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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 SO<sub>2</sub>. Let's find out if EPA is correct.

The first page of the attached workbook

(See attached file: All ND Plants SO<sub>2</sub> 2006.xls)

is simply a compilation of SO<sub>2</sub> 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 SO<sub>2</sub> 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 SO<sub>2</sub> 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) SO<sub>2</sub> emissions from these eleven EGUs 761 times (26% of the possible results) in 2006, with the worst case underestimating 3-hour SO<sub>2</sub> by 25%

- underestimated total actual 24-hour (block average) SO<sub>2</sub> emissions from these eleven EGUs 89 times (24% of the possible results) in 2006, with the worst case underestimating 24-hour SO<sub>2</sub> by 14%

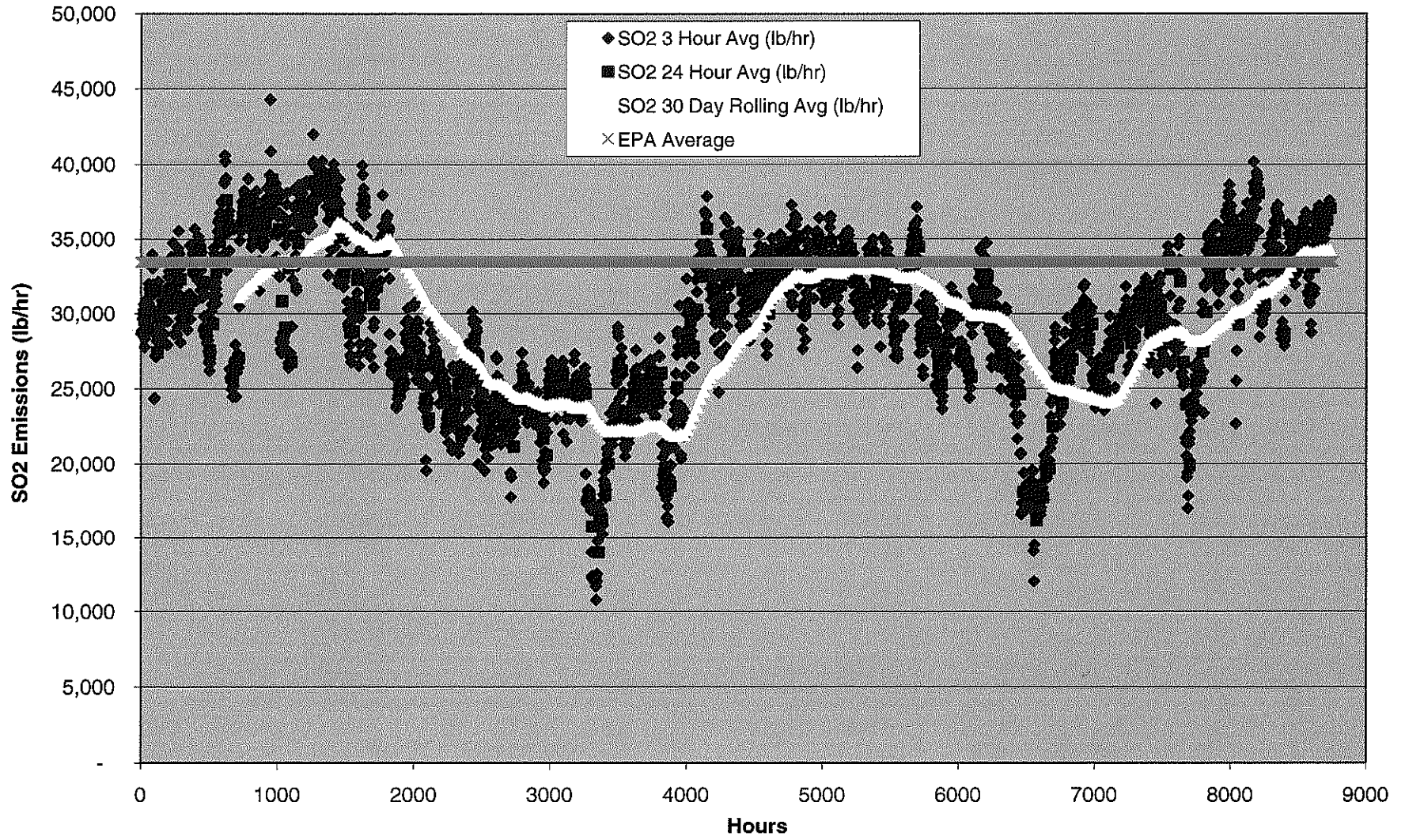
- underestimated total actual 30-day (rolling average) SO<sub>2</sub> emissions from these eleven EGUs 52 times (15% of the possible results) in 2006, with the worst case underestimating 30-day SO<sub>2</sub> by 7%

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