Potomac River	VA	1,408,228	482	33%	2,180,744	5,103	3,184	2,419,645
3796	Bremo Bluff	VA	1,461,889	234	71%	280,475	1,853	610	271,946
3797	Chesterfield	VA	8,112,224	1,264	73%	1,299,520	9,376	1,364	1,151,472
3803	Chesapeake Energy Center	VA	3,846,417	605	73%	658,413	3,243	997	667,400
3809	Yorktown	VA	1,960,419	335	67%	533,991	4,248	900	496,297
3845	Centralia (TRAENE)	WA	8,517,807	1,405	69%	1,943,823	350	2,546	2,185,158
3935	Amos	WV	18,301,814	2,900	72%	3,291,586	17,412	5,563	2,922,830
3936	Kanawha River	WV	2,190,325	400	63%	788,075	4,468	1,348	728,406
3938	Sporn	WV	6,138,743	1,050	67%	1,679,557	10,363	3,107	1,572,796
3942	Albright	WV	1,347,719	292	53%	826,513	11,613	1,777	898,287
3943	Fort Martin (MONG)	WV	6,858,340	1,107	71%	1,384,382	16,841	1,724	1,286,652
3944	Harrison	WV	13,786,096	1,975	80%	919,754	294	1,922	857,404
3946	Willow Island	WV	675,333	243	32%	1,134,045	6,628	3,748	1,224,485
3947	Kammer	WV	4,036,718	630	73%	654,262	6,664	1,714	616,730
3948	Mitchell (OPC)	WV	8,757,235	1,600	62%	3,156,365	19,159	6,076	2,827,393
3954	Mount Storm (VIEP)	WV	10,150,134	1,608	72%	1,823,034	447	3,026	1,812,105
3982	Bay Front	WI	177,432	45	45%	154,660	461	637	226,830
3992	Blount	WI	171,552	202	10%	1,328,817	16,949	3,382	1,664,097
4041	Oak Creek South	WI	5,631,354	1,139	56%	2,849,640	6,355	2,151	3,056,966
4042	Valley (WEP)	WI	1,276,042	267	55%	712,040	3,819	1,823	1,054,295
4050	Edgewater (WPL)	WI	4,705,684	816	66%	1,373,901	4,541	1,271	1,471,083
4054	Dewey	WI	1,017,522	226	51%	662,742	7,648	1,491	868,229
4072	Pulliam	WI	2,265,098	341	76%	274,733	1,140	893	317,746
4078	Weston 4	WI	2,670,781	488	63%	960,633	2,992	1,830	1,043,363
4125	Manitowoc	WI	139,699	64	25%	333,122	635	198	478,785
4143	Genoa	WI	2,240,828	380	67%	588,652	3,111	901	549,819
4158	Johnston	WY	5,692,639	762	85%	0			
4162	Naughton	WY	5,192,117	700	85%	20,083	78	50	21,860

ORIS-ID	Plant	State	MWH	MW	CF	MWH Headroom	SO2 Headroom (Tons)	NOx Headroom (Tons)	CO2 Headroom (Tons)
4259	Endicott	MI	392,909	55	82%	16,621	36	23	26,082
4271	J.P. Madgett	WI	2,481,284	368	77%	258,844	780	414	265,090
4941	Navajo (SRP)	AZ	17,599,219	2,250	89%	0	0	0	0
6002	Miller (ALAP)	AL	21,814,012	2,746	91%	0	0	0	0
6004	Pleasants	WV	7,835,675	1,300	69%	1,844,125	8,225	1,881	1,604,859
6009	White Bluff	AR	9,982,175	1,659	69%	2,370,739	7,622	3,165	2,512,379
6016	Duck Creek	IL	446,617	366	14%	2,278,619	2,472	4,477	2,528,503
6017	Newton	IL	8,372,853	1,131	85%	48,573	129	25	52,446
6018	East Bend	KY	3,793,692	600	72%	673,908	371	900	625,710
6019	W.H. Zimmer	OH	8,268,480	1,300	73%	1,411,320	2,618	2,159	1,150,275
6021	Craig (TSGT)	CO	10,235,604	1,274	92%	0	0	0	0
6030	Coal Creek	ND	8,571,826	1,114	88%	0	0	0	0
6031	Killen	OH	4,085,160	615	76%	494,130	941	924	485,297
6034	Belle River	MI	8,029,521	1,260	73%	1,352,439	3,652	1,298	1,347,969
6041	Spurlock	KY	7,761,823	1,118	79%	562,805	3,312	622	730,338
6052	Wansley	GA	12,899,742	1,778	83%	339,246	2,348	346	319,478
6055	Big Cajun 2	LA	12,407,138	1,730	82%	474,442	1,340	453	494,883
6061	Morrow (SOMI)	MS	2,676,132	400	76%	302,268	1,084	836	360,121
6064	Nearman Creek (KACY)	KS	1,627,932	229	81%	77,202	303	187	91,699
6065	Iatan	MO	4,203,350	651	74%	643,996	2,083	972	645,429
6068	Jeffrey Energy Center	KS	15,042,493	2,190	78%	1,264,247	5,076	2,073	1,301,049
6071	Trimble County (LGEC)	KY	3,631,219	515	80%	203,471	47	161	172,253
6073	Victor J. Daniel	MS	6,998,789	1,056	76%	864,187	2,938	1,219	856,634
6076	Colstrip	MT	15,826,245	2,099	86%	0	0	0	0
6077	Gentleman	NE	8,888,651	1,365	74%	1,275,139	3,876	1,830	1,436,992
6082	AES Somerset	NY	5,485,751	684	92%	0	0	0	0
6085	Schahfer	IN	9,826,710	1,625	69%	2,273,040	8,285	3,307	2,557,443
6090	Sherburne	MN	15,863,652	2,270	80%	1,038,768	1,553	1,563	1,110,100
6094	Mansfield (FIRGEN)	PA	17,781,694	2,510	81%	907,766	962	1,166	814,824
6095	Sooner	OK	6,497,626	1,040	71%	1,248,448	3,127	2,054	1,257,986
6096	Nebraska City - OPPD	NE	4,232,877	653	74%	626,383	1,976	1,322	621,807
6098	Big Stone	SD	2,517,798	475	61%	1,019,052	3,536	3,923	1,153,037
6101	Wyodak	WY	2,893,710	335	99%	0	0	0	0
6106	Boardman (PGE)	OR	4,351,990	585	85%	3,920	12	9	4,086
6113	Gibson (PSI)	IN	23,325,192	3,157	84%	181,830	844	265	163,379
6124	McIntosh (SAEP)	GA	694,346	157	51%	470,953	1,947	1,206	492,541
6136	Gibbons Creek	TX	3,439,717	462	85%	335	1	0	327
6137	Brown (SIGE)	IN	3,276,627	490	76%	371,913	893	485	347,529

ORIS-ID	Plant	State	MWH	MW	CF	MWH Headroom	SO2 Headroom (Tons)	NOx Headroom (Tons)	CO2 Headroom (Tons)
6138	Flint Creek (SWEP)	AR	3,564,432	480	85%	9,648	22	14	10,001
6139	Welsh (SWEP)	TX	10,497,026	1,584	76%	1,297,438	3,127	1,174	1,396,251
6146	Martin Lake	TX	18,052,941	2,250	92%	0	0	0	0
6147	Monticello (TXUGEN)	TX	15,387,475	1,880	93%	0	0	0	0
6155	Rush Island	MO	7,011,199	1,208	66%	1,983,569	5,861	823	1,846,663
6165	Hunter	UT	9,583,986	1,320	83%	244,734	149	443	247,367
6166	Rockport (INMI)	IN	16,077,590	2,600	71%	3,282,010	9,436	3,725	2,995,622
6170	Pleasant Prairie	WI	7,771,779	1,234	72%	1,416,585	5,213	1,664	1,575,391
6177	Coronado	AZ	5,805,192	785	84%	39,918	104	87	40,673
6178	Coleto Creek	TX	4,217,795	632	76%	488,077	1,584	349	486,859
6179	Fayette (LCRA)	TX	12,136,085	1,662	83%	239,167	619	130	248,007
6181	J T Deely	TX	5,313,584	824	74%	821,920	3,386	686	1,107,221
6183	San Miguel (SMIG)	TX	2,712,036	391	79%	199,350	546	205	235,299
6190	Rodemacher	LA	3,491,788	523	76%	402,470	1,219	678	372,826
6193	Harrington	TX	7,291,577	1,041	80%	459,709	1,129	582	486,510
6194	Tolk	TX	7,154,884	1,080	76%	886,796	2,221	967	898,692
6195	Southwest II	MO	1,332,335	178	85%	0	0	0	0
6204	Laramie River	WY	12,274,101	1,705	82%	421,329	331	624	476,940
6213	Merom	IN	6,694,381	1,016	75%	870,755	1,398	897	883,237
6248	Pawnee	CO	3,728,818	505	84%	31,412	110	35	32,036
6249	Winyah	SC	7,559,899	1,155	75%	1,040,231	1,971	583	1,085,070
6250	Mayo	NC	4,670,793	749	71%	906,261	4,426	265	870,740
6254	Ottumwa Generating Station	IA	3,781,049	731	59%	1,658,999	5,649	1,717	1,900,001
6257	Scherer	GA	25,044,657	3,421	84%	428,109	1,237	304	440,665
6264	Mountaineer	WV	9,355,562	1,300	82%	324,238	58	391	316,293
6288	Healy	AK	158,385	25	72%	27,765			
6469	Antelope Valley (BEPC)	ND	6,513,325	900	83%	188,075	370	348	214,185
6481	Intermountain Generating	UT	14,420,790	1,660	99%	0	0	0	0
6639	Green	KY	2,223,505	464	55%	1,231,439	880	1,816	1,281,836
6641	Independence	AR	12,101,772	1,678	82%	392,616	917	540	429,893
6648	Sandow 4 & 5	TX	4,446,805	545	93%	0	0	0	0
6664	Louisa (MIDAM)	IA	3,669,568	700	60%	1,542,632	4,612	1,396	1,573,870
6705	Warrick	IN	4,510,110	693	74%	649,968	9,064	1,082	712,618
6761	Rawhide	CO	2,250,045	274	94%	0	0	0	0
6768	Sikeston	MO	2,010,443	233	98%	0	0	0	0
6772	Hugo (WEFA)	OK	2,969,847	450	75%	380,853	1,224	417	427,471
6823	D B Wilson (WKEC)	KY	1,757,307	420	48%	1,370,013	3,788	2,630	1,546,793
7030	Twin Oaks Power One	TX	2,305,483	307	86%	0	0	0	0

ORIS-ID	Plant	State	MWH	MW	CF	MWH Headroom	SO2 Headroom (Tons)	NOx Headroom (Tons)	CO2 Headroom (Tons)
7097	J.K. Spruce	TX	4,102,040	595	79%	328,330	261	223	350,586
7210	Cope	SC	3,306,326	420	90%	0	0	0	0
7213	Clover	VA	6,673,021	865	88%	0	0	0	0
7242	Polk	FL	1,582,554	260	69%	353,406	246	104	438,623
7286	Richard H. Gorsuch	OH	1,118,778	200	64%	370,422	9,065	1,111	589,266
7343	George Neal South	IA	4,564,452	632	82%	141,420	499	148	140,881
7537	North Branch Project	WV	537,182	77	80%	36,160	70	93	51,937
7737	Cogen South	GA	201,725	90	26%	468,415	0	1,537	0
7790	Bonanza	UT	3,447,424	458	86%	0	0	0	0
7902	Pirkey	TX	4,815,552	675	81%	210,498	78	181	233,598
8023	Columbia (WPL)	WI	7,075,390	1,140	71%	1,415,805	4,651	942	1,498,870
8042	Belews Creek	NC	14,992,932	2,320	74%	2,281,788	12,538	502	1,935,972
8066	Jim Bridger	WY	15,094,795	2,120	81%	690,725	791	1,102	690,400
8069	Huntington	UT	7,121,736	895	91%	0	0	0	0
8102	Gavin	OH	18,925,444	2,620	82%	583,076	837	962	549,045
8219	Nixon	CO	1,490,739	208	82%	58,029	144	76	60,888
8222	Coyote	ND	3,007,715	427	80%	171,727	671	655	206,449
8223	Springerville	AZ	5,897,980	1,200	56%	3,037,220	1,838	2,111	2,847,151
8224	North Valmy	NV	3,384,348	522	74%	502,464	1,020	955	514,008
8226	Cheswick	PA	2,904,030	588	56%	1,474,218	16,290	2,130	1,387,114
10002	ACE Cogeneration Facility	CA	830,176	102	93%	0			
10025	Kodak Park Site	NY	528,057	200	30%	961,888			
10043	Logan Generating Plant	NJ	1,528,673	219	80%	102,001		73	
10075	Taconite Harbor	MN	1,489,244	204	83%	31,453	107	63	37,018
10143	Colver Power Project	PA	837,567	110	87%	0	0	0	0
10151	Grant Town Facility	WV	662,289	80	95%	0	0	0	0
10223	AG Processing Inc.	IA	45,606	9	61%	17,685			
10234	Biron Division	WI	287,380	62	53%	171,294			
10244	Mead-Fine Paper Division	OH	268,056	78	39%	312,732		729	
10328	T B Simon Power Plant	MI	238,729	61	45%	215,477		278	
10360	Green Bay Mill	WI	377,250	101	43%	375,541			
10378	Southport (PRIVPO)	NC	335,869	107	36%	460,853		745	
10379	Roxboro (PRIVPO)	NC	186,193	56	38%	230,783		250	
10380	Elizabethtown	NC	17,389	32	6%	220,883	1,751	1,811	347,177
10382	Lumberton	NC	15,222	32	5%	223,050	2,405	1,202	456,543
10464	Black River Power LLC	NY	300,105	50	69%	71,450		110	
10495	Rumford Cogeneration Co	ME	146,756	95	18%	560,614			
10566	Carneys Point	NJ	1,997,243	262	87%	0		0	

ORIS-ID	Plant	State	MWH	MW	CF	MWH Headroom	SO2 Headroom (Tons)	NOx Headroom (Tons)	CO2 Headroom (Tons)
10640	Stockton CoGen	CA	218,208	54	46%	181,642			
10671	AES Shady Point Inc.	OK	2,394,499	320	85%	0		0	
10672	Cedar Bay (CEBAGE)	FL	1,821,673	250	83%	39,827			
10673	AES Barbers Point	HI	1,431,255	180	91%	0		0	
10675	AES Thames Inc.	CT	1,419,565	181	90%	0		0	
10676	AES Beaver Valley	PA	899,873	152	68%	231,919		283	
10678	AES Warrior Run Inc.	MD	1,565,811	180	99%	0		0	
10684	Argus	CA	367,168	50	84%	5,132			
10686	Rapids Energy Center	MN	33,306	29	13%	185,830			
10768	Rio Bravo Jasmin	CA	131,767	33	46%	113,951			
10769	Rio Bravo Poso	CA	133,675	33	46%	112,043			
10771	Hopewell	VA	309,076	63	56%	160,022	147	302	194,480
10773	Altavista Power Station	VA	368,626	63	67%	100,472	22	166	121,961
10774	Southampton (VIEP) Archer Daniels Midland	VA	390,392	63	71%	78,706	29	186	100,994
10860	Clinton	IL	151,328	31	55%	82,327			
10864	Archer Daniels Midland Cedar	IA	970,707	260	43%	965,253			
10865	Decatur (ADM) Northeastern Power	IL	1,598,911	335	54%	895,499			
50039	Cogeneratio	PA	398,543	50	91%	0			
50088	University of Northern Iowa	IA	18,906	8	29%	36,939			
50130	GF Weaton Power Station	PA	521,705	120	50%	371,815		397	
50189	Plymouth NC	NC	107,291	48	26%	246,394			
50240	Purdue University	IN	93,765	41	26%	214,499		478	
50244	Canton North Carolina	NC	157,863	53	34%	233,052		896	
50250	Pensacola Florida	FL	69,703	76	10%	496,193			
50264	Southeast Missouri State	MO	17,185	6	32%	28,980			
50282	Luke Mill	MD	264,985	60	50%	181,775		2,358	
50366	Power Plant (NOTRE) Central Heating Plant	IN	64,460	21	35%	92,651			
50368	(CORNELL)	NY	22,406	8	34%	33,439			
50392	Eielson Air Force Base	AK	77,092	24	37%	100,867			
50397	P H Glatfelter Company	PA	328,149	89	42%	336,779		357	
50410	Chester Operations S. D. Warren Co. #1	PA	192,886	67	33%	305,996		305	
50438	Muskegon	MI	110,270	34	37%	141,405			
50447	Scott-SD Warren (Westbrook)	ME	168,854	15	100%	0			
50481	Tennessee Eastman	TN	1,233,608	194	72%	213,150		453	
50491	Natrium Plant	WV	481,053	123	45%	434,805		664	
50557	Oro Grande Plant	CA	83,616	23	42%	84,366			

ORIS-ID	Plant	State	MWH	MW	CF	MWH Headroom	SO2 Headroom (Tons)	NOx Headroom (Tons)	CO2 Headroom (Tons)
50651	Trigen Syracuse University of Alaska	NY	228,903	90	29%	440,492		1,997	
50711	Fairbanks	AK	46,910	13	42%	48,548			
50805	Snowflake Paper Mill	AZ	364,129	73	57%	179,429			
50807	Stone Container Corp	FL	22,597	34	8%	230,567			
50835	TES Filer City Station	MI	356,358	60	68%	90,402			
50888	Northampton Generating	PA	836,924	112	85%	0			
50956	Bowater Newsprint Calhoun	TN	404,559	66	70%	86,877		51	
50976	Indiantown Cogeneration	FL	2,361,450	330	82%	95,730			
52007	Mecklenburg	VA	736,560	138	61%	290,988	203	494	361,124
52048	Vanderbilt University	TN	43,275	11	45%	38,631			
54081	Cogentrix Richmond	VA	1,308,275	190	79%	106,465		116	
54098	Thilmany Pulp & Paper	WI	73,863	45	19%	258,229			
54238	Port of Stockton District Ener	CA	221,948	44	58%	105,676			
54276	UNC-Chapel Hill Power Plant	NC	64,907	30	25%	158,473		385	
54304	Birchwood Power Facility	VA	1,225,422	242	58%	577,999		254	
54318	Green River Wy Plt.	WY	218,508	30	83%	4,872			
54358	International Paper - Augusta	GA	89,946	80	13%	502,905			
54406	Capitol Heat and Power Plant Waupun Correctional	WI	2,356	2	14%	11,791			
54407	Institution	WI	2,696	1	28%	5,495			
54638	Johnsonburg Plant	PA	78,539	49	18%	286,315		992	
54775	University of Iowa - Main Power Plant	IA	32,172	21	17%	124,194			
54780	University of Illinois Abbott	IL	78,178	27	33%	122,864			
55076	Red Hills Generation Facility	MS	2,982,919	440	77%	293,321	163	244	406,188
56163	Kennecott Utah Copper	UT	883,961	157	64%	283,572			



Fact Sheet

EPA rule will allow more pollution in our national parks & wilderness areas

SUMMARY: The U.S. Environmental Protection Agency (EPA) is attempting to weaken the laws that protect air quality in some of America's most treasured national parks and wilderness areas. A proposed EPA rule, now under final review at the Office of Management and Budget, would allow industries seeking to locate near national parks and wilderness areas to circumvent pollution limits established by Congress to protect these areas. As a result, there could be more power plants and factories emitting more air pollution into "areas of special natural, recreational, scenic or historic value" that Congress sought to preserve and protect for future generations.

The Clean Air Act protects air quality in national parks and wilderness areas

In 1977 Congress amended the Clean Air Act and designated certain federal lands as **class I areas**, giving them the greatest level of protection under the Act. There are 158 class I areas, including 48 National Parks, 21 Fish & Wildlife refuges, and 88 Forest Service wilderness areas.

To protect the air in class I areas, Congress created the **prevention of significant deterioration** or **PSD** program. PSD seeks to "preserve, protect, and enhance the air quality in national parks, national wilderness areas, national monuments, national seashores, and other areas of special ... natural, recreational, scenic or historic value." *Clean Air Act Sec. 160.*

Under PSD, Congress established limits (known as **increments**) on additional amounts of pollution in class I areas over **baseline** conditions that existed in 1977 when PSD was enacted. Increments are in place for emissions of sulfur dioxide, particulate matter, and nitrogen oxides. Because Congress sought to protect air quality not just from long-term pollution increases, but also from fluctuations and "spikes" that occur at certain times of year (e.g., peak summer energy demand), it created both **annual** and **short-term** (3 and 24 hours) increments for these pollutants.

Since Congress wants class I areas to have the cleanest air in the country, these parks and wilderness areas have the smallest increments, or allowable amounts of new pollution. Most other areas of the country are **class II areas**, and their new pollution increments are about 4-20 times higher. By creating more "room" for new pollution in class II areas, the law seeks to steer new pollution sources away from class I areas.

A major new pollution source like a power plant may not locate near a class I area if it would increase pollution over the class I increments. The plant must do a study (known as an **increment analysis**) to show how much pollution is already in the class I area and how much additional pollution it will add.

In very limited circumstances, a new pollution source may be granted a **variance** allowing it to exceed class I increments if its emissions will not adversely impact air quality in the class I area. The source must, however, comply with alternative, higher increments similar to the class II increments.

EPA's rule will allow more air pollution in national parks and wilderness areas

EPA is seeking to change the way increment analyses are conducted for class I areas. Four changes in particular will allow facilities seeking to locate near class I areas to manipulate the data to make it appear as if the air is cleaner than it actually is. These changes will open the door to new pollution in national parks and wilderness areas.

(1) Hiding pollution spikes from regulators

Pollution levels in class I areas can vary significantly over the course of a day, week, month and year. For instance higher pollution can occur during daytime when more commercial activities take place, and during summer months, when power plants increase operations to meet air conditioning energy demand. Congress created short-term pollution increments to protect class I areas from these periods of higher emissions.

EPA's proposed rule would undermine short-term increments by turning them into annual average pollution limits. A facility looking to locate near a class I area could average the hourly and daily emissions of all area pollution sources over the course of a year, thus hiding pollution spikes that can cause real harm in class I areas or even exceed the short-term increment limits. Having created a false picture of actual pollution levels in the class I area, the new facility could then claim the right to emit far more pollution than otherwise would be allowed.

(2) Ignoring major polluters in class I areas

Under current rules, a pollution source that has received a variance to exceed a class I increment will nonetheless still have its emissions counted when new sources are seeking to add pollution in the class I area. This makes sense because a variance source, by definition, is known to be a major contributor of pollution in the class I area.

Under EPA's proposed rule, the emissions from any pollution source operating under a variance would not be included in an increment analysis. When calculating pollution levels in a class I area, a new facility could simply pretend that those sources don't

exist. By ignoring these emissions, a new facility can claim there is more “room” for new pollution, thus degrading class I air quality to an even greater extent.

(3) Allowing phony pollution accounting methods

Under current rules, emissions from existing facilities that impact a class I area are established by looking at the most recent two years of operating data. The proposed rule allows actual emissions to be computed based on any time period that is claimed to be “more representative” of normal source operations. The alternative time period could even be two non-consecutive 12-month periods picked from anytime in the past. This opens the door to phony pollution accounting by new facilities that have a vested interest in producing the lowest possible pollution estimates for class I areas they are seeking to locate near.

(4) Opening the door to 50 different standards

Air pollution does not respect state boundaries, and class I areas may be polluted by sources in many different states. It’s therefore important that the methods for estimating class I pollution levels are the most accurate and are consistent from state to state.

EPA’s proposal opens the door to 50 different standards for estimating class I pollution levels: Emissions “...shall be calculated based on information that, *in the judgment of the reviewing authority*, provides the most reliable, consistent and representative indication of the emissions from a unit or group of units in an increment consumption analysis...” Some states are likely to use methods that make the air in class I areas appear cleaner than it actually is, but EPA’s rule provides no check against such practices.

EPA’s Regional Offices and the National Park Service object strongly to these changes (see attached quotes from NPS and EPA Regional Offices).

However their concerns have been largely ignored by political appointees at EPA and the White House Office of Management and Budget.

MORE INFO

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The National Park Service and EPA Regional Offices have strongly criticized EPA's proposed changes to Class I area rule.

They say the rule squanders an opportunity to strengthen the program, opens the door to abusive and inaccurate estimates of existing pollution levels in class I areas, and leaves these protected areas more vulnerable to new pollution. The following are excerpts of comments developed by NPS and EPA regional offices during the development of the rule proposal.

National Park Service

"The [Clean Air] Act does not ... allow for **shopping about for emissions data** from multiple time periods that may be far-removed from the baseline date." NPS

"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 gaming** of an already complex task ... [because] it makes PSD baseline concentration(s) up for interpretation by every applicant." NPS

The new EPA approach "represents a **180-degree about-face from**" recent EPA guidance. NPS

"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 ... operation[s]" NPS

"The **protection of short term PSD increments cannot be assured** using annual average emission rates." NPS

The proposed EPA methodology "provides **the lowest possible degree of protection** of short-term increments and it is usually the 24-hour increment that is the most critical" for protecting air quality. NPS

The proposed rule "**ignores the reality** that some sources, such as EGUs, often have peak production in response to external factors and may well peak concurrently." NPS

"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." NPS

"The EPA proposal would now exclude [sources that have received variances] 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 [sic] Significant Deterioration' of air quality in our national parks." NPS

EPA Region 1

"PSD permit applicants are always modeled at maximum allowable [emissions] because EPA's regulations require it and actual emissions would be difficult to forecast" EPA/R1

"EPA should make a technical support document or regulatory impact analysis available" to justify its changes. EPA/R1

"the current draft may actually **muddle matters more....**" EPA/R1

"the draft appears to 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 8760 hours per but typically operates a much lower number of hours." EPA/R1

EPA Region 2

"The protection of short term PSD increments **cannot be assured** using annual average emissions rates." EPA/R2

EPA Region 3

"The proposed addition to the definition of Actual Emissions ... is **grossly inadequate**" and "opens the door to totally **frivolous documentation**" of a source's emissions. EPA/R3

"The proposed acceptance of evaluating compliance with 3-hour and 24-hour increments by ... 'dividing an annual emission 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." EPA/R3

This proposal "makes the explicit, and probably **false, assumption** that the source did or will operate for all 365 days or 2620 3-hour periods in a year." EPA/R3

"The argument, in the preamble, that it is unlikely that multiple sources will experience maximum emissions on the same dates is **specious** [and] **ignores reality**" EPA/R3

"The exclusion [from the baseline of certain sources that have received variances] gives a **permanent 'pass' to sources that happen to obtain a variance** regardless of subsequent events [or that are] granted based upon error or mischief." EPA/R3

EPA Region 4

"**the limited review time was not sufficient to provide comments** on the complete proposed rule nor has it allowed a more appropriate detailed review to better ensure the proposed rule text clearly and accurately clarifies the increment modeling issues." EPA/R4

"Discounting the importance of the NSR Workshop Manual in providing guidance and EPA policy since 1990 is a mistake. The document has been used by EPA, consultants, and permit applicants as the basis for PSD permitting." EPA/R4

"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.**" EPA/R4

EPA Region 5

EPA's contention that annual emission are a more accurate measure of increment consumption than maximum emissions "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." EPA/R5

"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.**" EPA/R5

EPA Region 7

EPA is arguing that it can use annual emissions as an accurate measure of increment consumption. But "the argument ... lacks foundation" and "will likely mask the peak short term concentrations of pollutants." EPA/R7

"Dating back only to 2005, the EPA stated that use of annualized emission rates likely underestimates short-term impacts. In the Regional Haze Regulations and Guidelines for Best Available Retrofit Technology (BART) Determinations, EPA opined that the use of an annualized emission rate potentially underestimate visibility impacts." EPA/R7

"In most source categories with variable operation rates, it is entirely reasonable to assume that higher operation levels than the level represented by the annual average. By annualizing a short-term emission rate, the assumption is then being made that the annualized rate is representative of normal short-term source operations. The fact that higher source operation levels are likely to exist is neglected, which will result in underestimation of short-term concentrations. EPA/R7

EPA Region 9

"the proposed revisions to the regulatory definitions and procedures for calculating increment consumption would **allow state and local authorities with excessive discretion**" resulting in "a **significant underestimation of actual increment consumption.**" EPA/R9

"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." EPA/R9

"allowing unlimited discretion to state and local agencies to define the 24-month period a source must use" to estimate maximum emissions "**will result in underestimating actual increment consumption**" and "**is contrary to allowing informed public participation in the process.**" EPA/R9

"We are also opposed to the draft proposed provision ... which provides ... 'that the reviewing authority may select the data and emissions methodology that it judges to be most appropriate for estimating actual emissions for each increment analysis....' Current regulations 'allow for use of reasonable, representative, rational and verifiable methodologies on a case-by-case basis after consultation between the source, state or local agency, and EPA Regional Office.' Therefore this proposal 'may **undermine the consultation with the EPA Regional Offices** ... and could ultimately leave sources at risk as well as **allowing air quality deterioration.**" EPA/R9

The preamble states that a PSD permit applicant is not required to release "proprietary data and/or software that may be used in the development of model inputs." "We believe that the **public should be entitled to review all of the data** used to analyze increment consumption, and should also be able to understand how the model is treating data." EPA/R9

"this proposal ... would **jeopardize protection of PSD increments and limit the public's ability to be involved** contrary to the provisions of CAA Section 160." EPA/R9

EPA Region 10

"Region 10 is **very disappointed** with this draft package." "Rather than addressing the issues and giving clear guidance to permitting authorities and permit applicants, this draft proposal would **further confuse the issues.**" EPA/R10.

EPA Region 10 notes dozens of inaccuracies in how the proposal describes the legal requirements of the PSD program, describing the document as "**full of errors.**" EPA/R10.

"Because of this **fundamental misunderstanding** of the permit process and the lack of understanding of how variances work, this rulemaking **misses the mark** on the appropriate solution to the issue of increment consumption for sources with variances." EPA/R10

There needs to be a "hierarchy" of methods for estimating emissions. Without one, the "**lowest common denominator**" will prevail. EPA/R10.

"The discussion of actual emission rates used to model short term increment compliance ... fails to discuss the fundamental question which is what was intended to be protected as a result of establishing short-term increments." EPA/R10

"Region 10 **strongly objects** to the new language allowing for actual emissions to be calculated using non-consecutive months. This language would **allow a source to 'cherry-pick'** individual months over a 12 to 20-year period to establish baseline actual emissions." EPA/R10

"Region 10 **strongly objects** to [the proposed provision] which allows for the use of either one of two entirely different emissions inventories ... for short-term increment analyses. The two inventories can be different by as much as two orders of magnitude ... and will therefore **produce entirely different results for each permitting action** or increment consumption analysis." EPA/R10

Region 10 gives two examples of how the proposed method for estimating actual emissions could fail to protect class I areas: "For example, use of maximum emission rates to evaluate increment consumption for a peaking unit that changes to a base-load unit will show no increment consumption (since there would be no increase in its maximum emission rate) when the increase in operation from a few days to year-round may actually have resulted in the area going from pristine to nonattainment. In the same manner, 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." EPA/R10

Final Agency Review Comments From EPA Regional Offices

EPA regional offices were given an opportunity to comment on the final rule before it was sent to OMB for review. Half of EPA's 10 Regional Administrators formally dissented from the final rule, while four other regional offices submitted critical comments. The regional offices believe that most of their concerns raised during the development of the proposed rule were not addressed in the final rule. The following are excerpts of their comments.

EPA Region 1

the final rule may increase inconsistencies that now trouble the PSD program

EPA Region 2

Region 2 does not believe that one of the options for determining the short term emission data is technically defensible.

[The final rule] could significantly underestimate the emission and therefore underestimate the actual impacts.

we do not agree that using annual average emissions for short term impacts is an improvement over the method that is in the [existing] guidance ... [which] has been successfully implemented for many years.

We believe that the proposed approach ... for defining the baseline or current year concentrations is inappropriate and could lead to "gaming" the increment calculation.

the rule would allow the source to arbitrarily pick and choose which years to model. It could allow sources to pick a year solely because it is most beneficial to the outcome of the modeling. We believe this is not consistent with the intent of Congress.

allowing the use of proprietary models without requiring that the workings of the model be disclosed for both the reviewing agency and the public could erode the credibility of the Agency's permitting actions

There is a general theme in the rule that allows discretion at too many steps of the increment calculation.

EPA Region 4

Region 4 non-concurs with this proposed final rulemaking

...there remain a number of revisions to the increment calculating procedures that would reduce consistency, accuracy and public review as provided in EPA's current guidance and regulations and could allow greater deterioration of air quality in clean areas rather than preventing significant deterioration.

The proposed final rule does not provide complete, technically sound, and clear regulations needed to ensure consistent PSD increment assessments nationwide.

EPA Region 5

the draft Final Rulemaking does not address our comments on the methodology allowed for estimating emissions

[the final rule] removes clear recommendations from previous guidance and standard practices and simply gives individual States broad discretion

Dividing annual emissions by a short-term averaging time period does not provide a representative short-term emission rate for most sources.

Using annual emissions smooths out the actual emission peaks and valleys and could result in the modeling significantly underestimating the actual maximum short-term impacts for many source categories. That means that compliance with the short-term PSD increments cannot be assured.

the proposed approach for generating increment consumption emissions allows too much discretion. It would encourage "shopping" for a favorable 2-year period. Such shopping would cast doubt on whether the modeling truly gives a reliable, conservative analysis of the increment consumption.

If the Agency eliminates the [NSR Workshop] manual as a statement of EPA guidance on how to conduct BACT and air quality analyses under PSD, it will create a vacuum that will leave each PSD applicant and each permitting agency with an opportunity to devise its own protocol; there will be no chance for national consistency, no reliable benchmark for a court to determine if an analysis is adequate and less certainty for applicants when they present a protocol to a permit authority.

The concerns noted above are significant enough to support nonconcurrency.

EPA Region 6

EPA Region 6 believes that our comments ... have not been adequately addressed during the final rule development process.

Our main concern continues to be that this action allows short-term emission rates to be estimated from annualized average emission rates. This estimation will result in a significant underprediction of the actual impact and lead to worsening air quality.

In EPA Region 6, as with many other areas of the country, short-term standards/increments are the ones most likely to be exceeded.

To change the guidance would undermine many of the permits issued in our Region. From our experience, the use of annual averaged emissions is often significantly different for many industrial emissions, including coal burning power plants and the resultant impacts of annual averaged values would not be protective of short-term increments. It has also been our experience that short-term increment issues have driven the level of controls for some facilities and resulted in overall less emissions from a project. This affect would be weakened by the use of an annual average emission rate.

By annualizing a short-term emission rate, the assumption is then being made that the annualized rate is representative of normal short-term source operations. The fact that higher source operation levels are likely to exist is neglected, which will result in underestimation of short-term concentrations.

EPA Region 7

Region 7 analysis of this procedure has shown the short-term increments can be significantly underestimated as a result and could change the outcome of increment modeling results which affect air pollution control decisions in PSD permits. The long term impact of this change to the PSD rules could result in permitted emissions causing or contributing to violations of the short-term PSD increments and national ambient air quality standards (NAAQS).

Since the inception of this rule, Region 7 has expressed its concern that codification of any procedures which allow for the use of long-term emission rates when modeling against short-term increments would not be reflective of the goal of the PSD program – to minimize the degradation of air quality and preserve the existing air quality in areas of the country that currently enjoy clean air.

EPA Region 8

I am providing you with my decision to non-concur on the Refinements of Increment Modeling Procedures rulemaking. As discussed below, Region 8 has had long-standing concerns with the inappropriate discretion the rulemaking would provide a reviewing authority for calculating increment consumption.

Averaging the concentrations over longer time periods eliminates short-term concentration peaks, which the 3-hour and 24-hour average increments are meant to protect.

the PSD program is intended to prevent air quality degradation from all sources measured from a specific date (the baseline date). If source emissions were calculated using different time periods the emission estimates would not match with what the sources were contributing to the ambient concentration in the baseline year. However, the Refinements of Increment Modeling Procedures rulemaking would allow emissions to be based on a different time period than the 24 months preceding a baseline date (including the use of periods after the baseline date) if it is determined by the reviewing authority that such a period is more representative of normal source operation. This inappropriate discretion would allow baseline emission estimates to be calculated in the same way [Region 8 has previously objected to].

EPA Region 9

Region 9 nonconcur on the Increment Modeling rule, at the level of the Air Division Director.

The proposed revisions to the regulatory definitions and procedures for calculating increment consumption would likely result in significant underestimation of emissions, and cause greater deterioration of air quality.

[The final rule] could seriously underestimate short-term increment consumption, by a factor of two or more.

the "actual emissions" definition is the unlimited discretion that state and local agencies would be provided for defining the 24-month period a source must use as a basis. The rule would not establish any criteria for justifying use of a particular period. This would likely result in periods chosen that would be favorable to sources (e.g. in terms of coal sulfur content) and in greater deterioration of air quality.

[The final rule] would undermine the consultation with the EPA Regional offices on the advisability of allowing a particular methodology, and also the ability of the public to challenge questionable approaches. We are concerned that limiting EPA Regional office and public involvement could ultimately leave sources at risk as well as allowing air quality deterioration.

we believe that this rule would jeopardize protection of the PSD increments and limit the EPA's and the public's involvement in the permitting process.

EPA Region 10

Region 10 non-concurs with this draft final rulemaking. This non-concurrence represents the position of Regional Administrator Elin Miller.

there are still several "fatal flaws" with this rulemaking. These flaws are ones that we raised previously and which, in our opinion, have not been adequately addressed. The result of these flaws is that the revised rule would substantially weaken EPA's current regulations and would effectively allow for nearly unfettered deterioration of air quality in clean areas rather than preventing significant deterioration of air quality as required by Part C of Title I of the Act.

In PSD permit decisions, there must be a "bright line" test as to whether the proposed new major stationary source or major modification does, or does not, cause or contribute to concentrations that exceed the maximum allowable increase.

applicants would have complete discretion to construct baseline and current actual emission inventories that completely mask the real change in emissions since the baseline date.

allowing the permit applicant to manipulate the emissions inventories in this manner completely undermines the entire increment program.

using allowable emissions to establish the baseline concentration for PSD increment consumption analyses is NOT conservative as this will overestimate the baseline emissions and hence underestimate the amount of increment consumption.

We continue to believe that all software code and data should be available to the public in order for there to be an independent review of a permitting authority's decision to authorize the construction or modification based on the results of a modeling analysis ... [but the final rule] does not ensure that information that should clearly be available to the public, such as onsite meteorological data collected for the permit application, would actually be available to the public for review.

Don Shepherd/DENVER/NPS
To John Bunyak/DENVER/NPS
12/02/2008 11:59 AM MST
cc Susan Johnson/DENVER/NPS@NPS,
Andrea Stacy/DENVER/NPS@NPS, John
Notar/DENVER/NPS@NPS
Subject
real world effect of EPA increment
proposal

Folks,

"So what?" is usually a good question when considering engaging over some policy question, so i decided to satisfy my curiosity and take a look at how EPA's proposal to estimate emissions for the purpose of evaluating PSD increment consumption might play out in the real world. (Or, in ND, as the case may be.) EPA has tried to justify its proposed approach on the basis that, since it is unlikely that all EGUs will operate at their maximum actual emission rates simultaneously, it would be more realistic to assume that they all operate continuously at their annual average emission rates. If that is true, then the sum of their annual averages should always exceed the sum of their actual emissions over the 3-hour and 24-hour averaging periods relevant to NAAQS and PSD for SO2. Let's find out if EPA is correct.

The first page of the attached workbook

(See attached file: All ND Plants SO2 2006.xls)

is simply a compilation of SO2 emissions data downloaded from EPA's Clean Air Markets (CAM) database for 2006 for ND power plants. Since i am not sure why the Stanton #2 data looks so odd, i separated it from the rest and applied EPA's emission averaging approach to the others by multiplying the annual SO2 MASS emissions (tpy) by 2000 (to get lb/yr) and dividing by the SUM of the annual OPERating TIME (hrs) to get 33,399 lb SO2 emitted/hr from these eleven EGUs.

The second page is a compilation of 2006 hour-by-hour emission rates from the CAM database for the eleven EGUs. These results are plotted on the third page. The EPA approach would have

- underestimated total actual 3-hour (block average) SO2 emissions from these eleven EGUs 761 times (26% of the possible results) in 2006, with the worst case underestimating 3-hour SO2 by 25%

- underestimated total actual 24-hour (block average) SO2 emissions from these eleven EGUs 89 times (24% of the possible results) in 2006, with the worst case underestimating 24-hour SO2 by 14%

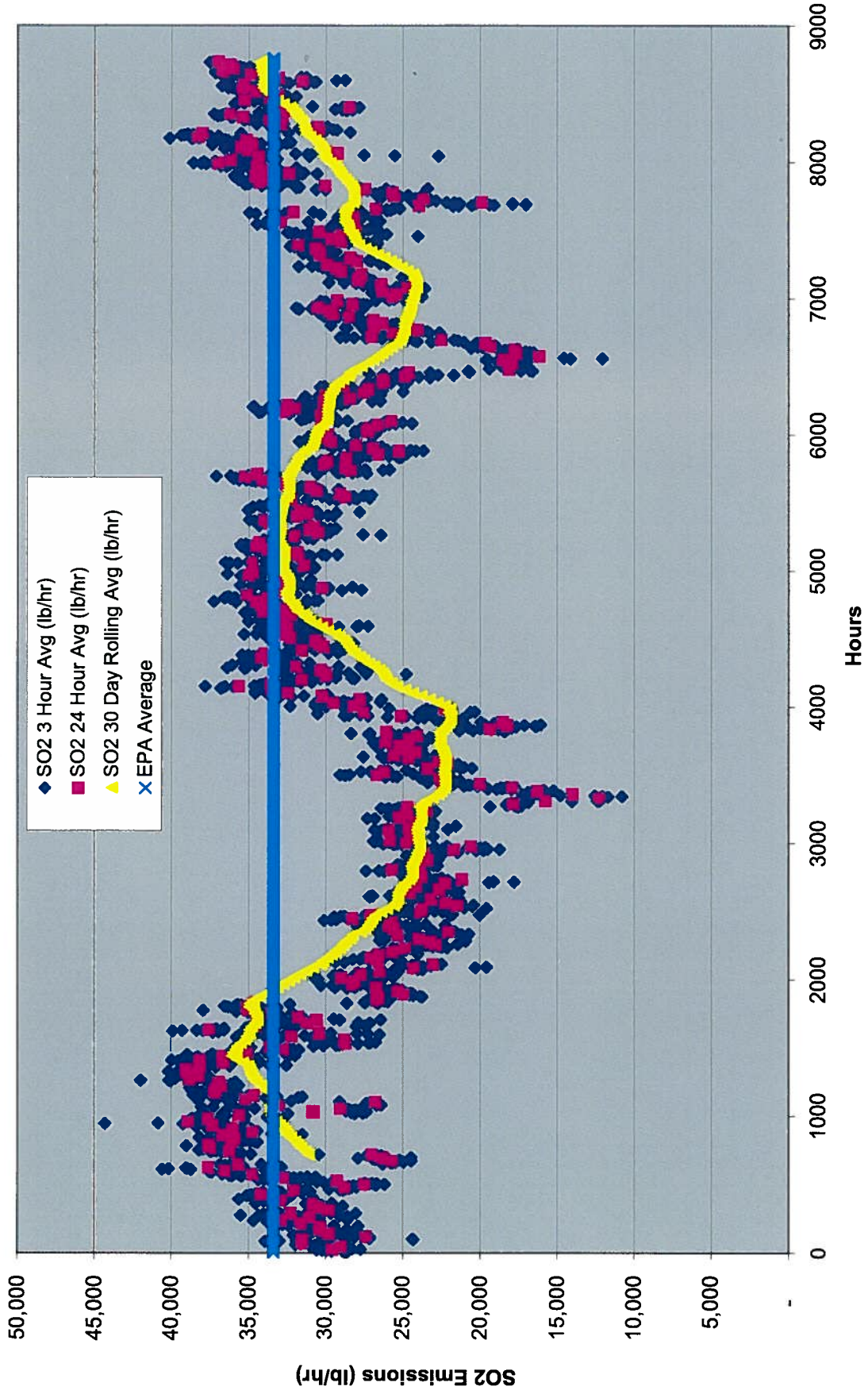
- underestimated total actual 30-day (rolling average) SO2 emissions from these eleven EGUs 52 times (15% of the possible results) in 2006, with the worst case underestimating 30-day SO2 by 7%

The approach proposed by EPA clearly fails this test and frequently and significantly underestimates actual emissions from this group of EGUs. This leads me to wonder if anyone at EPA actually bothered to do a "reality check" on its proposal?

Don

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ND 2006 SO2 Mass Emissions



STATE	FACILITY NAME	ORISPL CODE	UNIT ID	OP YEAR	SUM OP TIME	SO2 MASS (tpy)	SO2 MASS (lb/hr)
ND	Antelope Valley	6469	B1	2006	8,597	7,092	1,650
ND	Antelope Valley	6469	B2	2006	8,648	7,433	1,719
ND	Coal Creek	6030	1	2006	8,531	16,425	3,851
ND	Coal Creek	6030	2	2006	8,591	15,659	3,645
ND	Coyote	8222	B1	2006	7,359	11,472	3,118
ND	Leland Olds	2817	1	2006	8,600	17,768	4,132
ND	Leland Olds	2817	2	2006	6,305	22,259	7,060
ND	Milton R Young	2823	B1	2006	7,442	16,875	4,535
ND	Milton R Young	2823	B2	2006	8,018	10,005	2,495
ND	R M Heskett	2790	B2	2006	5,642	1,836	651
ND	Stanton	2824	1	2006	7,306	1,984	543
							33,399
ND	Stanton	2824	10	2006	7,273	73	20

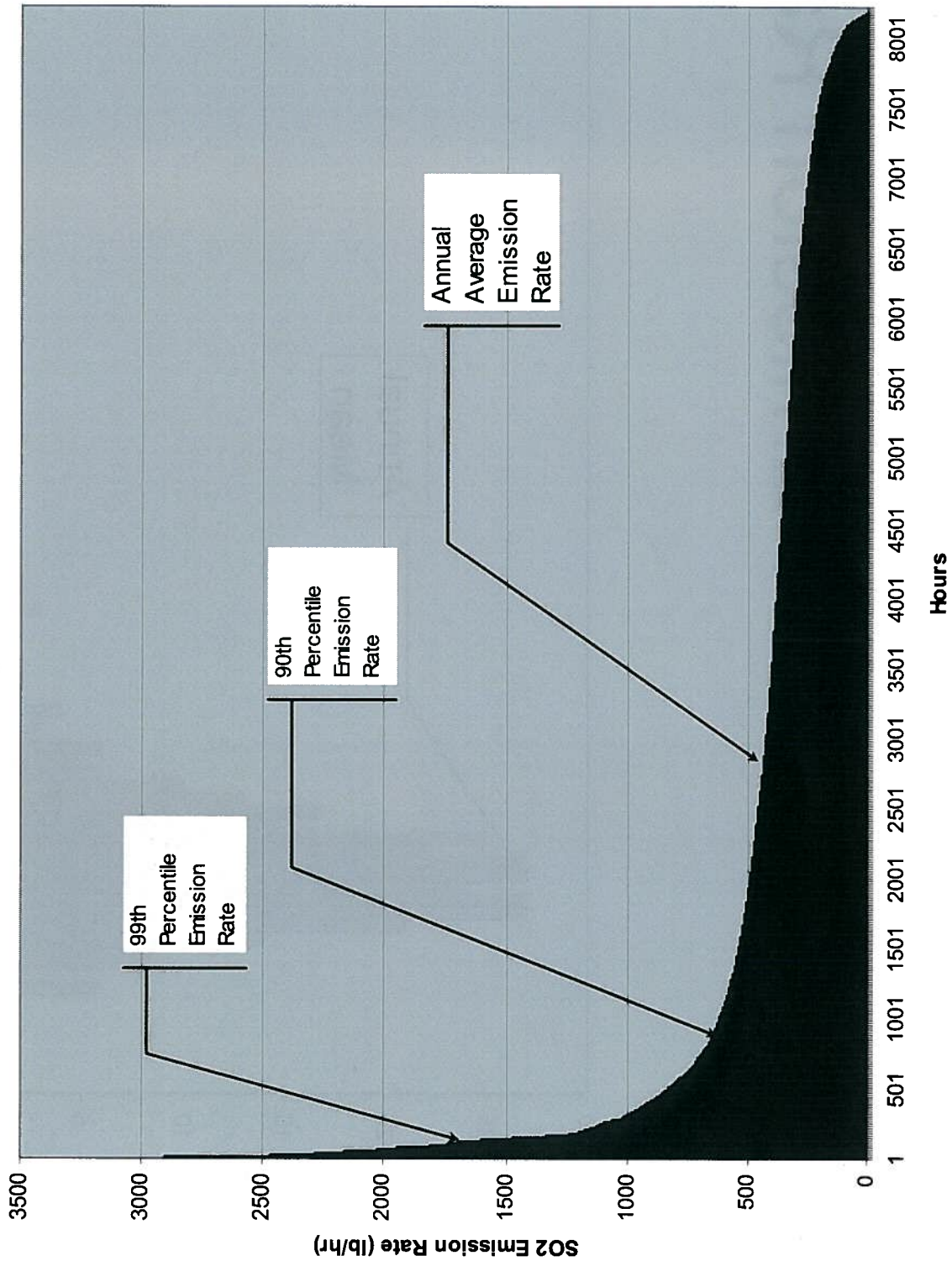
Statistical Analysis of Short Term Increments

- For short term averaging periods where increments may only be exceeded no more than once per year, this translates to 99.5th percentile impact.
- Proposal would permit use of emission rates at 50th – 60th percentile to compare against a standard with a 99.5th percentile impact level.

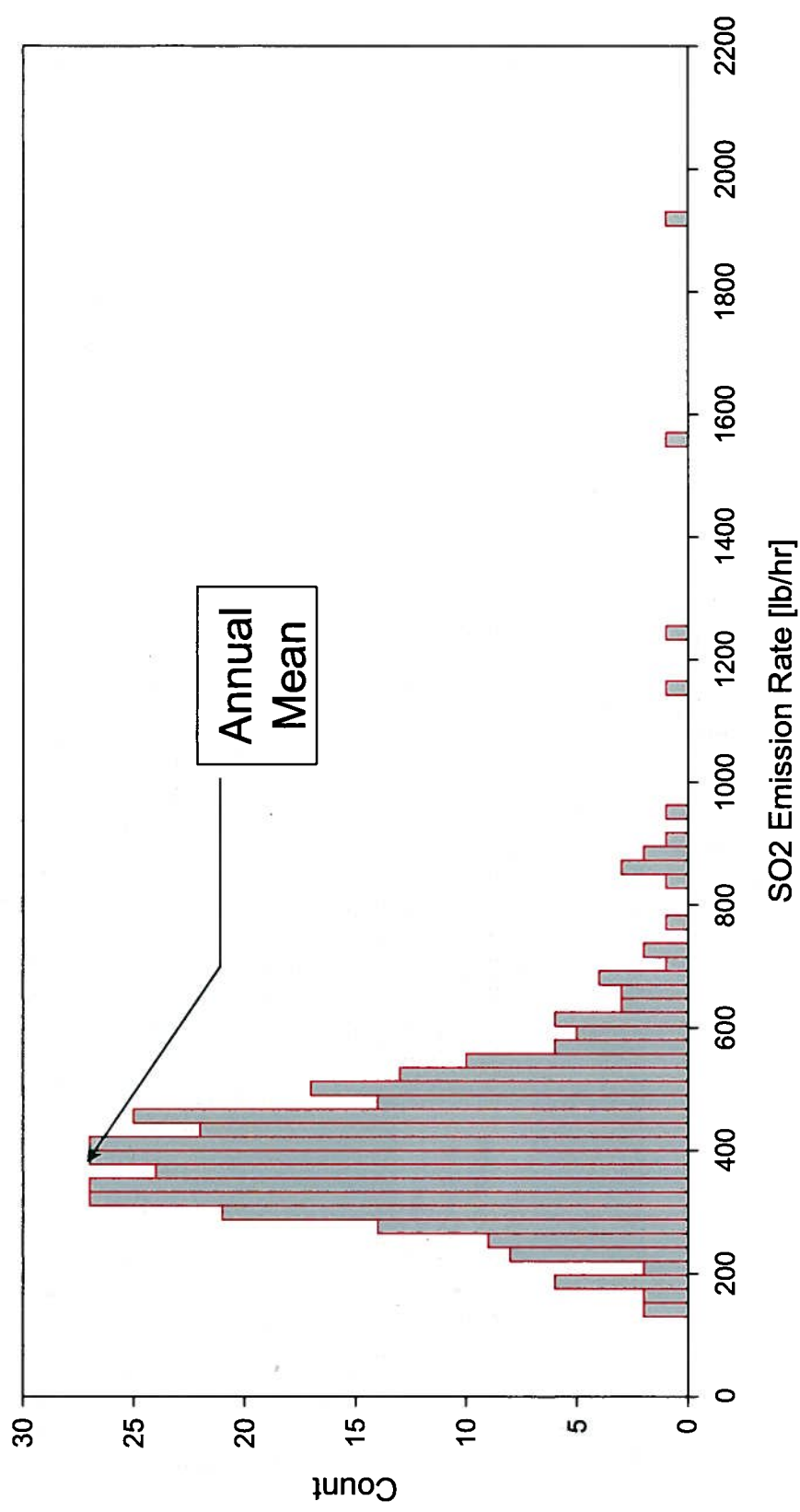
Example Analysis of CEM Data

- 2005 CEM data from Sunflower Electric in Kansas.
- Baseload EGU facility – average heat input rate of 3,327 MMBTU/hr (SD 415 MMBTU)
- The annual average hourly emission rate is 430 lbs/hr for SO₂.

CEM Hourly Emission Rate Analysis



CEM 24-Hour Emission Rates



Comparison of 1-Hour Average Emission Rates

1-Hour Average Emissions (lb/hr)

	99th	90th	75th	50th	25th	10th	Mean	SD
MAX	2107.6	1228.9	484.1	376.4	295	216.7	430.8	277.9

Ratio of Percentile to Mean

	99th	90th	75th	50th	25th	10th
MAX	4.89	1.52	1.12	0.87	0.68	0.50

Comparison of 24-Hour Average Emission Rates

24-Hour Average Emissions (lb/hr)

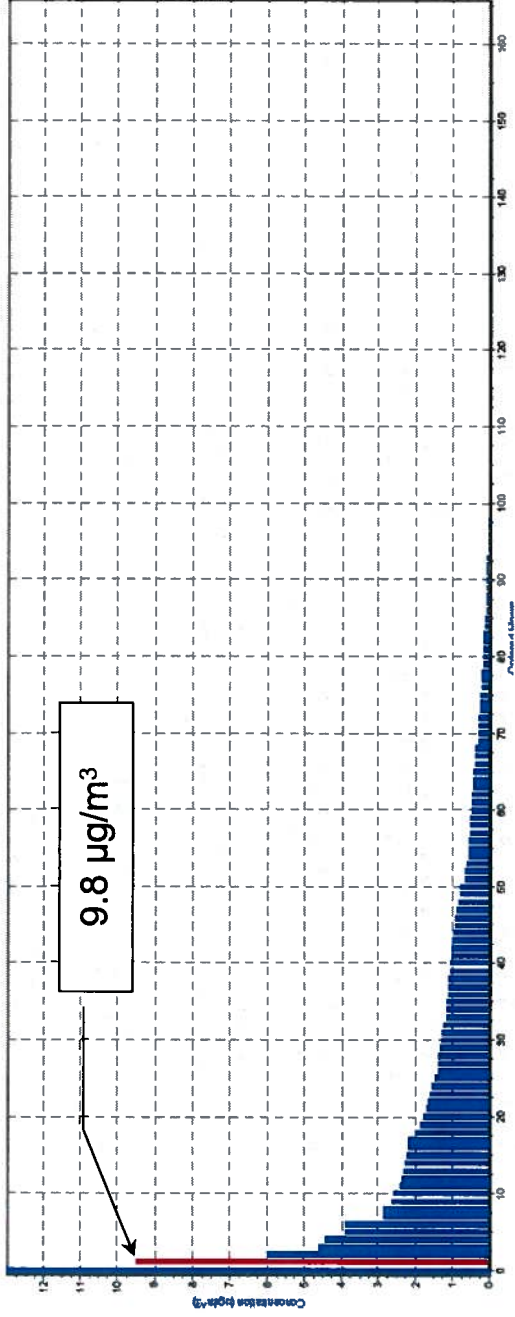
MAX	99th	90th	75th	50th	25th	10th	Mean	SD
1930.0	1068.30	585.98	485.25	400.69	321.78	270.40	427.22	179.9

Ratio of Percentile to Mean

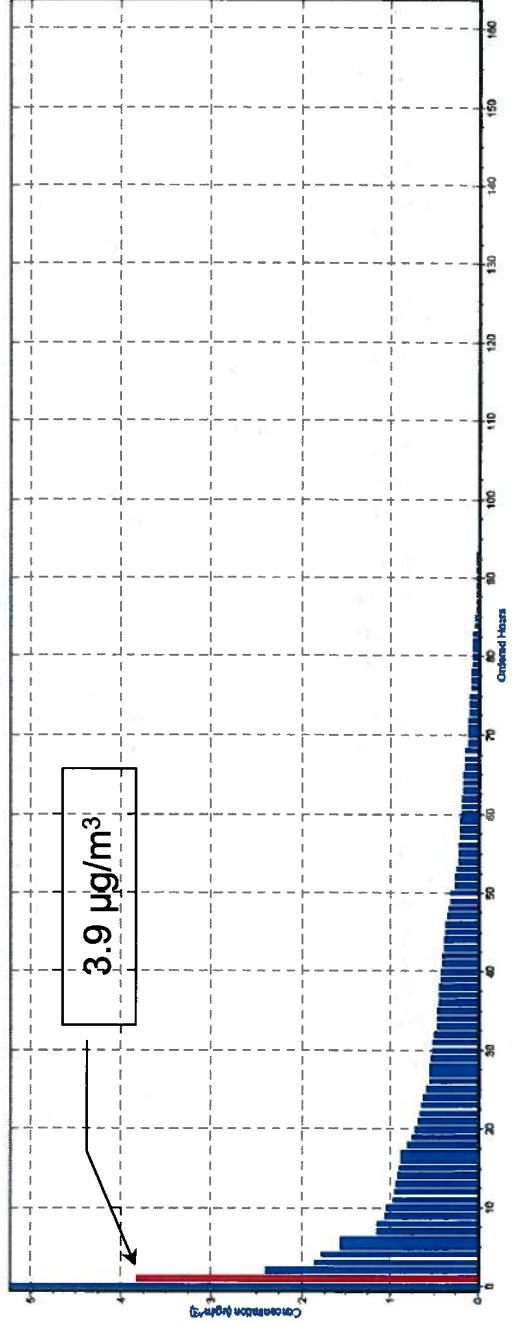
MAX	99th	90th	75th	50th	25th	10th	
4.52	2.50	1.37	1.13	0.94	0.75	0.63	

Comparison of Model Response for Short Term Increments – 99th Percentile to Mean Emission Rates

Series Plot for Receptor # 4239
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Series Plot for Receptor # 4239
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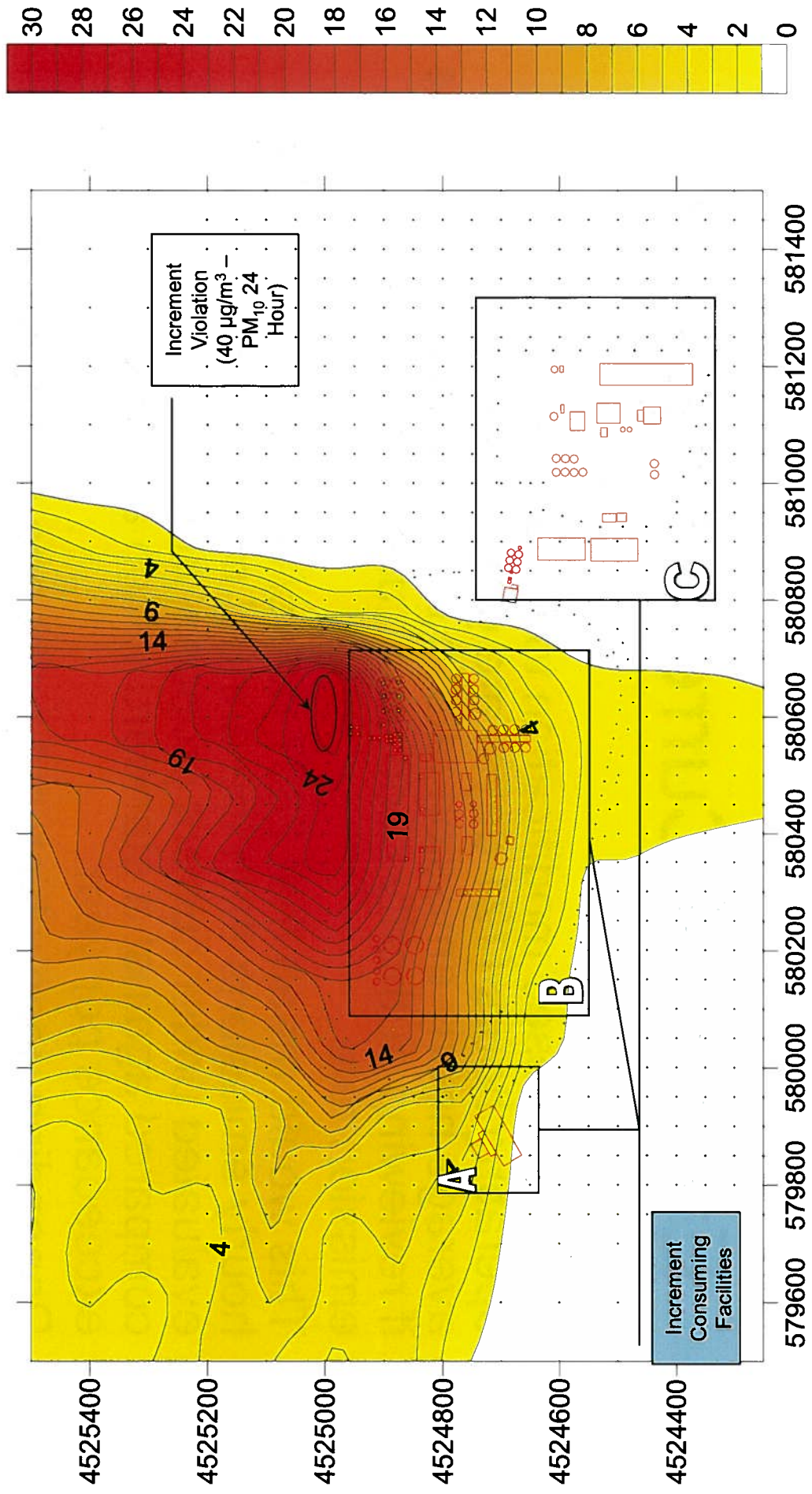
Peak-to-Mean Emission Rate Ratios

- 99th percentile 24-hour emission yields 2.45 times greater concentration than annual mean 24-hour emission rate.
- 99th percentile 1-hour emission yields 4.89 times greater concentration than annual mean 1-hour emission rate.
- Even at the 75th percentile emission rate, increment consumption would be underestimated by 12%.

Effects of Current Proposal

- Under proposed modification to PSD rule, 2857 operating hours (121 days) are greater than the annual average hourly emission rate in the previous distributions if reviewing authority chooses to use annual average emission rate.
- This would mean that 2857 hours/121 days with higher hourly emissions than the annual mean would not be evaluated under current proposal and would be compared against a standard which allows only one exceedance per year.
- Depending upon which cut-point one chooses for actual short-term emission rate, short term increment consumption would be underestimated by 1.5 – 13 times when compared to the annual mean emission rate.

2007 Region 7 PSD Example



24-Hour Increment PM10 Increment Consumption

24-Hour Maximum Actual Emission Rate

A	B	C	Totals
0.018	39.996	0.311	40.32

24-Hour Annual Mean Emission Rate (assuming 2.5 Peak to Mean Ratio)

A	B	C	Totals
0.007	15.999	0.124	16.13

Key Points

- In most short-term PSD increment situations, a majority of times there is little or insignificant collective impacts, even when sources are located next to each other.
- Concentrations on a receptor-by-receptor basis is typically dominated by single source impacts. Model concentrations are extremely sensitive to source-receptor geometry. Sources typically must be aligned along the same wind direction for collective impacts to occur at a given receptor.
- OAQPS made erroneous assumption that a more representative picture of actual conditions can be found by promoting annualizing emission rates. Little source interaction is observed in many cases based upon over 20 years of reviewing PSD modeling.
- When little source interaction is observed, increment consumption is literally a function of individual source release characteristics and emission rates.
- Annualized emission rates will relieve increment violations derived from maximum actual emission rates, contrary to OAQPS stated opinion that proposed rulemaking will still remain protective of increments.