

Draft 9/18/12

Rev. 3 (Updated CAMD 2010 data)

Comparison of CAIR and CSAPR Annual NO_x Budgets

The attached spreadsheets compare state-level EGU annual NO_x budgets under the CAIR and CSAPR rules for both phases of these rules. CAIR remains in effect following the vacatur and remand to EPA of CSAPR. It is uncertain whether a replacement CSAPR rule could be fully implemented, including state SIP development, prior to the January 1, 2015, compliance date for CAIR Phase II.

The states included in this comparison are the states covered by both rules, to ensure data comparability. The data include actual 2010 EGU emissions and total state NO_x emissions for purposes of assessing the emissions and potential air quality differences – if any – between these two rules.

Regional comparisons for the included states also are provided to add a geographic perspective.

Key preliminary findings of this comparison are:

- The EGU NO_x budgets of the two rules are similar in the first phase (2012) and virtually identical in the second phase (2014 for CSAPR, 2015 for CAIR);
- CSAPR is 11% more stringent than CAIR in 2012, with a budget difference of 156,189 tons – 29% of this difference is in the CENRAP (central) region.
- The budget difference between the two programs in 2014/2015 is 8,368 tons in favor of CAIR (1,145,564 tons for CSAPR versus 1,137,196 tons for CAIR);
- In 2015, CAIR Phase II is more stringent than CSAPR in the Northeast OTC (7%) and Midwest LADCO states (4%), and less stringent in SESARM (-3%) and CENRAP states (-2%);
- As a percent of 2010 total state NO_x emissions, the differences between CAIR and CSAPR are negligible: in 2012, CSAPR reduces overall NO_x by the equivalent of an additional 1.6% relative to CAIR; in 2015, there is no meaningful difference between the two rules.
- Annual NO_x banked allowances under CAIR (entire CAIR region) increased by approximately 39,000 tons between 2010 and 2011, indicating that emissions were below applicable caps.

COMPARISON OF STATE EGU NO_x BUDGETS CSAPR AND CAIR AND TOTAL STATE NO_x FOR STATES COVERED BY BOTH CSAPR AND CAIR ANNUAL NO_x

State	2010	2010	CSAPR NO _x		CAIR NO _x	
	EGU NO _x *	State NO _x **	2012	2014	2009-14	2015
AL	63,317	355,601	72,691	71,962	69,020	57,517
GA	60,588	510,002	62,010	53,738	66,321	55,268
IL	76,287	671,004	47,872	47,872	76,230	63,525
IN	112,835	492,798	109,726	108,424	108,935	90,779
IA	45,045	256,763	38,335	37,498	32,692	27,243
KY	91,896	336,745	85,086	77,238	83,205	69,337
MD	19,444	223,683	16,633	16,574	27,724	23,104
MI	80,390	551,817	65,421	63,040	65,304	54,420
MN	31,173	383,642	29,572	29,572	31,443	26,203
MO	58,518	417,045	52,400	48,743	59,871	49,892
NJ	9,611	259,880	8,218	7,945	12,670	10,558
NY	26,190	549,643	21,722	21,722	45,617	38,014
NC	54,635	388,082	50,587	41,553	62,183	51,819
OH	104,888	616,633	95,468	90,258	108,667	90,556
PA	133,313	620,087	119,986	119,194	99,049	82,541
SC	26,970	234,926	32,498	32,498	32,662	27,219
TN	31,323	369,361	35,703	19,337	50,973	42,478
TX	144,565	1,652,339	137,701	137,701	181,014	150,845
VA	38,303	390,648	33,242	33,242	36,074	30,062
WV	53,297	175,302	59,472	54,582	74,220	61,850
WI	33,466	297,585	34,101	32,871	40,759	33,966
TOTAL	1,296,054	9,753,586	1,208,444	1,145,564	1,364,633	1,137,196

Memo: CAIR Annual NO_x Banked Allowances (Entire CAIR Region)

Dec-10	403,096
Dec-11	442,164

*2010 actual EGU NO_x from EPA CAMD data base (rev. 9/17/12)

** Total NO_x from Alpine Geophysics/ENVIRON Air Quality and Emission Trends Reports (2012).

REGIONAL EGU NO_x BUDGET TOTALS FOR STATES IN BOTH PROGRAMS

Region	2010 EGU	2010 Total	CSAPR NO _x		CAIR NO _x	
	Actual NO _x *	State NO _x	2012	2014	2009-14	2015
OTC**	188,558	1,653,293	166,559	165,435	185,060	154,217
SESARM	420,329	2,760,667	431,289	384,150	474,658	395,550
LADCO***	439,039	3,013,479	382,160	372,037	431,338	359,449
CENRAP	248,128	2,326,147	228,436	223,942	273,577	227,980
TOTAL	1,296,054	9,753,586	1,208,444	1,145,564	1,364,633	1,137,196

**OTC excludes VA, included in SESARM.

***LADCO includes MN.

TONNAGE DIFFERENCE CSAPR MINUS CAIR

Region	CSAPR - CAIR	
	2012	2014/15
OTC**	-18,501	11,218
SESARM	-43,369	-11,400
LADCO***	-49,178	12,588
CENRAP	-45,141	-4,038
TOTAL	-156,189	8,368

Note: Positive value means CAIR is more stringent than CSAPR.

CSAPR TONNAGE DIFFERENCE RELATIVE TO CAIR

Region	(CSAPR - CAIR)/CAIR	
	2012	2014/15
OTC	-10%	7%
SESARM	-9%	-3%
LADCO	-11%	4%
CENRAP	-17%	-2%
TOTAL	-11%	1%

Note: Positive value means CAIR is more stringent than CSAPR.

CSAPR TONNAGE DIFFERENCE AS PERCENT OF 2010 TOTAL STATE NOX

Region	CSAPR - CAIR	
	2012	2014/15
OTC	-1.1%	0.7%
SESARM	-1.6%	-0.4%
LADCO	-1.6%	0.4%
CENRAP	-1.9%	-0.2%
TOTAL	-1.6%	0.1%

Note: Positive value means CAIR is more stringent than CSAPR.

Sources: CAIR state budgets are from EPA Technical Support Document for CAIR (March 2005). CSAPR state budgets are from the final CSAPR rule, 76 FR 48208 (August 8, 2011), with state adjustments for NODA and other revisions provided by Jim Marchetti (August 2012). CAIR annual banked allowances are from EPA CAMD Air Markets Program Database (2012). Other sources are as noted above.