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Comment(s):

In that report we concluded:

> As applied to existing power plants and refineries, EPA concludes that the NSR program has impeded or resulted in the cancellation of projects which would maintain and improve reliability, efficiency and safety of existing energy capacity. Such discouragement results in lost capacity, as well as lost opportunities to improve energy efficiency and reduce air pollution. (New Source Review Report to the President at pg. 3.)

On December 31, 2002, we promulgated final regulations that implemented several of the recommendations in the New Source Review Report to the President. However, that action left the NSR regulations as they related to utilities largely unchanged. This action continues to address the recommendations in the New Source Review Report to the President as they relate to electric utilities specifically and in light of the regulatory requirements for EGUs that have been promulgated since our 2002 regulations.

The regulations proposed in the October 2005 NPR and today would promote the safety, reliability, and efficiency of EGUs. The proposed regulations are consistent with the primary purpose of the major NSR program, which is not to reduce emissions, but to balance the need for environmental protection and economic growth. The proposed regulations reasonably balance the economic need of sources to use existing physical and operating capacity with the environmental benefit of regulating those emissions increases related to a physical or operational change. This is particularly true in light of the substantial national EGU emissions reductions that other programs have achieved or are expected to achieve, which we described in detail at 70 FR 61083. Moreover, as the analyses included in today's SNPR demonstrate, the proposed regulations would not have an undue adverse impact on local air quality.

This section gives an overview of our proposed actions for major NSR

	Step 3: Significant Emissions Increase Determined Using the Actual-to-Projected-Actual Emissions Test as in the Current Rules Step 4: Significant Net Emissions Increase as in the Current Rules
Option 2	Step 1: Physical Change or Change in the Method of Operation Step 2: Hourly Emissions Increase Test • Alternative 1 – Maximum achieved hourly emissions; statistical approach; input basis • Alternative 2 – Maximum achieved hourly emissions; statistical approach; output basis • Alternative 3 – Maximum achieved hourly emissions; one-in-5-year baseline; input basis • Alternative 4 – Maximum achieved hourly emissions; one-in-5-year baseline; output basis • Alternative 5 – NSPS test – maximum achievable hourly emissions; input basis • Alternative 6- NSPS test- maximum achievable hourly emissions; output basis

We request public comment on all aspects of this action. We intend to finalize either Option 1 or Option 2. We will also finalize either the maximum achieved or the maximum achievable alternative. We intend to respond to public comments on the October 20, 2005 NPR and this action in a single Federal Register Notice and Response to Comments Document.

Final rule ?

A. Option 1: Hourly Emissions Increase Test Followed by Annual Emissions Test

In the NPR, we did not propose to include, along with any of the revised NSR emissions tests, any provisions for computing a significant emissions increase or a significant net emissions increase, although we solicited comment on retaining such provisions. Many commenters believed netting is required under the Alabama Power Court decision, and supported options retaining netting. Therefore, today we are proposing that major NSR applicability would include an hourly emissions increase test, followed by the current regulatory requirements for the actual-to-projected-actual

emissions increase test to determine significance, and the significant net emissions increase test. We call this approach Option 1 and we are proposing it as our preferred option. Specifically, under Option 1, the major NSR program would include a four-step process as follows: (1) physical change or change in the method of operation; (2) hourly emissions increase test ; (3) significant emissions increase as in the current major NSR regulations; and (4) significant net emissions increase as in the current major NSR regulations. Section IV of this preamble describes Option 1 in more detail. Our proposed regulatory language is for Option 1.

Option 1 facilitates improvements for efficiency, safety, and reliability, without adverse air quality effects (as the discussion of the IPM and air quality analyses in Section III indicates). We propose Option 1 for the purpose of maintaining the current significant net emissions increase component of the emissions increase test. ~~However, we recognize that Option 1 does not offer the benefits of streamlining major NSR program to the extent that would occur under Option 2.~~

We are proposing both a maximum achieved hourly and a maximum achievable hourly emissions increase test under Step 2 of Option 1, which we discuss in detail in Section IV.A. of this preamble. Consistent with our policy goal of improving energy efficiency, we are proposing both an input[3] and output based format for both the maximum achievable and maximum achieved hourly emissions increase test options. Specifically, we are proposing the alternatives of (i) use of input-based methodology for each test, (ii) use of output-based methodology for each test, or (iii) allowing the source

[3] In this context, we use the term "input" as a convenient way to refer to the hourly emission rate test, and to distinguish it from the output test, which is calculated on the basis of hourly emissions per kilowatt hour of generation.

hazardous air pollutants, as well as reducing any solid waste and wastewater discharges. Off-site benefits include the reduction of emissions and non-air environmental impacts from the production, processing, and transportation of fuels.

While output-based emission limits have been used for regulating many industries, input-based emission limits have been the traditional method to regulate steam generating units. However, this trend is changing as we seek to promote pollution prevention and provide more compliance flexibility to combustion sources. For example, in 1998 we amended the NSPS for electric utility steam generating units (40 CFR part 60, subpart Da) to use output-based standards for NOx (40 CFR 63.44a, 62 FR 36954, and 63 FR 49446). We recently promulgated new output-based emission limits for SO2 and NOx under subpart Da of 40 CFR part 60 (71 FR 9866) and for combustion turbines. (71 FR 38482.)

B. Option 2: Hourly Emissions Increase Test

In this action, we are providing regulatory language, data, and additional information in support of our proposed rule, published by notice dated October 20, 2005, "Prevention of Significant Deterioration, Nonattainment Major New Source Review, and New Source Performance Standards: Emissions Test for Electric Generating Units." (70 FR 61081.) In the October 2005 NPR, we proposed to revise the emissions test for existing EGUs that are subject to the regulations governing the major NSR programs mandated by parts C and D of title I of the CAA. We proposed to adopt an hourly emissions increase test and to remove the requirement to compute a significant emissions increase and a significant net emissions increase on an annual basis. We also proposed three alternatives for an hourly emissions test: a maximum achievable hourly emissions

Repeat? Do we need to do this?

test, a maximum achieved hourly emissions test, and an output-based hourly emissions test. In today's SNPR, we have grouped those alternatives in our October 2005 proposal into Option 2. In doing so, we have recast the output option, as described above. That is, for Option 2, we are proposing a maximum achieved emissions increase test alternative and a maximum achievable emissions increase test alternative. For both the maximum achieved and maximum achievable emissions increase test, we are also proposing the alternatives of (i) the use of input-based methodology for each test; (ii) the use of output-based methodology for each test, or (iii) allowing the source to choose between input- or output-based methodology. We describe these alternatives in detail in Section V. of this preamble.

The proposed maximum hourly achieved test would streamline NSR applicability determinations. The proposed maximum hourly achievable test provides ~~even more~~ ~~streamlining~~ by conforming NSR applicability determinations to NSPS applicability determinations. We also note the achieved and achievable tests eliminate the burden of projecting future emissions and distinguishing between emissions increases caused by the change from those due solely to demand growth, because any increase in the emissions under the hourly emissions tests would logically be attributed to the change. Both the achieved and achievable tests reduce recordkeeping and reporting burdens on sources because compliance will no longer rely on synthesizing emissions data into rolling average emissions. It reduces recordkeeping and reporting burdens on sources because compliance will no longer rely on synthesizing emissions data into rolling average emissions. Option 2 would reduce the reviewing authorities' compliance and enforcement burden.

Power Sector," it is available at http://www.epa.gov/airmarkets/cair/analyses.html.[9] As this presentation shows, under the CAIR/CAMR/CAVR 2020 Base Case Scenario, local SO2 and NOx emissions generally decrease, average SO2 and NOx emission rates decrease, and national SO2 and NOx emissions decrease. As this document also shows, half of the coal-fired generation is expected to have scrubbers and either SCR or SNCR by 2020. These effects occur throughout the contiguous 48 States, not just in the CAIR States.

We developed IPM scenarios to examine the effects of our proposed regulations, including the maximum hourly emissions increase tests (achievable and achieved, on an input and output basis), on EGU emissions and control technologies. These new IPM scenarios incorporate the parameters used in the IPM model v.2.1.9 that we describe above, including information for the electric sector in the contiguous United States. Thus, these new IPM scenarios revise the parameters in the CAIR/CAMR/CAVR 2020 Base Case Scenario consistent with the way EGUs might operate under the proposed major NSR applicability changes.

We designed one IPM model run to evaluate whether efficiency improvements that sources may make as a result of today's proposed regulations would lead to local emissions increases and adverse effects on ambient air quality. Aside from independent factors such as climate and economy, efficiency is a primary determinant of the hours of operation of a given EGU. Neither the current annual emissions increase test nor any of the proposed EGU emission increase test alternatives directly measure an EGU's efficiency. However, the output-based alternatives (Alternatives 2, 4, and 6), which are

[9] Also available as Docket Item EPA-HQ-OAR-2005-0163-0137.

This new section should summarize the results and refer the reader to the TSD.

Can we move this discussion to a new "section C" after the discussion below on "Availability."

Move to a new Section

expressed in a lb/KWh format that measures mass emissions per unit of electricity, are closely related to an EGU's efficiency. Thus, an output-based test encourages efficient units, which has well-recognized benefits. We anticipate that the output-based alternatives in particular, and the other alternatives to a lesser extent, could have the effect of encouraging EGUs to increase their efficiency. For these reasons, we focused on efficiency to examine whether the hourly test and 5-year annual test could result in emissions increases as compared to the 10-year annual emissions increase test. We call this run the NSR Efficiency Scenario. We assumed the least efficient EGUs would increase their efficiency by 4 percent. The NSR Efficiency Scenario projects retrofitting of more control devices, small reductions in national EGU SO2 and NOx emissions, and a somewhat different pattern of local emissions compared to CAIR/CAMR/CAVR 2020. Where there are projected increases in local SO2, NOx, PM2.5, VOC, and CO emissions, they are small in magnitude and sparse across the continental United States. Therefore, we would expect these increases to cause minimal local ambient impact effect. We describe the NSR Efficiency Scenario analysis and its results in detail in our Technical Support Document.

-- roughly -- percent of total capacity

What fraction of capacity?

B. NSR Availability Scenarios – Description of the Scenarios

We also 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. As with the NSR Efficiency Scenario, the NSR Availability IPM scenarios are based on the CAIR/CAMR/CAVR 2020 Scenario.

most EGUs are not a change in the method of operation. They are allowed and frequently occur at many EGUs under the current regulations without triggering major NSR. Second, increases in actual emissions stemming from increases in hours of operation that are unrelated to the change, are not considered in determining projected actual emissions. To the extent that changes resulting in increased hours would occur under the proposed regulatory scheme, any resulting increases in emissions will be diminished as the CAIR and BART programs are implemented and the SO2 and NOx emissions for most EGUs are capped. As we described in detail in the NPR, 70 FR 61087, national and regional caps limit total actual annual EGU SO2 and NOx emissions. These caps greatly reduce the significance of hours of operations on actual emissions from the sector nationally. Furthermore, as we indicated in our recent report of the CAIR/CAMR/CAVR, the more hours an EGU operates, the more likely it is to install controls.[10] Moreover, existing synthetic minor limits to avoid major NSR and enforceable limits on hours of operation on a particular EGU as a result of netting would remain in place under any revised emissions increase test. We thus believe the opportunities for many EGUs to significantly increase their emissions through higher hours of operation under a maximum hourly emissions increase test, as compared to the current annual emissions increase test with a 5-year baseline period, are generally limited.

Is this a viable option for large EGUs ?

Nonetheless, we want to comprehensively examine the outcomes of a maximum hourly emissions increase test, using a robust methodology based on conservative (that is,

[10] See our report, "Contributions of CAIR/CAMR/CAVR to NAAQS Attainment: Focus on Control Technologies and Emission Reductions in the Electric Power Sector," on pages 39 and 43. The report is available at http://www.epa.gov/air/interstateairquality/charts.html. Also available as Docket Item EPA-HQ-OAR-2005-0163-0137.

Therefore, in the NSR Availability Scenario, we assumed that coal-fired EGUs would be able to make changes that affect forced outage hours in two, alternative, ways: (1) coal-fired EGUs would reduce their forced outage hours by half (2 percent increase in availability); and (2) coal-fired EGUs would have no forced outage hours (4 percent increase in availability). Therefore, in the first model run, we increased the coal-fired availability by 2 percent, from 85 percent to 87 percent annually. In the second NSR EGU run, we increased coal-fired availability by 4 percent, to 89 percent annually. We believe it is unlikely that an EGU would be able to make repairs that completely eliminate forced outage hours. However, we wanted a robust examination of changes that could impact emissions and air quality.[11] We therefore made the very conservative assumption to increase EGU availability by 2 percent and 4 percent over the actual historical hours of operation for 6,500 EGUs over the years 2000 - 2004. All other information in the NSR Availability Scenarios is the same as that in IPM v.2.1.9 used for the CAIR/CAMR/CAVR Scenario.

The NERC GADS calculates the average availability for an EGU by taking the actual total number of unavailable hours in a given year for all EGUs and dividing it evenly among the total number of EGUs. Based on the GADS data, the IPM assumes an upper bound of 85 percent availability for coal-fired EGUs. In GADS data for the years 2000 - 2004, some EGUs actually had more than 85 percent availability and some actually had less. The particular EGUs that had greater than 85 percent availability and

[11] While we believe it is most likely that an EGU would increase its hours of operation under today's proposed regulations due to reducing the number of hours that the EGU is unavailable due to forced outage hours, the analysis is applicable to increases in hours of operation for other reasons.

To gain further perspective on the magnitude of the SO2 and NOx emissions changes under the NSR Availability Scenario, we compared them to total SO2 and NOx emissions at the State level. Specifically, we compared the net change in statewide EGU SO2 and NOx emissions under the NSR Availability Scenario to the total State SO2 and NOx emissions under CAIR/CAMR/CAVR 2020. As Appendix A shows, in States where SO2 emissions increase under the NSR Availability Scenario as compared to CAIR/CAMR/CAVR 2020, the net emissions increase is at most 3 percent of the total SO2 emissions in the State. As Appendix A shows, in States where NOx emissions increase under the NSR Availability Scenario as compared to CAIR/CAMR/CAVR 2020, the net emissions increase ranges is at most 2 percent of the total NOx emissions in the State. Thus where SO2 and NOx emissions increase under the NSR Availability Scenario, they are small in comparison to total SO2 and NOx emissions at the State level.

As we discussed in Section III.B. of this preamble, our approach is based on average availability, assuming a constraint of 89 percent availability. Due to the variation in EGU hours of operation from year to year, for modeling purposes it makes sense to assume an average availability rather than to determine unit-by-unit availabilities for each and every EGU in a given year. We therefore believe the NSR Availability Scenario provides a very conservative estimate of the emissions increases that would hypothetically theoretically occur under our proposed regulations.

4. SO2 and NOx Impact on Air Quality- NSR Availability Scenarios

As we discussed above, projected emissions changes under proposed revised NSR applicability tests would result in a somewhat different pattern of local emissions, with some counties experiencing reductions, some experiencing increases, and some

concentrations of SO2, NOx, and PM2.5 respectively under CAIR/CAMR/CAVR 2020 as compared to the base case emissions in 2001.[26] Figure 3.6 shows the change in annual concentrations of 8-hour ozone under CAIR/CAMR/CAVR 2020 as compared to the 1999 - 2003 average ambient concentrations.

As Figure 3.3 shows, in most areas of the country SO2 concentrations are projected to improve in 2020 over those in 2001, including substantive improvements in many areas of the eastern United States. For the reasons we describe in detail in the Technical Support Document, we do not believe any local area will exceed the SO2 Class I increment due to EGU emissions increases in the NSR Availability Scenario as compared to CAIR/CAMR/CAVR 2020, including any that might occur due to the shifting of emission increases and decreases that might occur under the proposed applicability tests. As Figure 3.3 also shows, no declines in SO2 air quality greater than 0.0052 ppm are projected. This level is a smaller decline than the SO2 Class II and III increments, and we therefore do not believe any local area will exceed its the SO2 Class II and III increments due to EGU emission increases, including any that might occur due to the shifting of emission increases and decreases that might occur under the proposed applicability tests. There are no areas in which the 2020 projected concentration exceeds 0.03 ppm SO2, the level of the NAAQS. Therefore, we also do

How do we project these changes?

Why "declines"

[26] The CMAQ modeling was conducted as part of EPA's multipollutant legislative assessment and the results are available at http://www.epa.gov/airmarkets/mp . Multipollutant Regulatory Analysis: The Clean Air Interstate Rule, The Clean Air Mercury Rule, and the Clean Air Visibility Rule (EPA promulgated rules, 2005). The specific technical support document on air quality modeling for CAIR/CAMR/CAVR, Technical Support Document for Air Quality Modeling Technique, is available at http://www.epa.gov/airmarkets/mp/aqsupport/. It is also available as Docket Item EPA-HQ-OAR-2005-0163-0142.

not believe any local area will exceed its SO2 NAAQS due to EGU emission increases, including any that might occur due to the shifting of emission increases and decreases that might occur under the proposed applicability tests.

As Figure 3.4 shows, in most areas of the country NO2 concentrations are projected to improve in 2020 over those in 2001, including substantive improvements in many areas of the eastern United States. For the reasons we describe in detail in the Technical Support Document, we do not believe any local area will exceed its Class I NO2 increment due to EGU emissions increases, including any that might occur due to the shifting of emission increases and decreases that might occur under the proposed applicability tests. As Figure 3.4 also shows, no declines in NO2 air quality greater than 0.013 ppm are projected. This level is a smaller decline than the NO2 Class II and III increments, and we therefore do not believe any local area will exceed the NO2 Class II and III increments due to EGU emission increases, including any that might occur due to the shifting of emission increases and decreases that might occur under the proposed applicability tests. There are no areas in which the 2020 projected concentration exceeds 0.053 ppm NO2, the level of the NAAQS. Therefore, we also do not believe any local area will exceed its NO2 NAAQS due to EGU emission increases, including any that might occur due to the shifting of emission increases and decreases that might occur under the proposed applicability tests.

As Figure 3.5 shows, in most areas of the country PM2.5 concentrations are projected to improve in 2020 over those in 2001, including substantive improvements in many areas of the eastern United States. As Figure 3.5 also shows, no declines in PM2.5 air quality greater than 2.96 $\mu g/m^3$ are projected. This level is a smaller decline than the

Can we have a discussion about what these changes mean? I.e., they are Δ's relative to a CAIR, etc baseline projected for 2020 -- but, likely not Δ's subject to NSR.

PM10 Class I, Class II, and III increments that currently serve as surrogates for PM2.5 under our April 5, 2005 interim PM2.5 policy.[27] We therefore do not believe any local area will exceed the PM10 Class I, Class II, or Class III increments due to EGU SO2 or NOx emission increases under the NSR Availability Scenario as compared to CAIR/CAMR/CAVR 2020, including any that might occur due to the shifting of emission increases and decreases that might occur under the proposed applicability tests.

Nationwide? or in CAIR region?

We recently forecasted PM2.5 concentrations under CAIR/CAMR/CAVR 2020.[28] As this documentation shows, we project 34 counties to be nonattainment for PM2.5 in 2020. For these 34 counties, we computed the net emissions change in the EGU SO2 and NOx emissions between CAIR/CAMR/CAVR 2020 and NSR Availability. Appendix D of the Technical Support Document includes this analysis. As we describe in detail in the Technical Support Document, projected increases in SO2 and NOx emissions due to increased hours of operation at EGUs under the NSR Availability (4%) Scenario are small in magnitude and sparse across the continental U.S. Therefore, we would expect these increases to cause minimal local ambient effect as precursors to formation of PM2.5. Therefore, we also do not believe any local area will exceed its PM2.5 NAAQS due to EGU SO2 and NOx emission increases, including any that might occur due to the shifting of emission increases and decreases that might occur under the proposed

[27] See Stephen D. Page, Director, "Implementation of New Source Review Requirements in PM2.5 Nonattainment Areas," April 5, 2005, available at http://www.epa.gov/nsr/guidance.html and as Docket Item EPA-HQ-OAR-2005-0163-01413.

[28] Analysis and supporting documentation available at http://www.epa.gov/airmarkets/mp/index.html. Also available as Docket Item EPA-HQ-OAR-2005-0163-0142.

For some counties in Table 11 where PM2.5 emission decreases are projected, the decreases occur because heat input and emissions decreased at existing units. This effect occurs because more cost effective generation from EGUs that increased their availability under the NSR Availability Scenario displaces less cost effective generation from other EGUs. The less efficient EGUs then decrease their usage, reflected by decreased heat input and emissions. In Jackson Co., Alabama, decreases occur because EGUs are projected to retire under the NSR Availability (4%) Scenario but are not projected to be retired under CAIR/CAMR/CAVR 2020. This effect also occurs because more cost effective generation from EGUs that increased their availability under the NSR Availability Scenario displaces less cost effective generation from other EGUs, which then retire. In other counties, PM2.5 emission decreases occur because less new generation was projected for that county under the NSR Availability Scenario as opposed to under CAIR/CAMR/CAVR.

As noted previously, county-level increases are small and sparsely distributed. As Table 11 shows, the PM2.5 increases are small even in the counties where the highest increases are projected. There are only two counties in which the projected VOC emission increases (compared to CAIR/CAMR/CAVR) are greater than 40 tpy. In many of the counties shown here, the emission increases are due to increased fuel use by the EGUs within those counties, consistent with increased hours of operation. In other counties, emission increases occur where more new generation was projected for that county under the NSR Availability Scenario as opposed to under CAIR/CAMR/CAVR.

How do we get to VOCs ?

Increased generation due to new EGUs would be subject to major NSR review and would not be affected by the proposed emissions increase test.

4. PM2.5 Air Quality NSR Availability Scenarios

As we discussed in Section III.C.4., we modeled the change in annual average concentrations of PM2.5 under CAIR/CAMR/CAVR 2020 and compared these results to the base case emissions in 2001 using the CMAQ model.[37] As we also noted in Section III.C.4., the PM10 increments currently serve as surrogates for the PM2.5 increments, according to our April 2005 policy memo. Figure 3.5 of the Technical Support Document shows the change in annual average concentration of PM2.5 as compared to base case emissions in 2001. As Figure 3.5 shows, in most areas of the country PM2.5 concentrations are projected to improve in 2020 over those in 2001, including substantive improvements in many areas of the eastern United States. As Figure 3.5 also shows, no declines in PM2.5 air quality greater than 2.96 $\mu g/m^3$ are projected. This level is a smaller decline than the PM10 Class I, Class II, and III increments that currently serve as surrogates for PM2.5. We therefore do not believe any local area will exceed the PM10 Class I, Class II, or Class III increments due to EGU PM2.5 emission increases under the NSR Availability Scenario as compared to

[37] The CMAQ modeling was conducted as part of EPA's multipollutant legislative assessment and the results are available at http://www.epa.gov/airmarkets/mp . Multipollutant Regulatory Analysis: The Clean Air Interstate Rule, The Clean Air Mercury Rule, and the Clean Air Visibility Rule (EPA promulgated rules, 2005). The specific technical support document on air quality modeling for CAIR/CAMR/CAVR, Technical Support Document for Air Quality Modeling Technique, is available at http://www.epa.gov/airmarkets/mp/aqsupport/. It is also available as Docket Item EPA-HQ-OAR-2005-0163-0142

CAIR/CAMR/CAVR 2020, including any that might occur due to the shifting of emission increases and decreases that might occur under the proposed applicability tests.

As we discussed in Section III.C.4, we recently forecasted PM2.5 concentrations under CAIR/CAMR/CAVR 2020 and project 34 counties to be nonattainment for PM2.5 in 2020. For these 34 counties, we computed the net emissions change in the EGU PM2.5 emissions between CAIR/CAMR/CAVR 2020 and NSR Availability. As we discuss in detail in the Technical Support Document, the projected increases in PM2.5 emissions due to increased hours of operation at EGUs under the NSR Availability (4%) Scenario are small in magnitude and sparse across the continental U.S. We would expect these increases to cause minimal local ambient effect as precursors to formation of PM2.5. Furthermore, the EPA has recently conducted additional air quality modeling of PM2.5 as part of the Regulatory Impact Analysis for the final PM2.5 NAAQS.[38] Based on this modeling, we tend to see further improvements in projected air quality and lower predicted PM2.5 concentrations in 2020. Therefore, based on the small ~~value~~ magnitude of the emission increases under the NSR Availability Scenario and on the findings from more recent PM2.5 modeling, we do not believe that any local area will exceed the PM2.5 NAAQS or the PM2.5 Class I increment due to EGU emission changes that might occur as a result of the proposed changes to the NSR emissions increase test.

We discuss the impact of EGU SO2 and NOx emission increases under the NSR Availability Scenario on PM2.5 air quality in Section III.C. of this document.

[38] The Regulatory Impact Analysis for the PM2.5 NAAQS is available at **http://www.epa.gov/ttn/ecas/ria.html**. It is also available as Docket Item EPA-HQ-OAR-2005-0163-0144.

So And refer reader to the TSD

Do you need to add a section summarizing result for VOC, CO ?

IV. Proposed Regulations for Option 1: Hourly Emissions Increase Test Followed By Annual Emissions Test

In the NPR, we did not propose to include, along with any of the revised NSR emissions tests, any provisions for computing a significant increase or a significant net emissions increase, although we solicited comment on retaining such provisions. Many commenters preferred to retain an annual emissions increase test in addition to the hourly emissions increase test. Today, we are proposing Option 1, in which the hourly emissions increase test would be followed by the actual-to-projected-actual emissions increase test and the significant net emissions increase test in the current regulations. Thus, Option 1 retains the netting provisions in the current regulations. Option 1 also facilitates improvements for efficiency, safety, and reliability, without adverse air quality effects (as the above discussion of the IPM and air quality analyses indicates).

We are proposing that Option 1 would apply to all EGUs. We are also requesting comment on whether Option 1 should be limited to the geographic area covered by CAIR, or to the geographic area covered by both CAIR and BART. We are also proposing that the Option 1 would apply to all regulated NSR pollutants. However, we also request comment on whether Option 1 should be limited to increases of SO2 and NOx emissions.

Under Option 1, the major NSR program would continue to include a four-step process (with the second step revised as proposed today, and with no proposals concerning the other steps): (1) physical change of change in the method of operation as in the current major NSR regulations; (2) hourly emissions increase test (maximum

(2) one-in-5-year baseline. In terms of the regulatory language that accompanies today's notice, we are proposing six alternatives for determining whether a physical or operational change at an EGU is a modification. These alternatives are summarized in Table 12 and ~~can be found~~ at proposed §51.167(f) (1).

Below

In Sections IV.A and B, we describe our two broad approaches for the hourly emissions increase test in more detail. The regulatory language proposed today for these approaches (that is, maximum achieved and maximum achievable hourly emissions increase tests) would apply under both Option 1 and Option 2. Option 2, as described below in Section V, would eliminate the significance and netting steps that are included under current applicability regulations, whereas Option 1 would not eliminate the significance and netting steps. This action includes proposed rule language for Option 1.

Seems more repetitive than "in more detail"

A. Test for EGUs Based on Maximum Achieved Emissions Rates

As one approach, we are proposing that the hourly emissions increase test would be based on an EGU's historical maximum hourly emissions rate. We call this approach the maximum achieved hourly emissions test. Under this approach, an EGU owner/operator would determine whether an emissions increase would occur by comparing the pre-change maximum actual hourly emissions rate to a projection of the post-change maximum actual hourly emissions rate. We request comment on all alternatives for the maximum achieved hourly emissions increase test (see proposed Alternatives 1 through 4 for §51.167(f) (1)), as well as on other possible approaches for determining maximum achieved hourly emissions. In particular, we request comments on whether the proposed maximum achieved methodologies would account for variability

inherent in EGU operations and air pollution control devices.

1. Determining the Pre-Change Emissions Rate

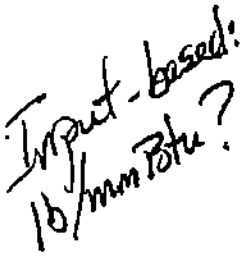
The pre-change maximum actual hourly emissions rate would be determined using the highest rate at which the EGU actually emitted the pollutant within the 5-year period immediately before the physical or operational change. Thus, the maximum achieved emissions test is based on specific measures of actual historical emissions during a representative period.

We are proposing four alternatives for determining the pre-change maximum hourly emissions rate actually achieved, which we denote here and in the proposed rule language as Alternatives 1 through 4. As shown above in Table 12, these alternatives consist of two different methods for determining the pre-change maximum emissions rate (i.e., the statistical approach and the one-in-5-year baseline approach), each of which can be applied on an input (lb/hr) basis or output (lb/MWh) basis. In addition to these four alternatives, which are included in the proposed rule language at §51.167(f) (1), we a proposing that the source would have a choice of implementing the test on either an input- or output-basis.

Proposed Alternatives 1 and 2 (input basis and output basis, respectively) utilize a statistical approach for you to use to analyze CEMS or PEMS data from the 5 years preceding the physical or operational change to determine the maximum actual pollutant emissions rate. The statistical approach utilizes actual recorded data from periods of representative operation to calculate the maximum actual emissions rate associated with the pre-change maximum actual operating capacity in the past 5 years. The maximum

be associated with the pre-change maximum actual operating capacity during this period.

Because Alternatives 1 and 2 can be used only if one has CEMS or PEMS data, we cannot adopt these alternatives alone. That is, if we elect to include either or both of these alternatives in the final rule, we will also finalize another alternative to be used for emissions of any regulated NSR pollutants that a source does not measure directly with a CEMS or PEMS.



While we believe that the statistical approach would be best applied to hourly emissions data from the periods of highest heat input rates, we also propose and request comment on the option of sorting and extracting data based on the hourly emissions rate itself in lb/hr or lb/MWh, as applicable. In this alternative method for conducting the statistical approach, you would compile a data set in the same manner as in Alternatives 1 and 2. As in Alternatives 1 and 2, you would delete selected hourly data from this 365-day period in accordance with the same data limitations. Specifically, you would delete data from periods of startup, shutdown, and malfunction; periods when the CEMS or PEMS was out of control (as described below); and periods of noncompliance, as defined in proposed §51.167(f) (2). However, the data would then be sorted by the recorded hourly average emissions rates, rather than by heat input rates. You would then extract the hourly data for the 10 percent of the data set corresponding to the highest hourly emissions rate readings for the selected period. You would next apply basic statistical analyses to the extracted CEMS or PEMS hourly emissions rate data, calculating the average emissions rate, the standard deviation, and finally the UTL. Under this alternate statistical method based on recorded hourly emissions rates, we are proposing a 99.9

gross electrical output.

- Actual and projected emissions rates in lb/MWh would be determined over a 1-hour averaging period (that is, a period of one hour of continuous operation, rather than an instantaneous spike).

We are proposing a gross output basis for this test, rather that net output, due to the difficulties involved in determining net output. This gross output basis is consistent with our recent revisions to the NSPS for EUSGUs (40 CFR part 60, subpart Da; 71 FR 9866) and stationary combustion turbines (40 CFR part 60, subpart KKKK; 71 FR 38487).

For the output-based alternatives, we propose to cite the definitions in the CAIR rule at §51.124(q) for the definitions of "cogeneration unit" and numerous other terms used in that definition. We propose to include definitions in §51.167(h) (2) of this rule for "gross electrical output" and "gross energy output." We propose to add definitions for "gross power output" and "useful thermal energy output," which are terms used in the proposed definition of "gross energy output." We invite comment on the output-based approach in general, the proposed output-based alternatives, and the related definitions we are proposing.

2. Determining the Post-Change Emissions Rate

We are proposing the same approach to post-change emissions for Alternatives 1 through 4. Specifically, for each regulated NSR pollutant, you must project the maximum emissions rate that your EGU will actually achieve in any 1 hour in the 5 years following the date the EGU resumes regular operation after the physical or operational

Under Option 2, if a physical or operational change at an existing EGU is found to be a modification according to this hourly emissions test, the EGU would then be subject to all the substantive major NSR requirements of the existing regulations. Accordingly, we are also proposing to revise the substantive provisions in all the current major NSR regulations that apply to major modifications to apply also to modifications at EGUs. The amendatory language in today's proposed rule does not include specific provisions for these changes. The substantive provisions to be amended would include, but not be limited to, the provisions in §51.166(a)(7)(i) though (iii), (b)(9), (b)(12), (b)(14)(ii), (b)(15), (b)(18), (i)(1) through (9), (j)(1) through (4), (m)(1) through (3), (p)(1) through (7), (r)(1) though (7), and (s)(1) through (4). For example, we are proposing to amend §51.166(a)(7)(iii) as follows.

> (iii) No new major stationary source, major modification, or modification at an EGU to which the requirements of paragraphs (j) through (r)(5) of this section apply shall begin actual construction without a permit that states that the major stationary source, major modification, or modification at an EGU will meet those requirements.

We are proposing to amend all other provisions for in the current regulations at 40 CFR 51.165, 51.166, 52.21, and 52.24 and in appendix S to 40 CFR part 51 in an analogous manner to require that the substantive provisions in all the current major NSR regulations apply to modifications at EGUs.

VII. Legal Basis and Policy Rationale

This section supplements the legal arguments in our October 2005 proposal. (70 FR 70565.) In that action, we provided our legal basis and rationale for the proposed maximum achievable hourly emissions test and our alternative proposal, the maximum

method for use with stack tests and continuous monitors to measure actual emissions to address this issue.

In light of these concerns, we developed a statistical approach for the maximum achieved hourly emissions increase test to assure that it identifies the maximum hourly pollutant emissions value (for example maximum lb/hr NOx during a specific one-year period). The statistical procedure would provide an estimate of the highest value (99.9 percentage level) in the period represented by the data set. We believe that this approach mitigates some of the uncertainty associated with trying to identify the highest hourly emissions rate at the highest capacity utilization.[41] We thus believe that, over a period that is representative of normal operation, in general the maximum achievable and maximum achieved hourly emissions test would lead to substantially equivalent results.

Each of today's proposed options would promote the safety, reliability, and efficiency of EGUs. Each of the options would balance the economic need of sources to use existing operating capacity with the environmental benefit of regulating those emission increases related to a change, considering the substantial national emissions reductions other programs have achieved or will achieve from EGUs. The proposed regulations are consistent with the primary purpose of the major NSR program, which is not to reduce emissions, but to balance the need for environmental protection and economic growth. As the analyses included in today's SNPR demonstrate, the proposed regulations would not have an undue adverse impact on local air quality. Furthermore, as

[41] Commenters stated that the maximum achieved test is difficult to comply with due to fluctuations in equipment and control device performance that are beyond the control of the EGU owner/operator.

our analyses demonstrate, increases in hours of operation at EGUs, to the extent they may change under a maximum hourly rate test, do not increase national SO2, NOx, PM2.5, VOC, or CO emissions. Consistent with earlier analyses, our analyses demonstrate that in a system where national emissions are capped, the more hours an EGU operates, the more likely it is to install controls.

Moreover, each of the proposed options also offers additional benefits consistent with our overall policy goals. We propose Option 1, our preferred Option, for the purpose of maintaining the current significant net emissions increase component of the emissions increase test. In light of the additional complexity that netting adds, we solicit comment on whether netting and significance levels would retain, in combination with an hourly test, the usefulness they have under an annual test.

Why do you prefer Option 1? Tell us the subsequent advantage points to Option 2

The proposed maximum hourly tests would streamline major NSR by reducing applicability determinations complexity. The proposed maximum hourly achievable test provides more streamlining by conforming them to NSPS applicability determinations. ~~We also note that Option 2 (both achievable and achieved alternatives) eliminates the~~ burden of projecting future emissions and distinguishing between emissions increases caused by the change from those due solely to demand growth, because any increase in the emissions under the maximum hourly achievable emissions test would logically be attributed to the change. In addition, Option 2 reduces recordkeeping and reporting burdens on sources because compliance will no longer rely on synthesizing emissions data into rolling average emissions. Option 2 would also reduce the reviewing ~~authorities' compliance and enforcement burden. We recognize that Option 1, which~~

~~retain an annual emissions~~ increase test, would not ~~streamline the major NSR program as~~ Option 2 would.

Do you explain this? Commenters have argued/suggested that ... because

We acknowledge that an output-based format may not be as effective a measure of existing capacity utilization in some instances as our input-based options. However, consistent with our policy goal of encouraging efficient use of existing energy capacity, we are continuing to propose an output-based format for the hourly emissions increase tests. An output-based standard establishes emission limits in a format that incorporates the effects of unit efficiency by relating emissions to the amount of useful energy generated, not the amount of fuel burned. By relating emission limitations to the productive output of the process, output-based emission limits encourage energy efficiency because any increase in overall energy efficiency results in a lower emission rate. Allowing energy efficiency as a pollution control measure provides regulated sources with an additional compliance option that can lead to reduced compliance costs as well as lower emissions. The use of more efficient technologies reduces fossil fuel use and leads to multi-media reductions in environmental impacts both on-site and off-site.

Option 2 does not include steps for determining whether significant net emissions increases have occurred. We recognize that the D.C. Circuit, in the seminal case, Alabama Power v. EPA, 636 F.2d 323 (D.C. Cir. 1980), which was handed down before Chevron, held that failure to interpret "increases" to allow netting would be "unreasonable and contrary to the expressed purposes of the PSD provisions...." Id. at 401. As we noted at 70 FR 61093, it is important to place this ruling in the context of the rules before the Court at that time. Our 1978 regulations required a source-wide