

Impact of Wintertime SCR/SNCR Optimization on Visibility Impairing Nitrate Precursor Emissions

MANE-VU Technical Support Committee
November 20, 2017



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Executive Summary

During the first planning phase for regional haze, programs that were put in place focused on reducing sulfur dioxide (SO₂) emissions. The reductions achieved led to improvements in visibility at the MANE-VU Federal Class I Areas due to reduced sulfates formed from SO₂ emissions. The reduction in visibility impairment from sulfates resulted in nitrates driving the visibility impairment rather than sulfates in some MANE-VU Class I Areas on the 20% most impaired days, in particular, during the winter months. Nitrogen oxide (NO_x) emissions are an important precursor to the formation of nitrates.

Often Electric Generating Units (EGUs) only run NO_x emission controls to comply with ozone season trading programs; consequently, emissions of NO_x are uncontrolled during the winter. Controlling winter-time NO_x emissions at EGUs using existing controls is generally more cost-effective compared to other sectors that would have to install and bear the capital costs of control equipment solely for improving visibility.

We looked at the visibility data and observed emission rates from EGUs with installed selective catalytic reduction (SCR) and selective non-catalytic reduction (SNCR) controls, and compared those rates to projected emissions using the ERTAC EGU tool, to show the potential NO_x emissions reductions from running existing SCR and SNCR during the winter months.

We found that the number of most impaired days occurring during the winter is increasing at all Class I areas, in particular Brigantine, and that Brigantine and Lye Brook are seeing nitrate impairment in high levels during those times. We also found that back trajectories from those sites during the winter often traverse MANE-VU and LADCO states with power plant emissions. We found that running existing installed controls is one of the most cost-effective ways to control NO_x emissions from EGUs and that running existing SCRs and SNCRs on EGUs could substantially reduce the NO_x emissions in many of the states upwind of Class I areas in MANE-VU that lead to visibility impairment during the winter from nitrates.

Total 2028 Projected NO_x Emissions from January 1-April 30 and November 1-December 31

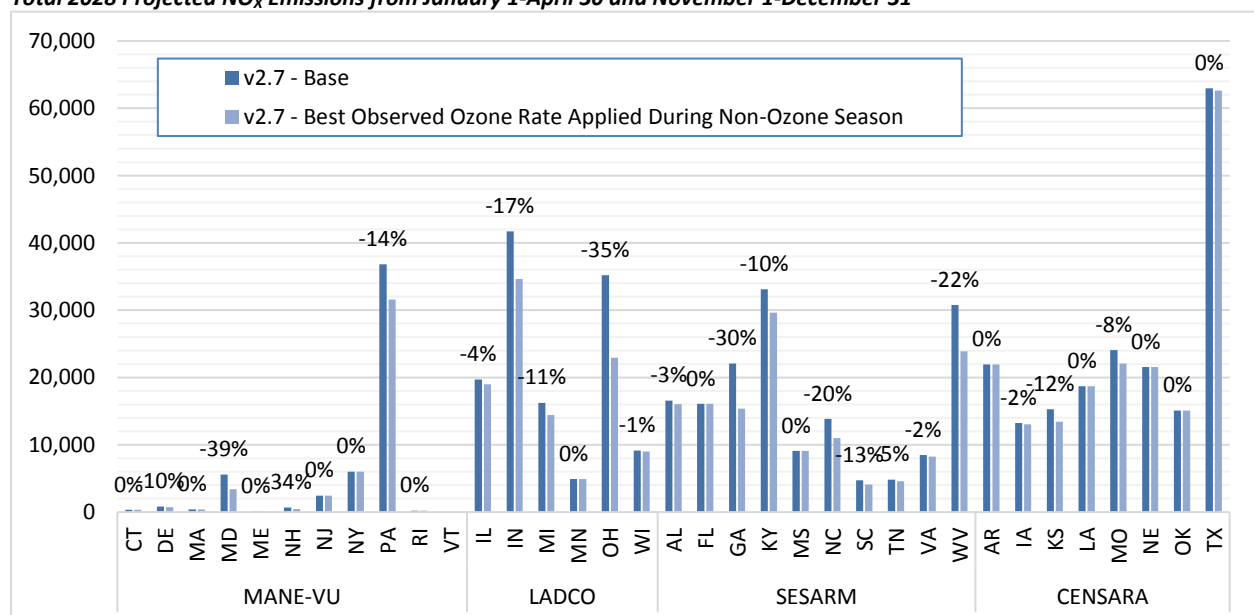


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Introduction

During the first planning phase for regional haze, programs that were put in place focused on reducing sulfur dioxide (SO₂) emissions. The reductions achieved led to improvements in visibility at the MANE-VU Federal Class I Areas due to reduced sulfates formed from SO₂ emissions. The reduction in visibility impairment from sulfates resulted in nitrates driving the visibility impairment rather than sulfates in some MANE-VU Class I Areas on the 20% most impaired days, in particular, during the winter months. Nitrogen oxide (NO_x) emissions are an important precursor to the formation of nitrates.

Despite the progress made in the first planning period, additional progress is needed to continue to improve visibility. While many hazy days continue to be affected by high sulfate concentrations, many of the most impaired days are now dominated by nitrates, particularly on cooler days, when nitrogen emissions are more likely to contribute to the formation of nitrates rather than participating in the formation of ozone. Therefore, in addition to maintaining reductions already achieved, it is necessary to look closely at the sources of nitrates and the effectiveness of potential controls.

Often Electric Generating Units (EGUs) only run NO_x emission controls to comply with ozone season trading programs; consequently, emissions of NO_x are uncontrolled during the winter. Controlling winter-time NO_x emissions at EGUs using existing controls is generally more cost-effective compared to other sectors that would have to install and bear the capital costs of control equipment solely for improving visibility. We will look at the visibility data and observed emission rates from EGUs with installed selective catalytic reduction (SCR) and selective non-catalytic reduction (SNCR) controls, and compare those rates to projected emissions, to show the improvements that can be made to visibility impairment from running existing SCR and SNCR during the winter months.

Current Visibility Data

Figure 1 through Figure 5 show the variability in which meteorological seasons contained “20% most impaired days”¹ from 2000 to 2015. The 20% most impaired days metric was used because it aligns with the requirements for measuring progress as outlined in the Regional Haze Rule Update (82 FR 3078) and removes the impacts of natural sources of impairment, such as wild fires and sea salt, from consideration. The new metric also excludes some days that experience both high impairment from anthropogenic sulfate pollution and natural wildfires during the summer which leads to a greater focus on winter time nitrate impairment than would have occurred using the old “worst day” metric. However, the progress made in reducing SO₂ emissions and thus sulfate impairment has also lead to more impaired days being dominated by nitrates as we will see.

The Edwin B. Forsythe National Wildlife Refuge (hereafter Brigantine Wilderness) has the strongest increase in winter 20% most impaired days, followed by Acadia National Park and Great Gulf Wilderness Area. The only site that did not see an increase in the number of winter 20% most impaired days was Lye Brook, but this is likely due to the fact that the Lye Brook IMPROVE monitor was moved in 2012 and the 20% most impaired days were not calculated as of this writing for the new site. When you look at 20% most impaired days you also see an upward trend in the number of winter days. This shows that

¹ 20% most impaired days are based on the draft IMPROVE AEROSOL, RHR III methodology used to calculate visibility impairment available in the Federal Land Manager Environmental Database (FED) database as of June 8, 2017 in accordance with the new definitions of impairment in regional haze regulatory framework

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emissions that affect visibility during colder months are important to consider when developing control strategies, particularly for Brigantine.

Figure 1: Trends in seasonality of 20% most impaired days at Acadia National Park

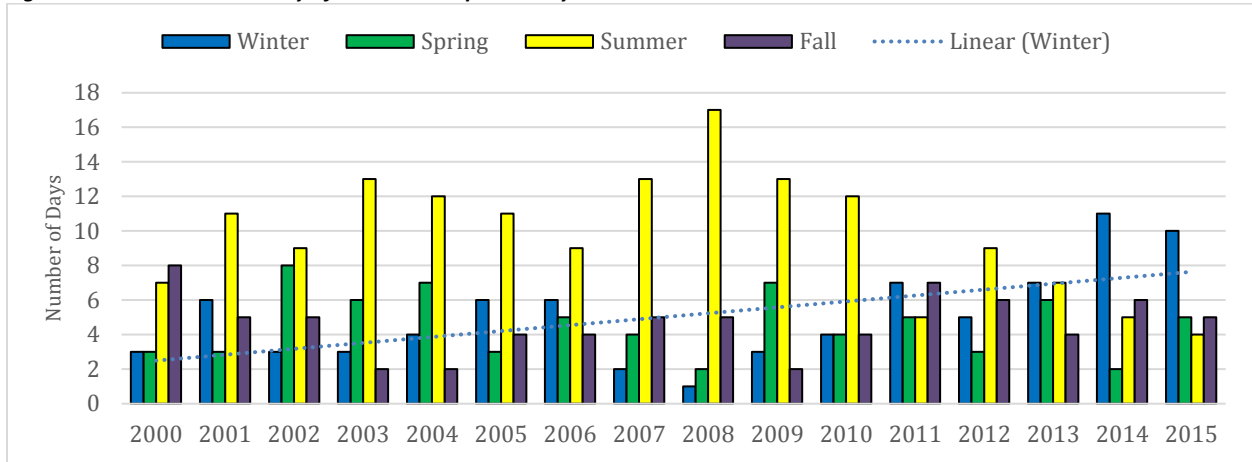


Figure 2: Trends in seasonality of 20% most impaired days at Moosehorn NWR

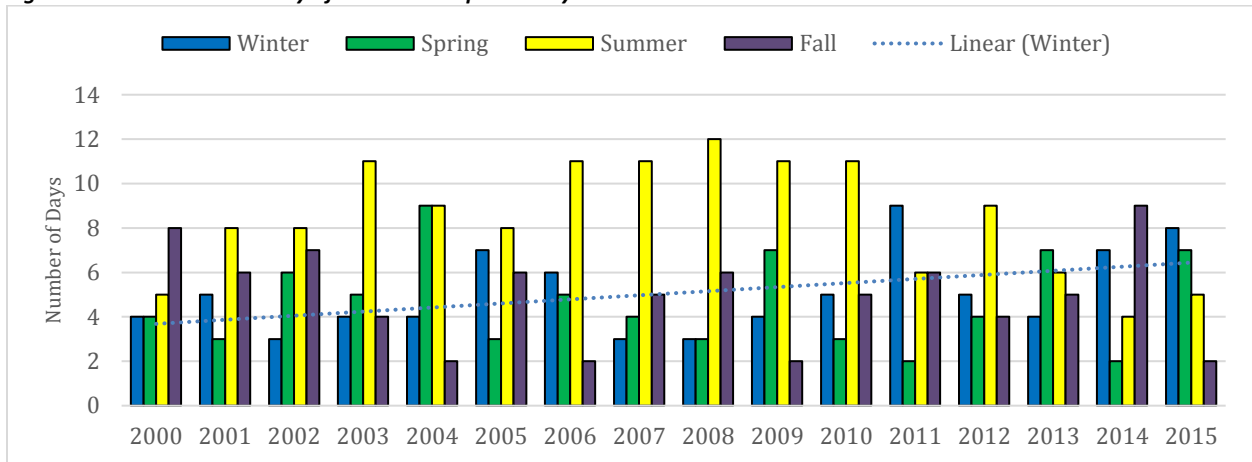
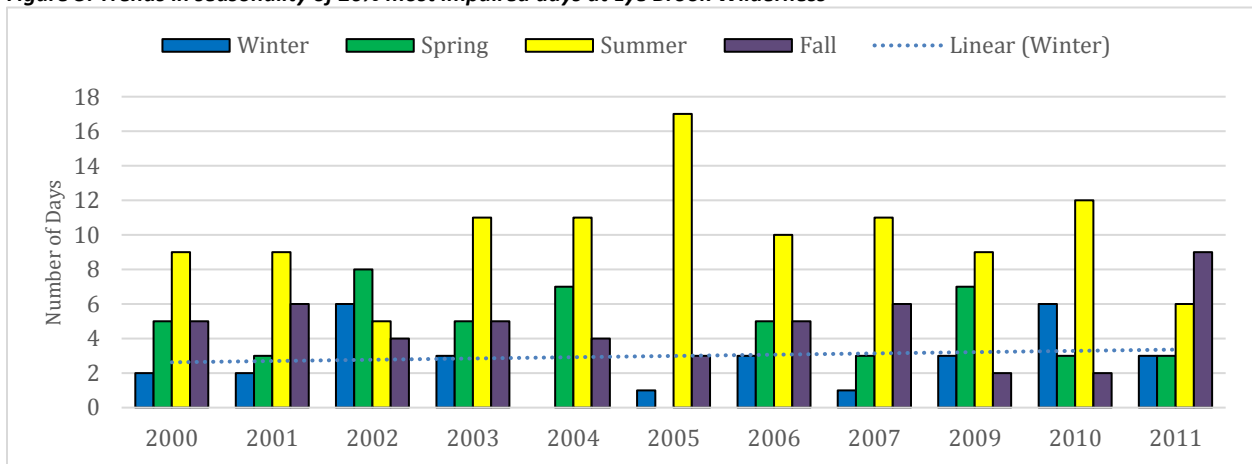


Figure 3: Trends in seasonality of 20% most impaired days at Lye Brook Wilderness



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Figure 4: Trends in seasonality of 20% most impaired days at Great Gulf Wilderness

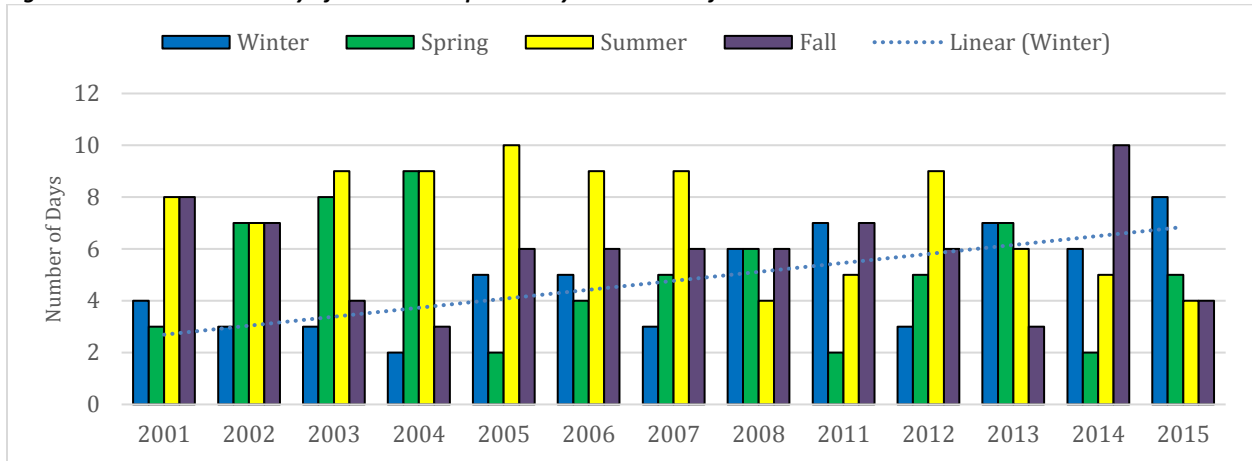
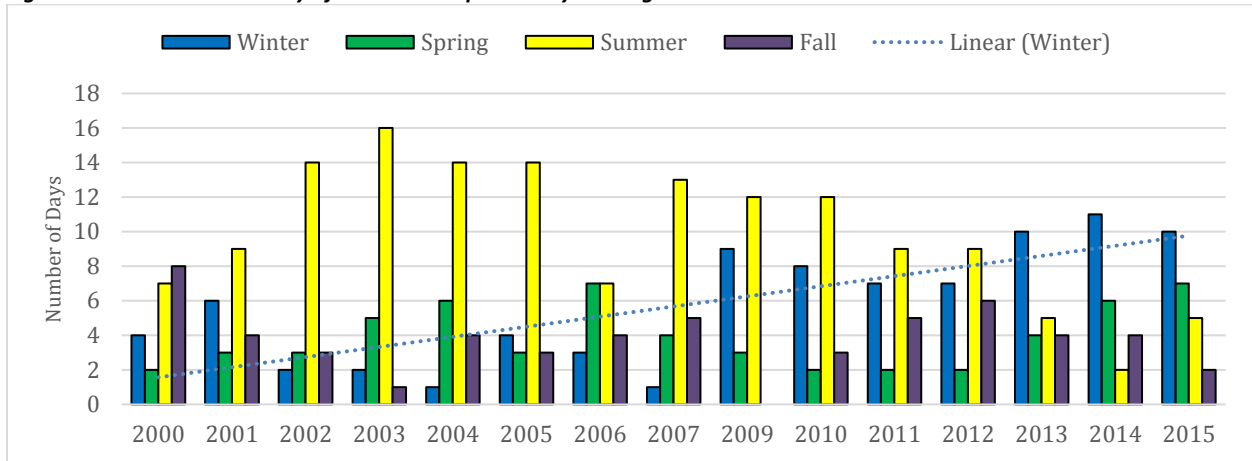


Figure 5: Trends in seasonality of 20% most impaired days at Brigantine Wilderness



Class I area plots were also created showing light extinction speciation for each day for 2002, 2011, and 2015 (Figure 6 through Figure 10). For all the Class I areas, there is a significant decrease in light extinction from 2002 to 2011 (especially from sulfates contribution) and a smaller decrease from 2011 to 2015. At Lye Brook and Brigantine, nitrates contribute to a greater percentage of visibility impairment on certain days.

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Figure 6: Acadia National Park 2002/2011/2015 Speciation Comparison

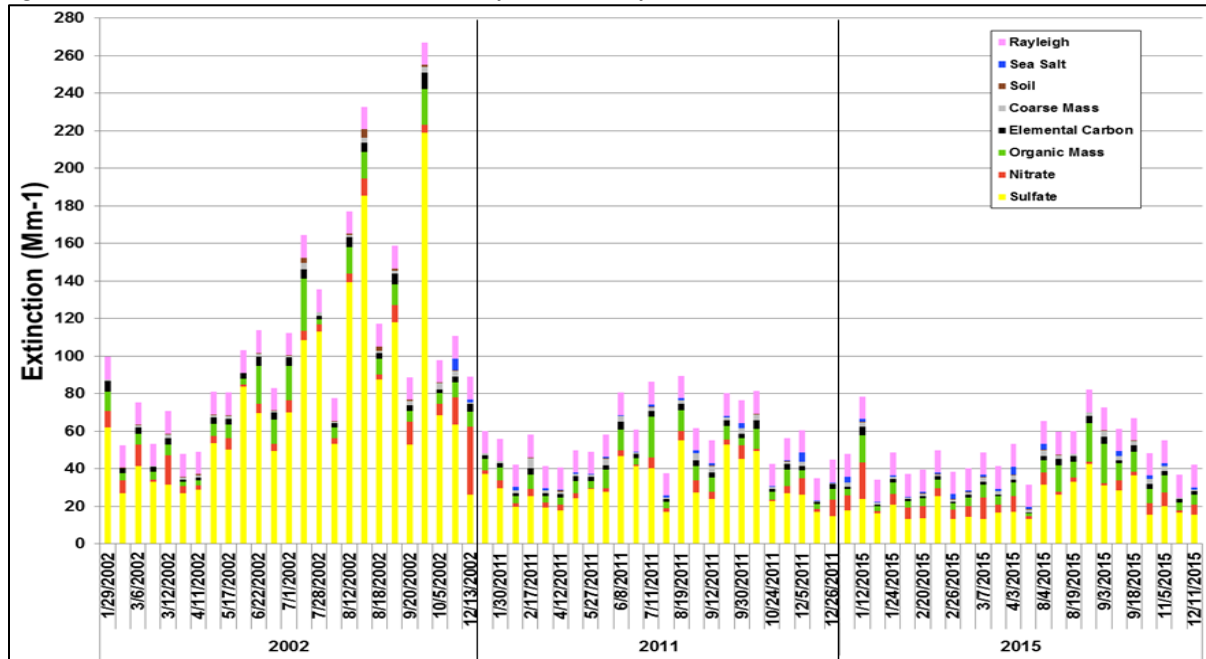
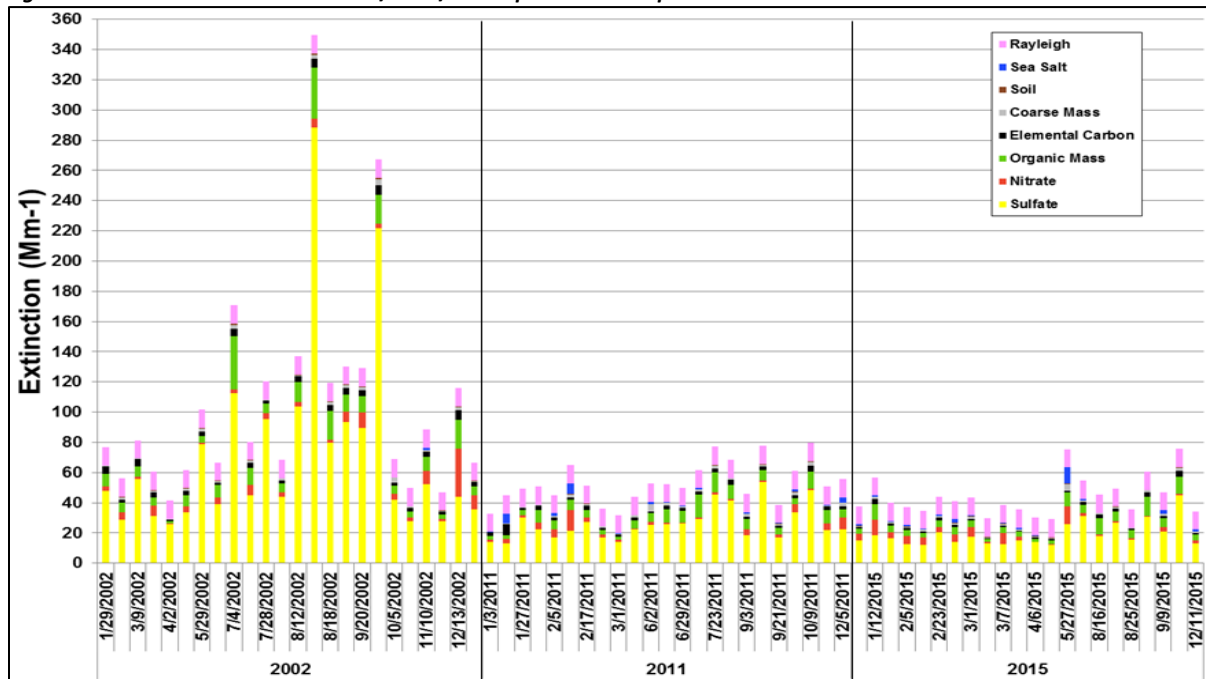


Figure 7: Moosehorn Wilderness 2002/2011/2015 Speciation Comparison



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Figure 8: Great Gulf Wilderness 2002/2011/2015 Speciation Comparison

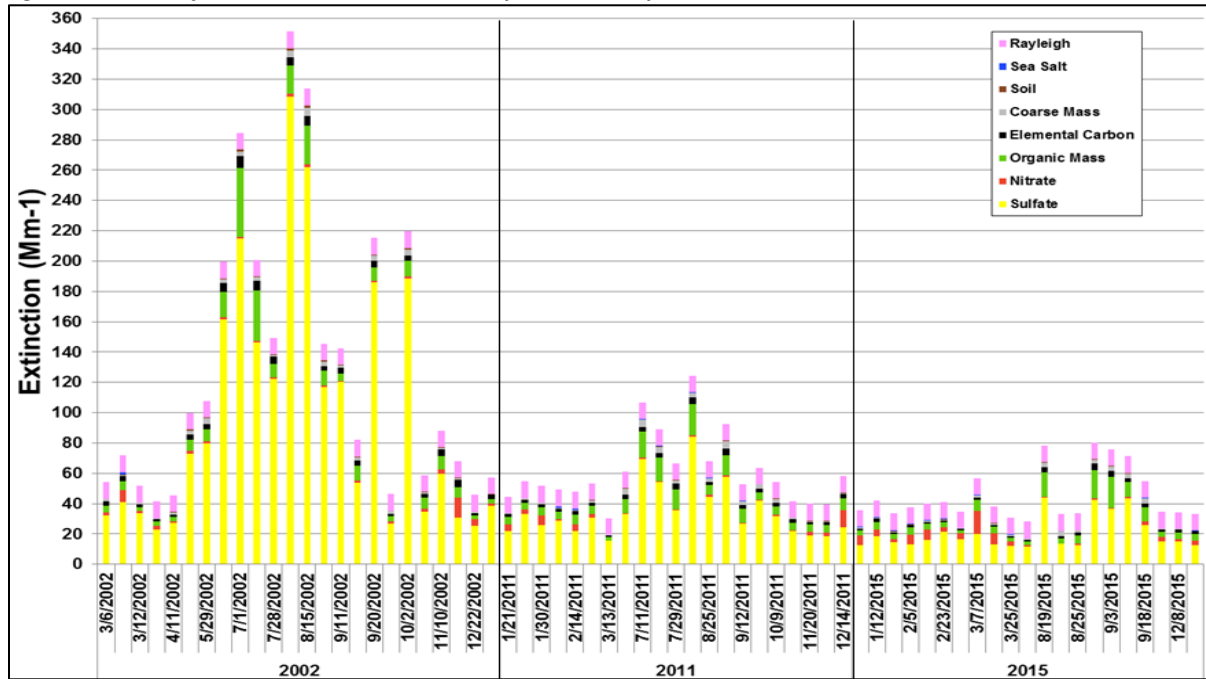


Figure 9: Lye Brook Wilderness 2011/2015 Speciation Comparison

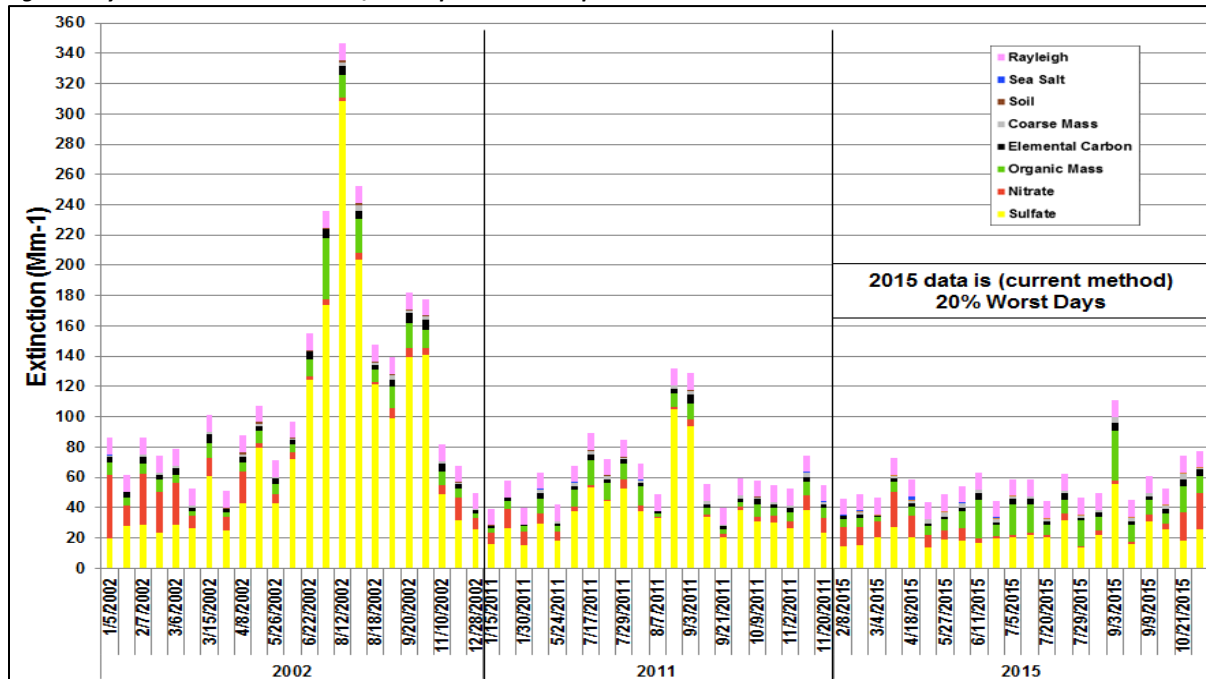


Figure 10: Brigantine Wilderness 2002/2011/2015 Speciation Comparison

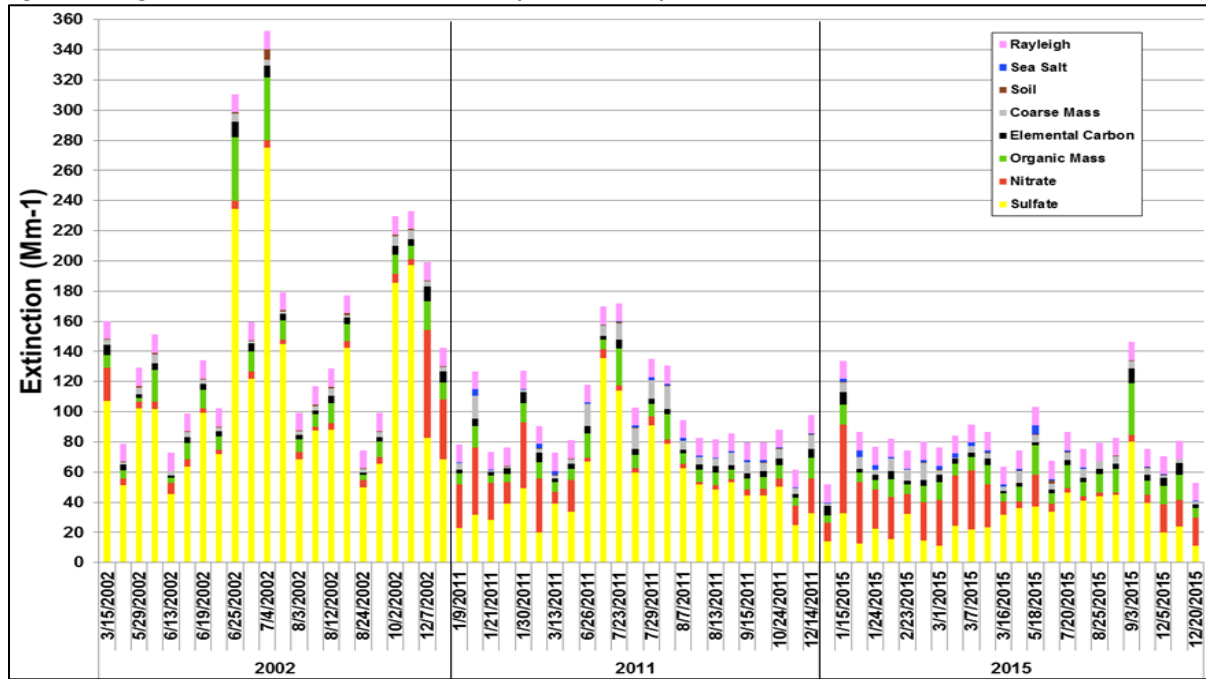


Table 1 demonstrates these trends between 2000 and 2015. At Brigantine, starting in 2007, at least half of the 20% most impaired days in each winter has had more extinction from nitrates than sulfates. In 11 winters out of 15 (73%) in the 2000-2015 period, Brigantine had days in which nitrates contributed more than sulfates to light extinction. At Lye Brook, in the same period, 6 winters (i.e., 43%) had some days in which nitrates contributed more than sulfates to light extinction, and more than half of the 20% most impaired days in 4 of these winters had more extinction from nitrates than sulfates. It is rare (less than 5%) for the other three Class I areas to have winter days where there is more extinction from nitrates than sulfates.

Focusing in on Lye Brook and Brigantine in more detail, one can see in Figure 11 and Figure 12 for Lye Brook and Figure 13 and Figure 14 for Brigantine that during the winter months the back trajectories on many of the 20% most impaired days traverse the southwestern states in MANE-VU, the states in LADCO and the northern most states in SESARM. Later we will see how this information compares with the locations of EGUs that could impact MANE-VU Class I Areas.

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Table 1: Number of 20% most impaired winter days and winter days where nitrate extinction was greater than sulfate at each monitored Class I area*

Site	Year	Winter Days	NO ₃ > SO ₄	%	Site	Year	Winter Days	NO ₃ > SO ₄	%	
Acadia	2000	3	0	0%	Great Gulf	2007	3	0	0%	
	2001	6	0	0%		2008	6	0	0%	
	2002	3	1	33%		2011	7	0	0%	
	2003	3	0	0%		2012	3	0	0%	
	2004	4	0	0%		2013	7	1	14%	
	2005	6	0	0%		2014	6	0	0%	
	2006	6	0	0%		2015	8	0	0%	
	2007	2	0	0%		Lye Brook	2000	2	0	0%
	2008	1	0	0%			2001	2	1	50%
	2009	3	0	0%			2002	6	3	50%
	2010	4	0	0%			2003	3	0	0%
	2011	7	0	0%			2005	0	0	0%
	2012	5	0	0%			2006	1	0	0%
	2013	7	0	0%			2007	3	0	0%
	2014	11	1	9%			2009	1	1	100%
2015	10	0	0%	2010	3		0	0%		
Brigantine	2000	4	1	25%	2011		6	0	0%	
	2001	6	1	17%	2012W	5	4	80%		
	2002	2	0	0%	2013W	8	1	13%		
	2003	2	1	50%	2014W	7	3	43%		
	2004	1	1	100%	2015W	3	0	0%		
	2005	4	0	0%	Moosehorn	2000	4	0	0%	
	2006	3	0	0%		2001	5	0	0%	
	2007	1	0	0%		2002	3	0	0%	
	2009	9	3	33%		2003	4	1	25%	
	2010	8	5	63%		2004	4	0	0%	
	2011	7	3	43%		2005	7	0	0%	
	2012	7	4	57%		2006	6	0	0%	
	2013	10	5	50%		2007	3	0	0%	
	2014	11	7	64%		2008	3	0	0%	
	2015	10	6	60%		2009	4	0	0%	
Great Gulf	2001	4	0	0%	2010	5	0	0%		
	2002	3	0	0%	2011	9	0	0%		
	2003	3	0	0%	2012	5	0	0%		
	2004	2	0	0%	2013	4	0	0%		
	2005	5	0	0%	2014	7	0	0%		
	2006	5	0	0%	2015	8	0	0%		

***Notes**

1. Data was not available for Great Gulf in 2000, 2009, 2010, or at Lye Brook in 2004
2. The location of the Lye Brook monitor changed from 2011 to 2012, though several months of contemporaneous monitoring results were collected for both sites and the measurements were found to be comparable. Also as a result, 20% most impaired days are not available from 2012 on so 20% worst days were used for those years and are marked with a W.

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Figure 11: Trajectory analyses of Lye Brook Wilderness 20% most impaired days during Winter/Spring 2011

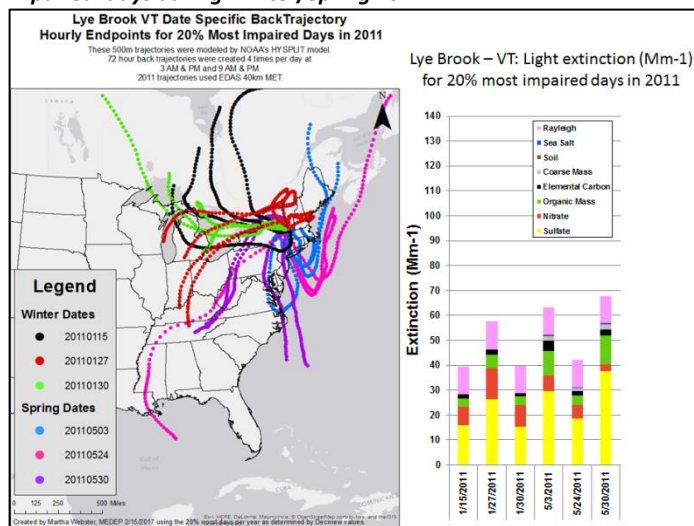


Figure 12: Trajectory analyses of Lye Brook Wilderness 20% most impaired days during Winter 2015

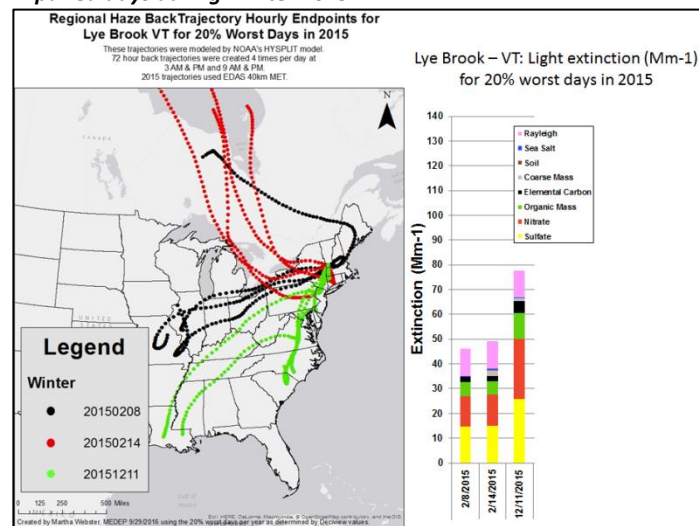


Figure 13: Trajectory analyses of Brigantine 20% most impaired days during Winter 2011

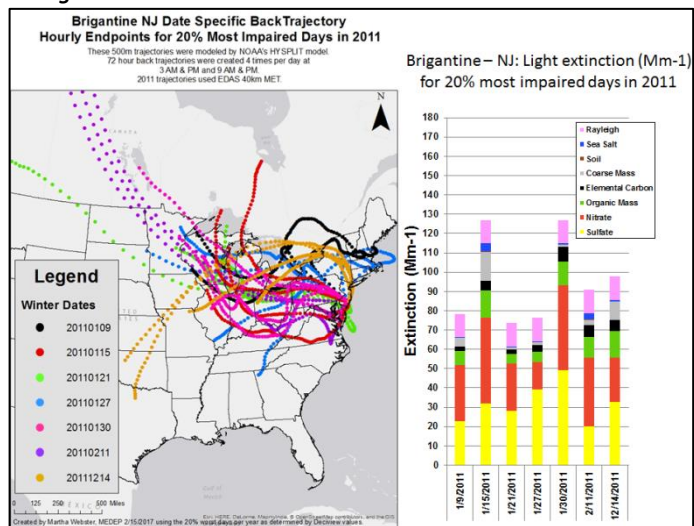
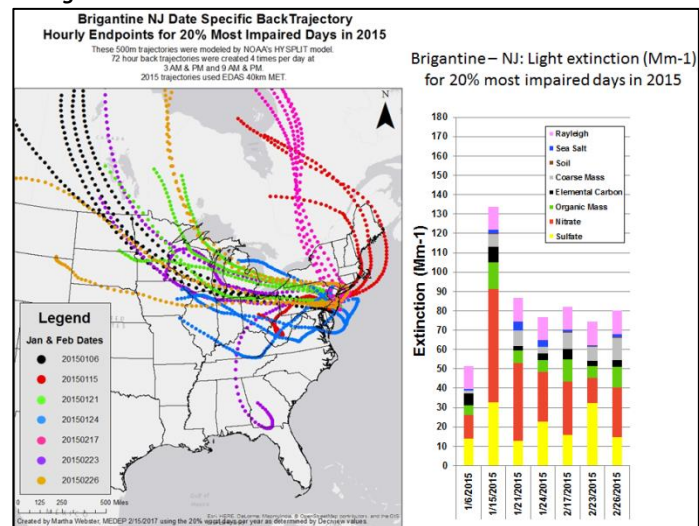
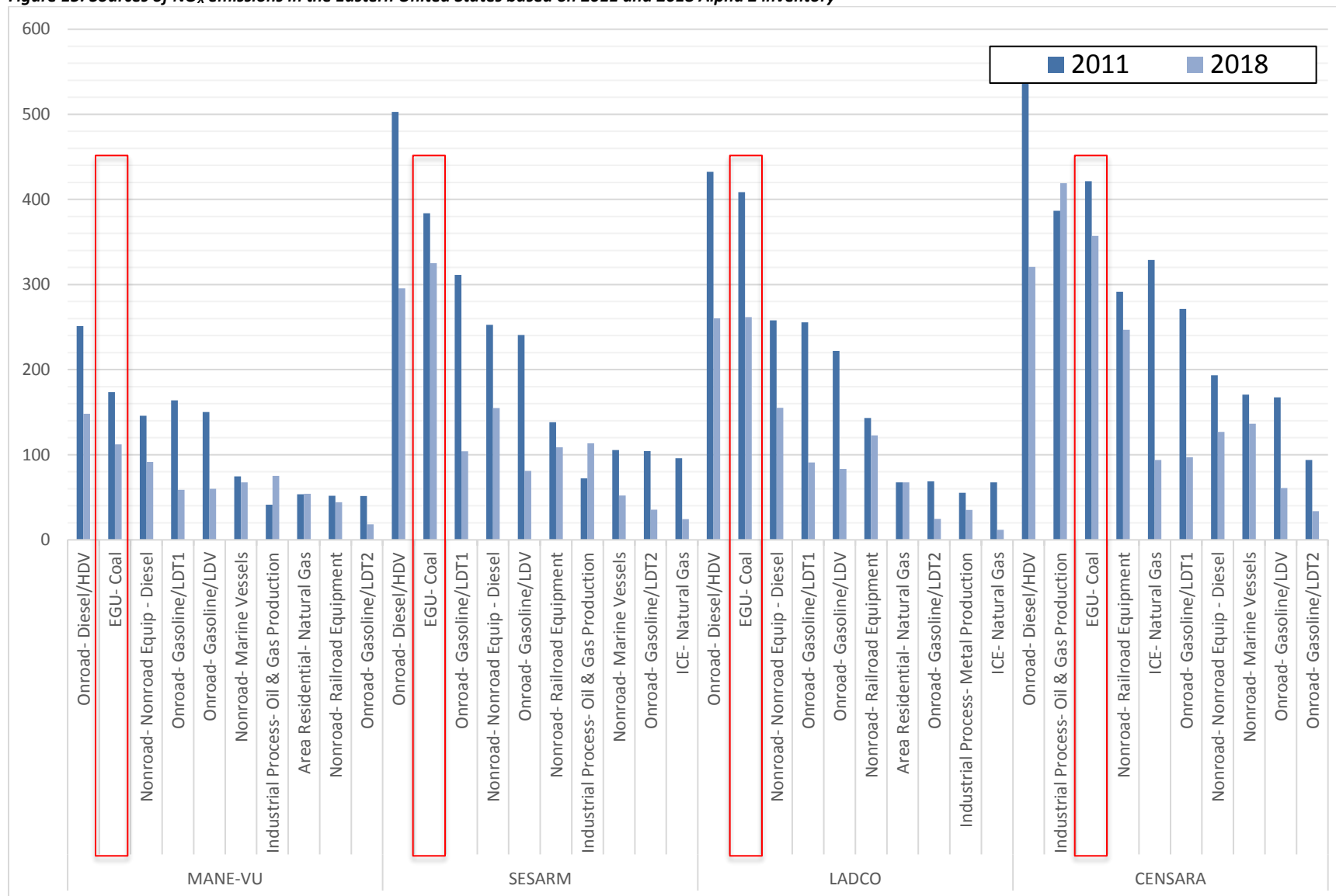


Figure 14: Trajectory analyses of Brigantine 20% most impaired days during Winter 2015



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Figure 15: Sources of NO_x emissions in the Eastern United States based on 2011 and 2018 Alpha 2 inventory



Sources of Anthropogenic NO_x Emissions

Given that regulation of NO_x emission sources is typically the more cost-effective approach to reducing precursors of nitrates, the next step is to determine which sources produce the emissions that need to be reduced. When looking at the NO_x emissions inventory for both 2011 and 2018 (Figure 15) one sees that for each RPO in the Eastern United States, EGUs (highlighted) are among the top two most important NO_x-emitting source sectors.²

However, the focus of the analysis is not on heavy-duty vehicles or mobile sources in total, which do have a large overall contribution. As described below, the reasons for this are regulatory and scientific in nature.

First, states have very little regulatory authority to address mobile sources. The Clean Air Act under Section 209 preempts individual states outside of California from adopting emissions standards that differ from EPA's, and lower emissions standards are by far the most effective way to address NO_x emissions from mobile sources. Emissions standards for light duty vehicles were also recently lowered under the Tier 3 regulations³ and many states in MANE-VU already have adopted the most recent California Low Emission Vehicle standards. Additionally, as of this writing, the most recent petition from the South Coast Air Quality Management District to tighten emission standards from heavy-duty vehicles, which many MANE-VU members have signed onto, has not yet been acted upon by EPA.⁴

Second, emissions from mobile and area sources are emitted close to ground level, which results in high levels of dry deposition and a lack of mixing and transport, whereas emissions from EGUs are released from tall stacks resulting in higher levels of vertical atmospheric mixing, a greater amount of pollution forming secondary organic aerosols, and more extensive pollution transport.^{5,6} This implies that NO_x emissions from EGUs will likely have a wider range of impact on the formation of visibility impairing particulates in the mostly rural Class I areas in the eastern part of MANE-VU than NO_x emissions from other types of distant sources that emit at ground level, such as mobile sources. However, the exclusion of mobile sources in this analysis should not imply that locally emitted NO_x from mobile sources, particularly heavy-duty vehicles, should not be considered for analysis and control.

Third, running existing controls on EGUs has been found to be possibly the most cost effective way to control NO_x emissions. In particular, EPA found that a reasonable cost to restart an idled SCR on a coal-fired EGU would be \$1,400 per ton of NO_x removed and \$3,400 per ton of NO_x removed to restart an idled SNCR.^{7,8} EPA found that retrofitting existing coal-fired EGUs with SCR would be \$5,000 and SNCR would be \$6,400 per ton of NO_x removed.⁹

² Mid-Atlantic Northeast Visibility Union, "Contribution Assessment Preliminary Inventory Analysis."

³ US EPA, "Control of Air Pollution from Motor Vehicles: Tier 3 Motor Vehicle Emission and Fuel Standards Final Rule."

⁴ South Coast Air Quality Management District, "Petition to EPA for Rulemaking to Adopt Ultra-Low NO_x Exhaust Emission Standards for On-Road Heavy-Duty Trucks and Engines."

⁵ Fisher, "The Effect of Tall Stacks on the Long Range Transport of Air Pollutants."

⁶ Trimble, "Air Quality: Information on Tall Smokestacks and Their Contribution to Interstate Transport of Air Pollution."

⁷ US EPA, "EGU NO_x Mitigation Strategies Final Rule TSD."

⁸ Ibid.

⁹ Ibid.

For all of these reasons, focusing on running controls on EGUs to reduce the impact of nitrates on visibility impairment during the colder months is the most reasonable approach that should be considered.

Emission Rate Processing

Maryland Department of the Environment conducted an ozone season analysis in order to determine the emission benefits that could be achieved if coal-fired EGUs ran their already installed NO_x controls at the best observed ozone season emission rates found by examining hourly emissions data from CAMD during the period 2005-2012.¹⁰ Due to the fact that the primary factor in reducing the effectiveness of NO_x emission controls is flue gas temperature rather than the ambient temperature, any properly configured control system would not see a decrease in effectiveness during the winter months. Therefore, the best observed ozone season emission rates were assumed to be achievable during non-ozone season months as well. However, we determined it was not appropriate to use the best observed non-ozone season emissions rates in this analysis because the expectation was that controls would not necessarily be run to the same extent as during the ozone season since the same regulatory drivers, namely the ozone season NO_x trading programs, are not in place in the winter time.

We also compared the best observed ozone season rates that were being used in this analysis to Mode 4 NO_x emission rates from EPA's NEEDS v5.15. We found on average the 160 units analyzed had a Mode 4 NO_x emission rate that was 0.04 lb/MMBTU higher than the best observed rate being used in the analysis. While the emission rates used in this analysis are lower than the rates EPA uses they are well within the same magnitude that EPA relies on for its power sector modeling.

States have developed the ERTAC EGU projection tool¹¹ in order to project future year EGU emissions, and this tool is being used in development of base case 2011 and future case 2028 EGU emissions inventories for regional haze planning. The direct reliance of the ERTAC EGU projection tool on base year hourly data in developing future year hourly projections maintains changes in peak operations that could occur during the summer or winter, as well as downtime for maintenance activities or malfunctions.

In order to comply with the Mercury Air Toxic Standard (MATS) some units have opted to run SCR with less ammonia in order to remove mercury from the exhaust emissions. We also evaluated whether there could be an issue with best observed ozone season rates being applied inappropriately to such units. 41 of the 160 units considered had mercury controls installed, leaving 119 units that could be potentially using the appropriate rates. 15 of those units had SNCR, which is not used to remove mercury, leaving 104 units. 15 of the remaining units had their best observed ozone season rate in 2014 or 2015, which would imply that if they were using the SCR in such a fashion they are still achieving NO_x reductions. The remaining 89 units had a Mode 4 NO_x emission rate that was on average 0.05 lb/MMbtu higher than the best observed rate implying that EPA does not expect the other units to be

¹⁰ Vinciguerra et al., "Expected Ozone Benefits of Reducing Nitrogen Oxide (NO_x) Emissions from Coal-Fired Electricity Generating Units in the Eastern United States."

¹¹ AMEC, "Software Technical Documentation for Software to Estimate Future Activity and Air Emissions from Electric Generating Units (EGUs)."

using SCR controls to control mercury. This information was taken from NEEDS v5.15, which accounts for the MATS program.

One design feature of the ERTAC tool is that it won't shut down specific units permanently or even for several days unless the user specifies that the unit will behave in that manner in a given future year. This was intended since having a particular unit shutdown would result in ozone or haze benefits occurring in a particular region near to a unit that would not necessarily shutdown in that given year or hour. The error that would occur from incorrectly projecting particular units to shut down in a given hour is far worse from the perspective of air quality planning than using an optimistic emission rate when a particular unit may or may not be cycling on and off.

The version of future case regional haze modeling that is expected to be used in regional progress goal modeling is the Gamma inventory, which includes ERTAC EGU v2.7 projections for the EGU sector.

To estimate the impacts of optimizing controls during the winter, the best observed rates were processed for inclusion in the ERTAC EGU control file, and then, ERTAC EGU v2.7 was rerun with the new control file.¹² Full details of the creation of the control file and the data in the control file are found in Appendix A.

Results

NO_x emissions were projected using ERTAC and the emissions were compared for the time period from January 1 – April 30 and November 1 – December 31, the time period considered the non-ozone season. Results are being compared between the v2.7 base case results and the run where the best observed rates were applied.

We found that states in the four eastern RPOs would see a drop of NO_x emissions of ~55,000 tons (10%) when best observed rates were applied during non-ozone season i.e., which is approximately 307 tons per day respectively. Full state level data for the three scenarios are written out in Table 2 and depicted visually in Figure 16.

Table 2: Total 2028 Projected NO_x Emissions from January 1-April 30 and November 1-December 31

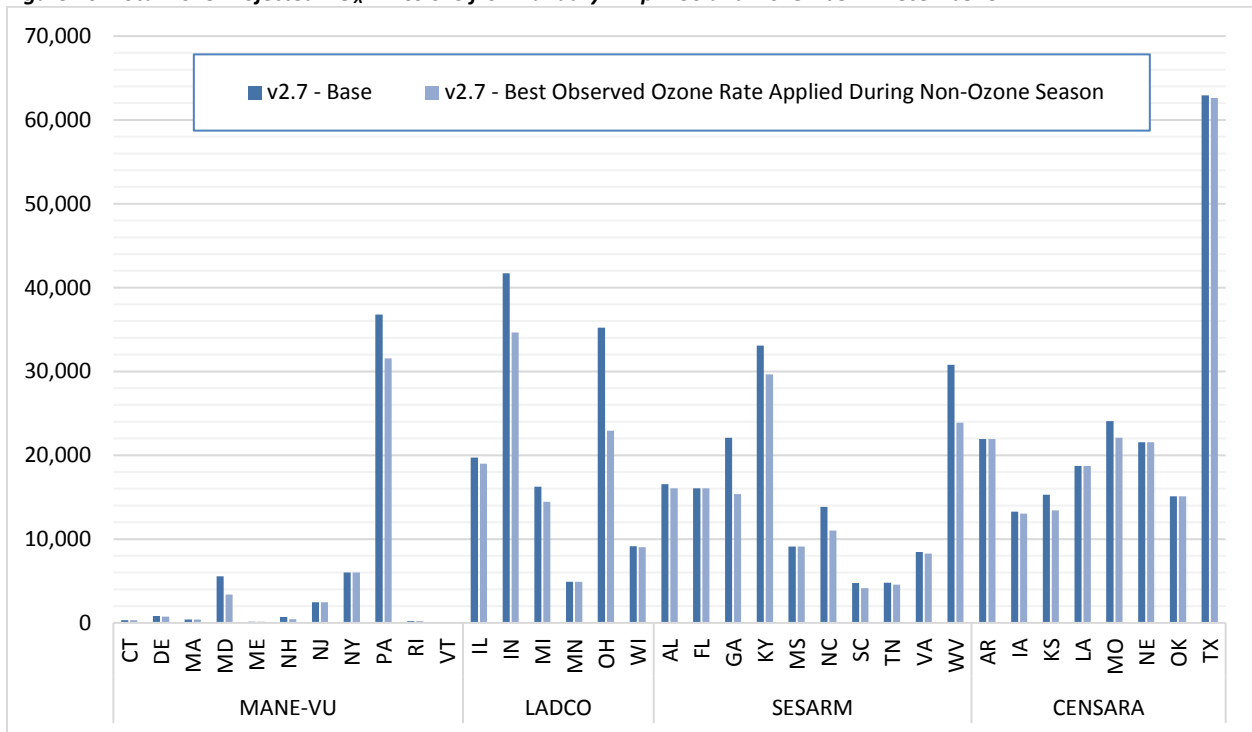
RPO	State	Base (Tons)	Non-OS Best Observed Rate Run (Tons)	% Change
MANE-VU	CT	327.03	327.03	0%
	DE	810.58	728.16	-10%
	MA	390.98	390.98	0%
	MD	5,563.30	3,388.78	-39%
	ME	133.37	133.37	0%
	NH	690.11	455.99	-34%
	NJ	2,463.72	2,463.72	0%
	NY	6,007.40	6,007.40	0%
	PA	36,794.01	31,570.49	-14%
	RI	201.99	201.99	0%
	VT	0.00	0.00	n/a
		53,382.49	45,667.91	-14%
LADCO	IL	19,718.14	18,992.34	-4%
	IN	41,709.04	34,635.87	-17%

¹² All versions of the inputs were processed using v1.01 of the ERTAC EGU code.

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RPO	State	Base (Tons)	Non-OS Best Observed Rate Run (Tons)	% Change
SESARM	MI	16,240.10	14,444.21	-11%
	MN	4,915.55	4,915.55	0%
	OH	35,210.31	22,931.80	-35%
	WI	9,129.28	9,024.42	-1%
		126,922.43	104,944.19	-17%
	AL	16,556.30	16,042.83	-3%
	FL	16,071.02	16,071.02	0%
	GA	22,085.39	15,355.41	-30%
	KY	33,095.90	29,643.16	-10%
	MS	9,099.17	9,099.17	0%
	NC	13,830.92	11,012.51	-20%
	SC	4,744.46	4,126.18	-13%
	TN	4,797.96	4,576.16	-5%
CENSARA	VA	8,457.73	8,249.79	-2%
	WV	30,770.17	23,886.70	-22%
		159,509.02	138,062.93	-13%
	AR	21,917.97	21,917.97	0%
	IA	13,249.45	13,038.43	-2%
	KS	15,293.89	13,405.27	-12%
	LA	18,714.47	18,714.47	0%
	MO	24,068.10	22,090.33	-8%
	NE	21,554.27	21,554.27	0%
	OK	15,081.12	15,081.12	0%
	TX	62,943.01	62,633.23	0%
		192,822.28	188,435.10	-2%
	Grand Total		532,636.21	477,110.12

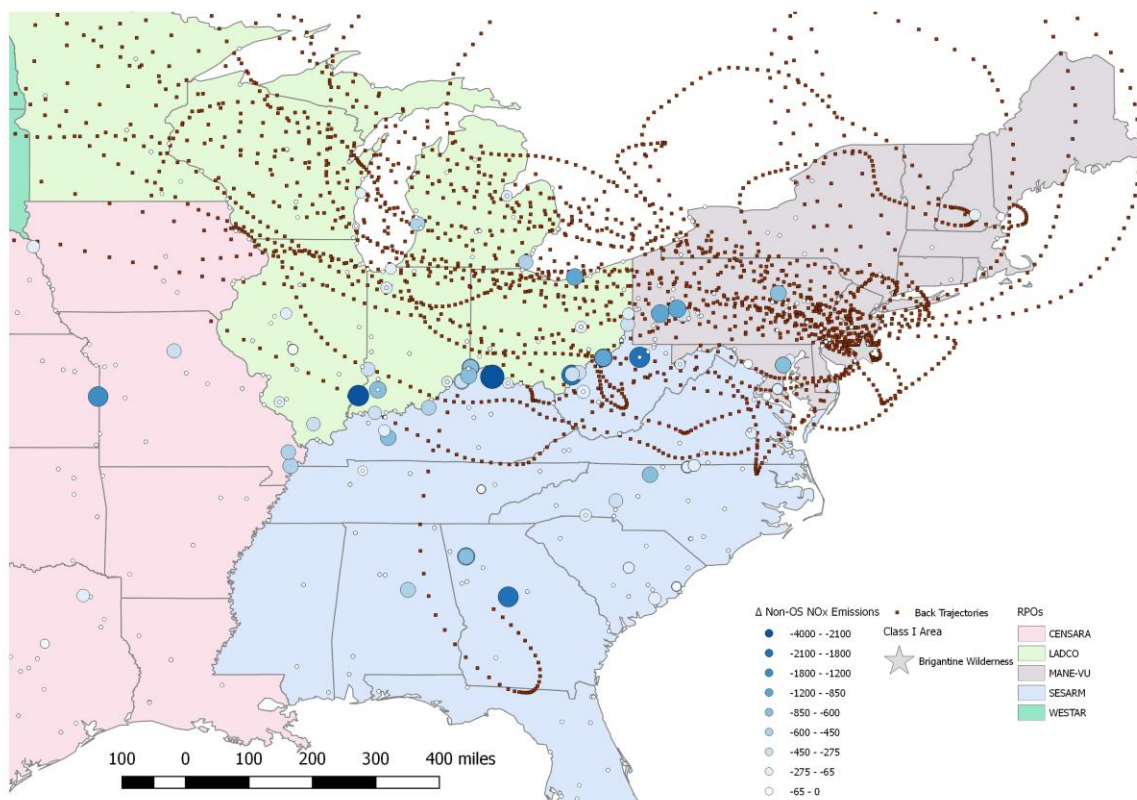
Figure 16: Total 2028 Projected NO_x Emissions from January 1-April 30 and November 1-December 31



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Figure 17 shows the change in non-ozone season emissions that occur when best observed rates are used during the non-ozone season months. It also shows which back trajectories occurred on days where nitrate impairment outweighs the sulfate impairment at Brigantine. Many of the back trajectories on the 20% most impaired days traverse the locations of the EGUs that are seeing some of the greatest reductions in emissions in the analysis. You can clearly see emission reductions occurring at power plants in Pennsylvania, Michigan, and along the Ohio River valley. Since the emissions from these power plants are released into air masses that are likely to travel to Brigantine, these emissions reductions should have a significant benefit at Brigantine. One should note that the back trajectories were not run at an elevation intended to evaluate against mobile and area sources and were not run for a long enough time period to demonstrate impacts from further away states such as Texas. The complete list of sources is provided in Appendix B.

Figure 17: Change in non-OS NO_x emissions (tons) due to optimization of non-OS emission rates and 2011 and 2015 back trajectories on 20% most impaired winter days where nitrates impacted visibility more than sulfates at Brigantine Wilderness



Summary

In recent years several MANE-VU Class I Areas have seen an increase in the relative visibility impairment from nitrates during the colder months. NO_x emissions are one of the main anthropogenic precursors to wintertime nitrate formation. Due to the higher elevation at which EGUs release emissions, NO_x emissions from EGUs have more potential to impact distant Class I Areas than other types of NO_x emission sources. Running existing installed controls is considered to be one of the most cost-effective ways to control NO_x emissions from EGUs. The analysis presented in this report demonstrates that running existing SCRs and SNCRs on EGUs would substantially reduce the NO_x emissions that lead to visibility impairment during the winter from nitrates.

Appendix A

In order to create the control file, the annual summary file and preprocessed control file files from the ERTAC v2.7 and the best observed rate file were imported into Microsoft Access. The preprocessed control file was used since it included already processed seasonal controls, which are in a separate input file. Then, the best ozone season NO_x emission rate was compared to the non-ozone season NO_x emission rate from the annual summary file. In cases where the best observed ozone season NO_x emission rate at a unit with an installed SCR or SNCR was lower than the non-ozone season NO_x emission rate found in the annual summary an emission rate entry was added to the control file reflecting the best observed rate. Entries in the existing control emissions file for NO_x emissions for units that met the criteria were removed (156 entries) and then new NO_x emission rates were appended (291 entries). It should be noted that not all units have a control file entry since many units rely on the base year emission rates solely in ERTAC. The replacement ertac_control_emissions.csv file was then run through ERTAC EGU, using all other inputs directly from the 2028 projections for ERTAC v2.7, except ertac_seasonal_controls.csv, which was not needed for the run due to its inclusion in ertac_control_emissions.csv. The entries added to the final control file are in Table 3 below.

Table 3: Entries added to ERTAC Control File

ORISPL Code	Unit ID	Factor Start Date	Factor End Date	Pollutant	Emission Rate	Con. Eff.	Best Observed Rate Year
1241	1	2028-01-01	2028-04-30	NOX	0.081		2011
1241	1	2028-11-01	2028-12-31	NOX	0.081		2011
1241	2	2028-01-01	2028-04-30	NOX	0.0908		2015
1241	2	2028-11-01	2028-12-31	NOX	0.0908		2015
1356	1	2028-01-01	2028-04-30	NOX	0.0448		2005
1356	1	2028-11-01	2028-12-31	NOX	0.0448		2005
1356	3	2028-01-01	2028-04-30	NOX	0.0272		2005
1356	3	2028-11-01	2028-12-31	NOX	0.0272		2005
1356	4	2028-01-01	2028-04-30	NOX	0.0272		2005
1356	4	2028-11-01	2028-12-31	NOX	0.0272		2005
1364	3	2028-01-01	2028-04-30	NOX	0.045		2005
1364	3	2028-11-01	2028-12-31	NOX	0.045		2005
1364	4	2028-01-01	2028-04-30	NOX	0.0374		2007
1364	4	2028-11-01	2028-12-31	NOX	0.0374		2007
1378	3	2028-01-01	2028-04-30	NOX	0.1001		2005
1378	3	2028-11-01	2028-12-31	NOX	0.1001		2005
1552	1	2028-01-01	2028-04-30	NOX	0.2783		2015
1552	1	2028-11-01	2028-12-31	NOX	0.2783		2015
1552	2	2028-01-01	2028-04-30	NOX	0.2351		2015
1552	2	2028-11-01	2028-12-31	NOX	0.2351		2015
1554	2	2028-01-01	2028-04-30	NOX	0.2222		2015
1554	2	2028-11-01	2028-12-31	NOX	0.2222		2015
1554	3	2028-01-01	2028-04-30	NOX	0.0552		2015
1554	3	2028-11-01	2028-12-31	NOX	0.0552		2015
1571	1	2028-01-01	2028-04-30	NOX	0.104		2014
1571	1	2028-11-01	2028-12-31	NOX	0.104		2014
1571	2	2028-01-01	2028-04-30	NOX	0.1927		2009
1571	2	2028-11-01	2028-12-31	NOX	0.1927		2009
1572	1	2028-01-01	2028-04-30	NOX	0.2197		2015
1572	1	2028-11-01	2028-12-31	NOX	0.2197		2015
1572	2	2028-01-01	2028-04-30	NOX	0.2212		2015
1572	2	2028-11-01	2028-12-31	NOX	0.2212		2015
1572	3	2028-01-01	2028-04-30	NOX	0.2178		2015
1572	3	2028-11-01	2028-12-31	NOX	0.2178		2015
1573	1	2028-01-01	2028-04-30	NOX	0.0251		2013
1573	1	2028-11-01	2028-12-31	NOX	0.0251		2013
1573	2	2028-01-01	2028-04-30	NOX	0.0309		2011
1573	2	2028-11-01	2028-12-31	NOX	0.0309		2011
1702	1	2028-01-01	2028-04-30	NOX	0.0488		2015
1702	1	2028-11-01	2028-12-31	NOX	0.0488		2015
1702	2	2028-01-01	2028-04-30	NOX	0.0443		2015
1702	2	2028-11-01	2028-12-31	NOX	0.0443		2015
1710	2	2028-01-01	2028-04-30	NOX	0.0366		2015

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ORISPL Code	Unit ID	Factor Start Date	Factor End Date	Pollutant	Emission Rate	Con. Eff.	Best Observed Rate Year
1710	2	2028-11-01	2028-12-31	NOX	0.0366		2015
1710	3	2028-01-01	2028-04-30	NOX	0.0414		2015
1710	3	2028-11-01	2028-12-31	NOX	0.0414		2015
1733	1	2028-01-01	2028-04-30	NOX	0.038		2014
1733	1	2028-11-01	2028-12-31	NOX	0.038		2014
1733	3	2028-01-01	2028-04-30	NOX	0.0573		2011
1733	3	2028-11-01	2028-12-31	NOX	0.0573		2011
1733	4	2028-01-01	2028-04-30	NOX	0.0408		2013
1733	4	2028-11-01	2028-12-31	NOX	0.0408		2013
2167	1	2028-01-01	2028-04-30	NOX	0.0895		2008
2167	1	2028-11-01	2028-12-31	NOX	0.0895		2008
2167	2	2028-01-01	2028-04-30	NOX	0.0941		2009
2167	2	2028-11-01	2028-12-31	NOX	0.0941		2009
2168	MB3	2028-01-01	2028-04-30	NOX	0.0961		2010
2168	MB3	2028-11-01	2028-12-31	NOX	0.0961		2010
2364	1	2028-01-01	2028-04-30	NOX	0.1613		2005
2364	1	2028-11-01	2028-12-31	NOX	0.1613		2005
2364	2	2028-01-01	2028-04-30	NOX	0.159		2006
2364	2	2028-11-01	2028-12-31	NOX	0.159		2006
2367	4	2028-01-01	2028-04-30	NOX	0.1811		2007
2367	4	2028-11-01	2028-12-31	NOX	0.1811		2007
2367	6	2028-01-01	2028-04-30	NOX	0.1896		2007
2367	6	2028-11-01	2028-12-31	NOX	0.1896		2007
26	5	2028-01-01	2028-04-30	NOX	0.076		2007
26	5	2028-11-01	2028-12-31	NOX	0.076		2007
2712	1	2028-01-01	2028-04-30	NOX	0.084		2005
2712	1	2028-11-01	2028-12-31	NOX	0.084		2005
2712	2	2028-01-01	2028-04-30	NOX	0.0575		2011
2712	2	2028-11-01	2028-12-31	NOX	0.0575		2011
2712	3A	2028-01-01	2028-04-30	NOX	0.0742		2005
2712	3A	2028-11-01	2028-12-31	NOX	0.0742		2005
2712	3B	2028-01-01	2028-04-30	NOX	0.0756		2005
2712	3B	2028-11-01	2028-12-31	NOX	0.0756		2005
2712	4A	2028-01-01	2028-04-30	NOX	0.0793		2009
2712	4A	2028-11-01	2028-12-31	NOX	0.0793		2009
2712	4B	2028-01-01	2028-04-30	NOX	0.0793		2009
2712	4B	2028-11-01	2028-12-31	NOX	0.0793		2009
2721	5	2028-01-01	2028-04-30	NOX	0.056		2011
2721	5	2028-11-01	2028-12-31	NOX	0.056		2011
2727	1	2028-01-01	2028-04-30	NOX	0.196		2010
2727	1	2028-11-01	2028-12-31	NOX	0.196		2010
2727	2	2028-01-01	2028-04-30	NOX	0.1956		2010
2727	2	2028-11-01	2028-12-31	NOX	0.1956		2010
2727	3	2028-01-01	2028-04-30	NOX	0.0679		2009
2727	3	2028-11-01	2028-12-31	NOX	0.0679		2009
2727	4	2028-01-01	2028-04-30	NOX	0.2008		2008
2727	4	2028-11-01	2028-12-31	NOX	0.2008		2008
2828	1	2028-01-01	2028-04-30	NOX	0.0348		2009
2828	1	2028-11-01	2028-12-31	NOX	0.0348		2009
2828	2	2028-01-01	2028-04-30	NOX	0.0426		2009
2828	2	2028-11-01	2028-12-31	NOX	0.0426		2009
2828	3	2028-01-01	2028-04-30	NOX	0.0226		2007
2828	3	2028-11-01	2028-12-31	NOX	0.0226		2007
2832	7	2028-01-01	2028-04-30	NOX	0.0536		2007
2832	7	2028-11-01	2028-12-31	NOX	0.0536		2007
2832	8	2028-01-01	2028-04-30	NOX	0.054		2007
2832	8	2028-11-01	2028-12-31	NOX	0.054		2007
2836	12	2028-01-01	2028-04-30	NOX	0.2842		2013
2836	12	2028-11-01	2028-12-31	NOX	0.2842		2013
2840	4	2028-01-01	2028-04-30	NOX	0.0546		2010
2840	4	2028-11-01	2028-12-31	NOX	0.0546		2010
2866	5	2028-01-01	2028-04-30	NOX	0.1058		2012
2866	5	2028-11-01	2028-12-31	NOX	0.1058		2012
2866	7	2028-01-01	2028-04-30	NOX	0.1019		2014
2866	7	2028-11-01	2028-12-31	NOX	0.1019		2014
2876	1	2028-01-01	2028-04-30	NOX	0.0788		2005
2876	1	2028-11-01	2028-12-31	NOX	0.0788		2005

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ORISPL Code	Unit ID	Factor Start Date	Factor End Date	Pollutant	Emission Rate	Con. Eff.	Best Observed Rate Year
2876	2	2028-01-01	2028-04-30	NOX	0.0792		2005
2876	2	2028-11-01	2028-12-31	NOX	0.0792		2005
2876	3	2028-01-01	2028-04-30	NOX	0.0787		2005
2876	3	2028-11-01	2028-12-31	NOX	0.0787		2005
2876	4	2028-01-01	2028-04-30	NOX	0.0786		2005
2876	4	2028-11-01	2028-12-31	NOX	0.0786		2005
2876	5	2028-01-01	2028-04-30	NOX	0.0785		2005
2876	5	2028-11-01	2028-12-31	NOX	0.0785		2005
3122	1	2028-01-01	2028-04-30	NOX	0.0667		2006
3122	1	2028-11-01	2028-12-31	NOX	0.0667		2006
3122	2	2028-01-01	2028-04-30	NOX	0.0826		2006
3122	2	2028-11-01	2028-12-31	NOX	0.0826		2006
3122	3	2028-01-01	2028-04-30	NOX	0.0872		2005
3122	3	2028-11-01	2028-12-31	NOX	0.0872		2005
3136	1	2028-01-01	2028-04-30	NOX	0.0431		2006
3136	1	2028-11-01	2028-12-31	NOX	0.0431		2006
3136	2	2028-01-01	2028-04-30	NOX	0.0433		2008
3136	2	2028-11-01	2028-12-31	NOX	0.0433		2008
3149	1	2028-01-01	2028-04-30	NOX	0.0581		2006
3149	1	2028-11-01	2028-12-31	NOX	0.0581		2006
3149	2	2028-01-01	2028-04-30	NOX	0.0578		2006
3149	2	2028-11-01	2028-12-31	NOX	0.0578		2006
3297	WAT1	2028-01-01	2028-04-30	NOX	0.0601		2007
3297	WAT1	2028-11-01	2028-12-31	NOX	0.0601		2007
3297	WAT2	2028-01-01	2028-04-30	NOX	0.0541		2006
3297	WAT2	2028-11-01	2028-12-31	NOX	0.0541		2006
3298	WIL1	2028-01-01	2028-04-30	NOX	0.0601		2005
3298	WIL1	2028-11-01	2028-12-31	NOX	0.0601		2005
3399	1	2028-01-01	2028-04-30	NOX	0.0588		2009
3399	1	2028-11-01	2028-12-31	NOX	0.0588		2009
3407	1	2028-01-01	2028-04-30	NOX	0.0498		2009
3407	1	2028-11-01	2028-12-31	NOX	0.0498		2009
3407	2	2028-01-01	2028-04-30	NOX	0.0501		2007
3407	2	2028-11-01	2028-12-31	NOX	0.0501		2007
3407	3	2028-01-01	2028-04-30	NOX	0.0504		2007
3407	3	2028-11-01	2028-12-31	NOX	0.0504		2007
3407	4	2028-01-01	2028-04-30	NOX	0.0501		2007
3407	4	2028-11-01	2028-12-31	NOX	0.0501		2007
3407	5	2028-01-01	2028-04-30	NOX	0.0486		2007
3407	5	2028-11-01	2028-12-31	NOX	0.0486		2007
3407	6	2028-01-01	2028-04-30	NOX	0.0448		2006
3407	6	2028-11-01	2028-12-31	NOX	0.0448		2006
3407	7	2028-01-01	2028-04-30	NOX	0.0447		2006
3407	7	2028-11-01	2028-12-31	NOX	0.0447		2006
3407	8	2028-01-01	2028-04-30	NOX	0.0448		2006
3407	8	2028-11-01	2028-12-31	NOX	0.0448		2006
3407	9	2028-01-01	2028-04-30	NOX	0.0449		2006
3407	9	2028-11-01	2028-12-31	NOX	0.0449		2006
3497	1	2028-01-01	2028-04-30	NOX	0.1261		2015
3497	1	2028-11-01	2028-12-31	NOX	0.1261		2015
3497	2	2028-01-01	2028-04-30	NOX	0.1305		2013
3497	2	2028-11-01	2028-12-31	NOX	0.1305		2013
3797	4	2028-01-01	2028-04-30	NOX	0.0487		2014
3797	4	2028-11-01	2028-12-31	NOX	0.0487		2014
3797	5	2028-01-01	2028-04-30	NOX	0.0309		2008
3797	5	2028-11-01	2028-12-31	NOX	0.0309		2008
3797	6	2028-01-01	2028-04-30	NOX	0.0326		2006
3797	6	2028-11-01	2028-12-31	NOX	0.0326		2006
3935	1	2028-01-01	2028-04-30	NOX	0.0317		2006
3935	1	2028-11-01	2028-12-31	NOX	0.0317		2006
3935	2	2028-01-01	2028-04-30	NOX	0.0312		2006
3935	2	2028-11-01	2028-12-31	NOX	0.0312		2006
3944	1	2028-01-01	2028-04-30	NOX	0.0634		2005
3944	1	2028-11-01	2028-12-31	NOX	0.0634		2005
3944	2	2028-01-01	2028-04-30	NOX	0.0662		2005
3944	2	2028-11-01	2028-12-31	NOX	0.0662		2005
3954	1	2028-01-01	2028-04-30	NOX	0.0539		2006

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ORISPL Code	Unit ID	Factor Start Date	Factor End Date	Pollutant	Emission Rate	Con. Eff.	Best Observed Rate Year
3954	1	2028-11-01	2028-12-31	NOX	0.0539		2006
3954	2	2028-01-01	2028-04-30	NOX	0.0485		2006
3954	2	2028-11-01	2028-12-31	NOX	0.0485		2006
4041	7	2028-01-01	2028-04-30	NOX	0.0603		2015
4041	7	2028-11-01	2028-12-31	NOX	0.0603		2015
4041	8	2028-01-01	2028-04-30	NOX	0.0608		2015
4041	8	2028-11-01	2028-12-31	NOX	0.0608		2015
4050	5	2028-01-01	2028-04-30	NOX	0.0361		2014
4050	5	2028-11-01	2028-12-31	NOX	0.0361		2014
594	4	2028-01-01	2028-04-30	NOX	0.0657		2012
594	4	2028-11-01	2028-12-31	NOX	0.0657		2012
6004	1	2028-01-01	2028-04-30	NOX	0.0394		2005
6004	1	2028-11-01	2028-12-31	NOX	0.0394		2005
6004	2	2028-01-01	2028-04-30	NOX	0.039		2005
6004	2	2028-11-01	2028-12-31	NOX	0.039		2005
6018	2	2028-01-01	2028-04-30	NOX	0.0518		2006
6018	2	2028-11-01	2028-12-31	NOX	0.0518		2006
6019	1	2028-01-01	2028-04-30	NOX	0.0562		2006
6019	1	2028-11-01	2028-12-31	NOX	0.0562		2006
602	1	2028-01-01	2028-04-30	NOX	0.0589		2007
602	1	2028-11-01	2028-12-31	NOX	0.0589		2007
602	2	2028-01-01	2028-04-30	NOX	0.0733		2015
602	2	2028-11-01	2028-12-31	NOX	0.0733		2015
6041	1	2028-01-01	2028-04-30	NOX	0.0829		2008
6041	1	2028-11-01	2028-12-31	NOX	0.0829		2008
6041	2	2028-01-01	2028-04-30	NOX	0.0729		2006
6041	2	2028-11-01	2028-12-31	NOX	0.0729		2006
6085	14	2028-01-01	2028-04-30	NOX	0.0979		2013
6085	14	2028-11-01	2028-12-31	NOX	0.0979		2013
6113	1	2028-01-01	2028-04-30	NOX	0.0343		2007
6113	1	2028-11-01	2028-12-31	NOX	0.0343		2007
6113	2	2028-01-01	2028-04-30	NOX	0.0672		2006
6113	2	2028-11-01	2028-12-31	NOX	0.0672		2006
6113	3	2028-01-01	2028-04-30	NOX	0.0659		2005
6113	3	2028-11-01	2028-12-31	NOX	0.0659		2005
6113	4	2028-01-01	2028-04-30	NOX	0.0632		2008
6113	4	2028-11-01	2028-12-31	NOX	0.0632		2008
6113	5	2028-01-01	2028-04-30	NOX	0.0597		2007
6113	5	2028-11-01	2028-12-31	NOX	0.0597		2007
6147	2	2028-01-01	2028-04-30	NOX	0.1187		2014
6147	2	2028-11-01	2028-12-31	NOX	0.1187		2014
6147	3	2028-01-01	2028-04-30	NOX	0.1485		2014
6147	3	2028-11-01	2028-12-31	NOX	0.1485		2014
6213	2SG1	2028-01-01	2028-04-30	NOX	0.0587		2015
6213	2SG1	2028-11-01	2028-12-31	NOX	0.0587		2015
6249	1	2028-01-01	2028-04-30	NOX	0.0623		2005
6249	1	2028-11-01	2028-12-31	NOX	0.0623		2005
6249	2	2028-01-01	2028-04-30	NOX	0.0679		2005
6249	2	2028-11-01	2028-12-31	NOX	0.0679		2005
6249	3	2028-01-01	2028-04-30	NOX	0.0812		2015
6249	3	2028-11-01	2028-12-31	NOX	0.0812		2015
6249	4	2028-01-01	2028-04-30	NOX	0.0869		2012
6249	4	2028-11-01	2028-12-31	NOX	0.0869		2012
6250	1A	2028-01-01	2028-04-30	NOX	0.061		2007
6250	1A	2028-11-01	2028-12-31	NOX	0.061		2007
6250	1B	2028-01-01	2028-04-30	NOX	0.0614		2007
6250	1B	2028-11-01	2028-12-31	NOX	0.0614		2007
6257	1	2028-01-01	2028-04-30	NOX	0.0613		2014
6257	1	2028-11-01	2028-12-31	NOX	0.0613		2014
6257	2	2028-01-01	2028-04-30	NOX	0.0606		2014
6257	2	2028-11-01	2028-12-31	NOX	0.0606		2014
6257	4	2028-01-01	2028-04-30	NOX	0.0627		2013
6257	4	2028-11-01	2028-12-31	NOX	0.0627		2013
6264	1	2028-01-01	2028-04-30	NOX	0.0387		2007
6264	1	2028-11-01	2028-12-31	NOX	0.0387		2007
6705	4	2028-01-01	2028-04-30	NOX	0.0948		2007
6705	4	2028-11-01	2028-12-31	NOX	0.0948		2007

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ORISPL Code	Unit ID	Factor Start Date	Factor End Date	Pollutant	Emission Rate	Con. Eff.	Best Observed Rate Year
6768	1	2028-01-01	2028-04-30	NOX	0.1046		2013
6768	1	2028-11-01	2028-12-31	NOX	0.1046		2013
6823	W1	2028-01-01	2028-04-30	NOX	0.0477		2006
6823	W1	2028-11-01	2028-12-31	NOX	0.0477		2006
703	1BLR	2028-01-01	2028-04-30	NOX	0.0547		2008
703	1BLR	2028-11-01	2028-12-31	NOX	0.0547		2008
703	2BLR	2028-01-01	2028-04-30	NOX	0.0543		2006
703	2BLR	2028-11-01	2028-12-31	NOX	0.0543		2006
703	3BLR	2028-01-01	2028-04-30	NOX	0.0553		2006
703	3BLR	2028-11-01	2028-12-31	NOX	0.0553		2006
703	4BLR	2028-01-01	2028-04-30	NOX	0.0525		2013
703	4BLR	2028-11-01	2028-12-31	NOX	0.0525		2013
7343	4	2028-01-01	2028-04-30	NOX	0.1873		2015
7343	4	2028-11-01	2028-12-31	NOX	0.1873		2015
8042	2	2028-01-01	2028-04-30	NOX	0.0382		2009
8042	2	2028-11-01	2028-12-31	NOX	0.0382		2009
8102	1	2028-01-01	2028-04-30	NOX	0.0686		2007
8102	1	2028-11-01	2028-12-31	NOX	0.0686		2007
8102	2	2028-01-01	2028-04-30	NOX	0.0553		2005
8102	2	2028-11-01	2028-12-31	NOX	0.0553		2005
8226	1	2028-01-01	2028-04-30	NOX	0.0901		2006
8226	1	2028-11-01	2028-12-31	NOX	0.0901		2006
876	1	2028-01-01	2028-04-30	NOX	0.0577		2013
876	1	2028-11-01	2028-12-31	NOX	0.0577		2013
876	2	2028-01-01	2028-04-30	NOX	0.06		2009
876	2	2028-11-01	2028-12-31	NOX	0.06		2009
879	51	2028-01-01	2028-04-30	NOX	0.0985		2013
879	51	2028-11-01	2028-12-31	NOX	0.0985		2013
879	52	2028-01-01	2028-04-30	NOX	0.0987		2015
879	52	2028-11-01	2028-12-31	NOX	0.0987		2015
879	61	2028-01-01	2028-04-30	NOX	0.0973		2013
879	61	2028-11-01	2028-12-31	NOX	0.0973		2013
879	62	2028-01-01	2028-04-30	NOX	0.0885		2015
879	62	2028-11-01	2028-12-31	NOX	0.0885		2015
889	2	2028-01-01	2028-04-30	NOX	0.0509		2010
889	2	2028-11-01	2028-12-31	NOX	0.0509		2010
976	4	2028-01-01	2028-04-30	NOX	0.0785		2015
976	4	2028-11-01	2028-12-31	NOX	0.0785		2015
983	1	2028-01-01	2028-04-30	NOX	0.0735		2005
983	1	2028-11-01	2028-12-31	NOX	0.0735		2005
983	2	2028-01-01	2028-04-30	NOX	0.075		2005
983	2	2028-11-01	2028-12-31	NOX	0.075		2005
983	3	2028-01-01	2028-04-30	NOX	0.0742		2005
983	3	2028-11-01	2028-12-31	NOX	0.0742		2005
994	2	2028-01-01	2028-04-30	NOX	0.051		2005
994	2	2028-11-01	2028-12-31	NOX	0.051		2005
994	3	2028-01-01	2028-04-30	NOX	0.0466		2005
994	3	2028-11-01	2028-12-31	NOX	0.0466		2005
997	12	2028-01-01	2028-04-30	NOX	0.092		2005
997	12	2028-11-01	2028-12-31	NOX	0.092		2005
1241	1	2028-01-01	2028-04-30	NOX	0.081		2011
1241	1	2028-11-01	2028-12-31	NOX	0.081		2011
1241	2	2028-01-01	2028-04-30	NOX	0.0908		2015
1241	2	2028-11-01	2028-12-31	NOX	0.0908		2015
1356	1	2028-01-01	2028-04-30	NOX	0.0448		2005
1356	1	2028-11-01	2028-12-31	NOX	0.0448		2005
1356	3	2028-01-01	2028-04-30	NOX	0.0272		2005
1356	3	2028-11-01	2028-12-31	NOX	0.0272		2005
1356	4	2028-01-01	2028-04-30	NOX	0.0272		2005
1356	4	2028-11-01	2028-12-31	NOX	0.0272		2005
1364	3	2028-01-01	2028-04-30	NOX	0.045		2005
1364	3	2028-11-01	2028-12-31	NOX	0.045		2005
1364	4	2028-01-01	2028-04-30	NOX	0.0374		2007
1364	4	2028-11-01	2028-12-31	NOX	0.0374		2007
1378	3	2028-01-01	2028-04-30	NOX	0.1001		2005
1378	3	2028-11-01	2028-12-31	NOX	0.1001		2005
1552	1	2028-01-01	2028-04-30	NOX	0.2783		2015

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ORISPL Code	Unit ID	Factor Start Date	Factor End Date	Pollutant	Emission Rate	Con. Eff.	Best Observed Rate Year
1552	1	2028-11-01	2028-12-31	NOX	0.2783		2015
1552	2	2028-01-01	2028-04-30	NOX	0.2351		2015
1552	2	2028-11-01	2028-12-31	NOX	0.2351		2015
1554	2	2028-01-01	2028-04-30	NOX	0.2222		2015
1554	2	2028-11-01	2028-12-31	NOX	0.2222		2015
1554	3	2028-01-01	2028-04-30	NOX	0.0552		2015
1554	3	2028-11-01	2028-12-31	NOX	0.0552		2015
1571	1	2028-01-01	2028-04-30	NOX	0.104		2014
1571	1	2028-11-01	2028-12-31	NOX	0.104		2014
1571	2	2028-01-01	2028-04-30	NOX	0.1927		2009
1571	2	2028-11-01	2028-12-31	NOX	0.1927		2009
1572	1	2028-01-01	2028-04-30	NOX	0.2197		2015
1572	1	2028-11-01	2028-12-31	NOX	0.2197		2015
1572	2	2028-01-01	2028-04-30	NOX	0.2212		2015
1572	2	2028-11-01	2028-12-31	NOX	0.2212		2015
1572	3	2028-01-01	2028-04-30	NOX	0.2178		2015
1572	3	2028-11-01	2028-12-31	NOX	0.2178		2015
1573	1	2028-01-01	2028-04-30	NOX	0.0251		2013
1573	1	2028-11-01	2028-12-31	NOX	0.0251		2013
1573	2	2028-01-01	2028-04-30	NOX	0.0309		2011
1573	2	2028-11-01	2028-12-31	NOX	0.0309		2011
1702	1	2028-01-01	2028-04-30	NOX	0.0488		2015
1702	1	2028-11-01	2028-12-31	NOX	0.0488		2015
1702	2	2028-01-01	2028-04-30	NOX	0.0443		2015
1702	2	2028-11-01	2028-12-31	NOX	0.0443		2015
1710	2	2028-01-01	2028-04-30	NOX	0.0366		2015
1710	2	2028-11-01	2028-12-31	NOX	0.0366		2015
1710	3	2028-01-01	2028-04-30	NOX	0.0414		2015
1710	3	2028-11-01	2028-12-31	NOX	0.0414		2015
1733	1	2028-01-01	2028-04-30	NOX	0.038		2014
1733	1	2028-11-01	2028-12-31	NOX	0.038		2014
1733	3	2028-01-01	2028-04-30	NOX	0.0573		2011
1733	3	2028-11-01	2028-12-31	NOX	0.0573		2011
1733	4	2028-01-01	2028-04-30	NOX	0.0408		2013
1733	4	2028-11-01	2028-12-31	NOX	0.0408		2013
2167	1	2028-01-01	2028-04-30	NOX	0.0895		2008
2167	1	2028-11-01	2028-12-31	NOX	0.0895		2008
2167	2	2028-01-01	2028-04-30	NOX	0.0941		2009
2167	2	2028-11-01	2028-12-31	NOX	0.0941		2009
2168	MB3	2028-01-01	2028-04-30	NOX	0.0961		2010
2168	MB3	2028-11-01	2028-12-31	NOX	0.0961		2010
2364	1	2028-01-01	2028-04-30	NOX	0.1613		2005
2364	1	2028-11-01	2028-12-31	NOX	0.1613		2005
2364	2	2028-01-01	2028-04-30	NOX	0.159		2006
2364	2	2028-11-01	2028-12-31	NOX	0.159		2006
2367	4	2028-01-01	2028-04-30	NOX	0.1811		2007
2367	4	2028-11-01	2028-12-31	NOX	0.1811		2007
2367	6	2028-01-01	2028-04-30	NOX	0.1896		2007
2367	6	2028-11-01	2028-12-31	NOX	0.1896		2007
26	5	2028-01-01	2028-04-30	NOX	0.076		2007
26	5	2028-11-01	2028-12-31	NOX	0.076		2007
2712	1	2028-01-01	2028-04-30	NOX	0.084		2005
2712	1	2028-11-01	2028-12-31	NOX	0.084		2005
2712	2	2028-01-01	2028-04-30	NOX	0.0575		2011
2712	2	2028-11-01	2028-12-31	NOX	0.0575		2011
2712	3A	2028-01-01	2028-04-30	NOX	0.0742		2005
2712	3A	2028-11-01	2028-12-31	NOX	0.0742		2005
2712	3B	2028-01-01	2028-04-30	NOX	0.0756		2005
2712	3B	2028-11-01	2028-12-31	NOX	0.0756		2005
2712	4A	2028-01-01	2028-04-30	NOX	0.0793		2009
2712	4A	2028-11-01	2028-12-31	NOX	0.0793		2009
2712	4B	2028-01-01	2028-04-30	NOX	0.0793		2009
2712	4B	2028-11-01	2028-12-31	NOX	0.0793		2009
2721	5	2028-01-01	2028-04-30	NOX	0.056		2011
2721	5	2028-11-01	2028-12-31	NOX	0.056		2011
2727	1	2028-01-01	2028-04-30	NOX	0.196		2010
2727	1	2028-11-01	2028-12-31	NOX	0.196		2010

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2727	2	2028-01-01	2028-04-30	NOX	0.1956		2010
2727	2	2028-11-01	2028-12-31	NOX	0.1956		2010
2727	3	2028-01-01	2028-04-30	NOX	0.0679		2009
2727	3	2028-11-01	2028-12-31	NOX	0.0679		2009
2727	4	2028-01-01	2028-04-30	NOX	0.2008		2008
2727	4	2028-11-01	2028-12-31	NOX	0.2008		2008
2828	1	2028-01-01	2028-04-30	NOX	0.0348		2009
2828	1	2028-11-01	2028-12-31	NOX	0.0348		2009
2828	2	2028-01-01	2028-04-30	NOX	0.0426		2009
2828	2	2028-11-01	2028-12-31	NOX	0.0426		2009
2828	3	2028-01-01	2028-04-30	NOX	0.0226		2007
2828	3	2028-11-01	2028-12-31	NOX	0.0226		2007
2832	7	2028-01-01	2028-04-30	NOX	0.0536		2007
2832	7	2028-11-01	2028-12-31	NOX	0.0536		2007
2832	8	2028-01-01	2028-04-30	NOX	0.054		2007
2832	8	2028-11-01	2028-12-31	NOX	0.054		2007
2836	12	2028-01-01	2028-04-30	NOX	0.2842		2013
2836	12	2028-11-01	2028-12-31	NOX	0.2842		2013
2840	4	2028-01-01	2028-04-30	NOX	0.0546		2010
2840	4	2028-11-01	2028-12-31	NOX	0.0546		2010
2866	5	2028-01-01	2028-04-30	NOX	0.1058		2012
2866	5	2028-11-01	2028-12-31	NOX	0.1058		2012
2866	7	2028-01-01	2028-04-30	NOX	0.1019		2014
2866	7	2028-11-01	2028-12-31	NOX	0.1019		2014
2876	1	2028-01-01	2028-04-30	NOX	0.0788		2005
2876	1	2028-11-01	2028-12-31	NOX	0.0788		2005
2876	2	2028-01-01	2028-04-30	NOX	0.0792		2005
2876	2	2028-11-01	2028-12-31	NOX	0.0792		2005
2876	3	2028-01-01	2028-04-30	NOX	0.0787		2005
2876	3	2028-11-01	2028-12-31	NOX	0.0787		2005
2876	4	2028-01-01	2028-04-30	NOX	0.0786		2005
2876	4	2028-11-01	2028-12-31	NOX	0.0786		2005
2876	5	2028-01-01	2028-04-30	NOX	0.0785		2005
2876	5	2028-11-01	2028-12-31	NOX	0.0785		2005
3122	1	2028-01-01	2028-04-30	NOX	0.0667		2006
3122	1	2028-11-01	2028-12-31	NOX	0.0667		2006
3122	2	2028-01-01	2028-04-30	NOX	0.0826		2006
3122	2	2028-11-01	2028-12-31	NOX	0.0826		2006
3122	3	2028-01-01	2028-04-30	NOX	0.0872		2005
3122	3	2028-11-01	2028-12-31	NOX	0.0872		2005
3136	1	2028-01-01	2028-04-30	NOX	0.0431		2006
3136	1	2028-11-01	2028-12-31	NOX	0.0431		2006
3136	2	2028-01-01	2028-04-30	NOX	0.0433		2008
3136	2	2028-11-01	2028-12-31	NOX	0.0433		2008
3149	1	2028-01-01	2028-04-30	NOX	0.0581		2006
3149	1	2028-11-01	2028-12-31	NOX	0.0581		2006
3149	2	2028-01-01	2028-04-30	NOX	0.0578		2006
3149	2	2028-11-01	2028-12-31	NOX	0.0578		2006
3297	WAT1	2028-01-01	2028-04-30	NOX	0.0601		2007
3297	WAT1	2028-11-01	2028-12-31	NOX	0.0601		2007
3297	WAT2	2028-01-01	2028-04-30	NOX	0.0541		2006
3297	WAT2	2028-11-01	2028-12-31	NOX	0.0541		2006
3298	WIL1	2028-01-01	2028-04-30	NOX	0.0601		2005
3298	WIL1	2028-11-01	2028-12-31	NOX	0.0601		2005
3399	1	2028-01-01	2028-04-30	NOX	0.0588		2009
3399	1	2028-11-01	2028-12-31	NOX	0.0588		2009
3407	1	2028-01-01	2028-04-30	NOX	0.0498		2009
3407	1	2028-11-01	2028-12-31	NOX	0.0498		2009
3407	2	2028-01-01	2028-04-30	NOX	0.0501		2007
3407	2	2028-11-01	2028-12-31	NOX	0.0501		2007
3407	3	2028-01-01	2028-04-30	NOX	0.0504		2007
3407	3	2028-11-01	2028-12-31	NOX	0.0504		2007
3407	4	2028-01-01	2028-04-30	NOX	0.0501		2007
3407	4	2028-11-01	2028-12-31	NOX	0.0501		2007
3407	5	2028-01-01	2028-04-30	NOX	0.0486		2007
3407	5	2028-11-01	2028-12-31	NOX	0.0486		2007
3407	6	2028-01-01	2028-04-30	NOX	0.0448		2006

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3407	6	2028-11-01	2028-12-31	NOX	0.0448		2006
3407	7	2028-01-01	2028-04-30	NOX	0.0447		2006
3407	7	2028-11-01	2028-12-31	NOX	0.0447		2006
3407	8	2028-01-01	2028-04-30	NOX	0.0448		2006
3407	8	2028-11-01	2028-12-31	NOX	0.0448		2006
3407	9	2028-01-01	2028-04-30	NOX	0.0449		2006
3407	9	2028-11-01	2028-12-31	NOX	0.0449		2006
3497	1	2028-01-01	2028-04-30	NOX	0.1261		2015
3497	1	2028-11-01	2028-12-31	NOX	0.1261		2015
3497	2	2028-01-01	2028-04-30	NOX	0.1305		2013
3497	2	2028-11-01	2028-12-31	NOX	0.1305		2013
3797	4	2028-01-01	2028-04-30	NOX	0.0487		2014
3797	4	2028-11-01	2028-12-31	NOX	0.0487		2014
3797	5	2028-01-01	2028-04-30	NOX	0.0309		2008
3797	5	2028-11-01	2028-12-31	NOX	0.0309		2008
3797	6	2028-01-01	2028-04-30	NOX	0.0326		2006
3797	6	2028-11-01	2028-12-31	NOX	0.0326		2006
3935	1	2028-01-01	2028-04-30	NOX	0.0317		2006
3935	1	2028-11-01	2028-12-31	NOX	0.0317		2006
3935	2	2028-01-01	2028-04-30	NOX	0.0312		2006
3935	2	2028-11-01	2028-12-31	NOX	0.0312		2006
3944	1	2028-01-01	2028-04-30	NOX	0.0634		2005
3944	1	2028-11-01	2028-12-31	NOX	0.0634		2005
3944	2	2028-01-01	2028-04-30	NOX	0.0662		2005
3944	2	2028-11-01	2028-12-31	NOX	0.0662		2005
3954	1	2028-01-01	2028-04-30	NOX	0.0539		2006
3954	1	2028-11-01	2028-12-31	NOX	0.0539		2006
3954	2	2028-01-01	2028-04-30	NOX	0.0485		2006
3954	2	2028-11-01	2028-12-31	NOX	0.0485		2006
4041	7	2028-01-01	2028-04-30	NOX	0.0603		2015
4041	7	2028-11-01	2028-12-31	NOX	0.0603		2015
4041	8	2028-01-01	2028-04-30	NOX	0.0608		2015
4041	8	2028-11-01	2028-12-31	NOX	0.0608		2015
4050	5	2028-01-01	2028-04-30	NOX	0.0361		2014
4050	5	2028-11-01	2028-12-31	NOX	0.0361		2014
594	4	2028-01-01	2028-04-30	NOX	0.0657		2012
594	4	2028-11-01	2028-12-31	NOX	0.0657		2012
6004	1	2028-01-01	2028-04-30	NOX	0.0394		2005
6004	1	2028-11-01	2028-12-31	NOX	0.0394		2005
6004	2	2028-01-01	2028-04-30	NOX	0.039		2005
6004	2	2028-11-01	2028-12-31	NOX	0.039		2005
6018	2	2028-01-01	2028-04-30	NOX	0.0518		2006
6018	2	2028-11-01	2028-12-31	NOX	0.0518		2006
6019	1	2028-01-01	2028-04-30	NOX	0.0562		2006
6019	1	2028-11-01	2028-12-31	NOX	0.0562		2006
602	1	2028-01-01	2028-04-30	NOX	0.0589		2007
602	1	2028-11-01	2028-12-31	NOX	0.0589		2007
602	2	2028-01-01	2028-04-30	NOX	0.0733		2015
602	2	2028-11-01	2028-12-31	NOX	0.0733		2015
6041	1	2028-01-01	2028-04-30	NOX	0.0829		2008
6041	1	2028-11-01	2028-12-31	NOX	0.0829		2008
6041	2	2028-01-01	2028-04-30	NOX	0.0729		2006
6041	2	2028-11-01	2028-12-31	NOX	0.0729		2006
6085	14	2028-01-01	2028-04-30	NOX	0.0979		2013
6085	14	2028-11-01	2028-12-31	NOX	0.0979		2013
6113	1	2028-01-01	2028-04-30	NOX	0.0343		2007
6113	1	2028-11-01	2028-12-31	NOX	0.0343		2007
6113	2	2028-01-01	2028-04-30	NOX	0.0672		2006
6113	2	2028-11-01	2028-12-31	NOX	0.0672		2006
6113	3	2028-01-01	2028-04-30	NOX	0.0659		2005
6113	3	2028-11-01	2028-12-31	NOX	0.0659		2005
6113	4	2028-01-01	2028-04-30	NOX	0.0632		2008
6113	4	2028-11-01	2028-12-31	NOX	0.0632		2008
6113	5	2028-01-01	2028-04-30	NOX	0.0597		2007
6113	5	2028-11-01	2028-12-31	NOX	0.0597		2007
6147	2	2028-01-01	2028-04-30	NOX	0.1187		2014
6147	2	2028-11-01	2028-12-31	NOX	0.1187		2014

Impact of Wintertime SCR/SNRC Optimization on Visibility Impairing Nitrate Precursor Emissions

ORISPL Code	Unit ID	Factor Start Date	Factor End Date	Pollutant	Emission Rate	Con. Eff.	Best Observed Rate Year
6147	3	2028-01-01	2028-04-30	NOX	0.1485		2014
6147	3	2028-11-01	2028-12-31	NOX	0.1485		2014
6213	2SG1	2028-01-01	2028-04-30	NOX	0.0587		2015
6213	2SG1	2028-11-01	2028-12-31	NOX	0.0587		2015
6249	1	2028-01-01	2028-04-30	NOX	0.0623		2005
6249	1	2028-11-01	2028-12-31	NOX	0.0623		2005
6249	2	2028-01-01	2028-04-30	NOX	0.0679		2005
6249	2	2028-11-01	2028-12-31	NOX	0.0679		2005
6249	3	2028-01-01	2028-04-30	NOX	0.0812		2015
6249	3	2028-11-01	2028-12-31	NOX	0.0812		2015
6249	4	2028-01-01	2028-04-30	NOX	0.0869		2012
6249	4	2028-11-01	2028-12-31	NOX	0.0869		2012
6250	1A	2028-01-01	2028-04-30	NOX	0.061		2007
6250	1A	2028-11-01	2028-12-31	NOX	0.061		2007
6250	1B	2028-01-01	2028-04-30	NOX	0.0614		2007
6250	1B	2028-11-01	2028-12-31	NOX	0.0614		2007
6257	1	2028-01-01	2028-04-30	NOX	0.0613		2014
6257	1	2028-11-01	2028-12-31	NOX	0.0613		2014
6257	2	2028-01-01	2028-04-30	NOX	0.0606		2014
6257	2	2028-11-01	2028-12-31	NOX	0.0606		2014
6257	4	2028-01-01	2028-04-30	NOX	0.0627		2013
6257	4	2028-11-01	2028-12-31	NOX	0.0627		2013
6264	1	2028-01-01	2028-04-30	NOX	0.0387		2007
6264	1	2028-11-01	2028-12-31	NOX	0.0387		2007
6705	4	2028-01-01	2028-04-30	NOX	0.0948		2007
6705	4	2028-11-01	2028-12-31	NOX	0.0948		2007
6768	1	2028-01-01	2028-04-30	NOX	0.1046		2013
6768	1	2028-11-01	2028-12-31	NOX	0.1046		2013
6823	W1	2028-01-01	2028-04-30	NOX	0.0477		2006
6823	W1	2028-11-01	2028-12-31	NOX	0.0477		2006
703	1BLR	2028-01-01	2028-04-30	NOX	0.0547		2008
703	1BLR	2028-11-01	2028-12-31	NOX	0.0547		2008
703	2BLR	2028-01-01	2028-04-30	NOX	0.0543		2006
703	2BLR	2028-11-01	2028-12-31	NOX	0.0543		2006
703	3BLR	2028-01-01	2028-04-30	NOX	0.0553		2006
703	3BLR	2028-11-01	2028-12-31	NOX	0.0553		2006
703	4BLR	2028-01-01	2028-04-30	NOX	0.0525		2013
703	4BLR	2028-11-01	2028-12-31	NOX	0.0525		2013
7343	4	2028-01-01	2028-04-30	NOX	0.1873		2015
7343	4	2028-11-01	2028-12-31	NOX	0.1873		2015
8042	2	2028-01-01	2028-04-30	NOX	0.0382		2009
8042	2	2028-11-01	2028-12-31	NOX	0.0382		2009
8102	1	2028-01-01	2028-04-30	NOX	0.0686		2007
8102	1	2028-11-01	2028-12-31	NOX	0.0686		2007
8102	2	2028-01-01	2028-04-30	NOX	0.0553		2005
8102	2	2028-11-01	2028-12-31	NOX	0.0553		2005
8226	1	2028-01-01	2028-04-30	NOX	0.0901		2006
8226	1	2028-11-01	2028-12-31	NOX	0.0901		2006
876	1	2028-01-01	2028-04-30	NOX	0.0577		2013
876	1	2028-11-01	2028-12-31	NOX	0.0577		2013
876	2	2028-01-01	2028-04-30	NOX	0.06		2009
876	2	2028-11-01	2028-12-31	NOX	0.06		2009
879	51	2028-01-01	2028-04-30	NOX	0.0985		2013
879	51	2028-11-01	2028-12-31	NOX	0.0985		2013
879	52	2028-01-01	2028-04-30	NOX	0.0987		2015
879	52	2028-11-01	2028-12-31	NOX	0.0987		2015
879	61	2028-01-01	2028-04-30	NOX	0.0973		2013
879	61	2028-11-01	2028-12-31	NOX	0.0973		2013
879	62	2028-01-01	2028-04-30	NOX	0.0885		2015
879	62	2028-11-01	2028-12-31	NOX	0.0885		2015
889	2	2028-01-01	2028-04-30	NOX	0.0509		2010
889	2	2028-11-01	2028-12-31	NOX	0.0509		2010
976	4	2028-01-01	2028-04-30	NOX	0.0785		2015
976	4	2028-11-01	2028-12-31	NOX	0.0785		2015
983	1	2028-01-01	2028-04-30	NOX	0.0735		2005
983	1	2028-11-01	2028-12-31	NOX	0.0735		2005
983	2	2028-01-01	2028-04-30	NOX	0.075		2005

Impact of Wintertime SCR/SNRC Optimization on Visibility Impairing Nitrate Precursor Emissions

ORISPL Code	Unit ID	Factor Start Date	Factor End Date	Pollutant	Emission Rate	Con. Eff.	Best Observed Rate Year
983	2	2028-11-01	2028-12-31	NOX	0.075		2005
983	3	2028-01-01	2028-04-30	NOX	0.0742		2005
983	3	2028-11-01	2028-12-31	NOX	0.0742		2005
994	2	2028-01-01	2028-04-30	NOX	0.051		2005
994	2	2028-11-01	2028-12-31	NOX	0.051		2005
994	3	2028-01-01	2028-04-30	NOX	0.0466		2005
994	3	2028-11-01	2028-12-31	NOX	0.0466		2005
997	12	2028-01-01	2028-04-30	NOX	0.092		2005
997	12	2028-11-01	2028-12-31	NOX	0.092		2005

Appendix B

Table 4: Unit level results in total tons during non-ozone season from ERTAC v2.7, and the best observed rate (BOR) runs

RPO	St.	Facility Name	Orispl	Unit ID	Base	BOR	Difference
MANE-VU	CT	AES Thames	10675	UNITA	0.00	0.00	0
MANE-VU	CT	AES Thames	10675	UNITB	0.00	0.00	0
MANE-VU	CT	Bridgeport Harbor Station	568	BHB3	42.58	42.58	0
MANE-VU	DE	Indian River	594	1	0.00	0.00	0
MANE-VU	DE	Indian River	594	3	0.00	0.00	0
MANE-VU	DE	Indian River	594	4	242.09	159.66	-82.42
MANE-VU	MA	Brayton Point	1619	1	0.00	0.00	0
MANE-VU	MA	Brayton Point	1619	2	0.00	0.00	0
MANE-VU	MA	Brayton Point	1619	3	0.00	0.00	0
MANE-VU	MA	Mount Tom	1606	1	0.00	0.00	0
MANE-VU	MA	Salem Harbor	1626	1	0.00	0.00	0
MANE-VU	MA	Salem Harbor	1626	2	0.00	0.00	0
MANE-VU	MA	Salem Harbor	1626	3	0.00	0.00	0
MANE-VU	MD	AES Warrior Run	10678	001	472.61	472.61	0
MANE-VU	MD	Brandon Shores	602	1	1,139.49	463.48	-676.01
MANE-VU	MD	Brandon Shores	602	2	1,289.18	663.05	-626.13
MANE-VU	MD	C P Crane	1552	1	155.93	96.58	-59.34
MANE-VU	MD	C P Crane	1552	2	170.28	98.46	-71.82
MANE-VU	MD	Herbert A Wagner	1554	2	93.56	52.61	-40.96
MANE-VU	MD	Herbert A Wagner	1554	3	620.52	283.23	-337.29
MANE-VU	MD	Mirant Chalk Point	1571	1	283.29	154.41	-128.88
MANE-VU	MD	Mirant Chalk Point	1571	2	318.36	242.58	-75.78
MANE-VU	MD	Mirant Dickerson	1572	1	89.52	69.06	-20.46
MANE-VU	MD	Mirant Dickerson	1572	2	122.50	93.34	-29.16
MANE-VU	MD	Mirant Dickerson	1572	3	121.27	91.71	-29.56
MANE-VU	MD	Mirant Morgantown	1573	1	258.83	195.43	-63.41
MANE-VU	MD	Mirant Morgantown	1573	2	181.52	165.81	-15.71
MANE-VU	MD	R. Paul Smith Power Station	1570	11	0.00	0.00	0
MANE-VU	MD	R. Paul Smith Power Station	1570	9	0.00	0.00	0
MANE-VU	NH	Merrimack	2364	1	188.91	120.88	-68.04
MANE-VU	NH	Merrimack	2364	2	306.33	182.49	-123.83
MANE-VU	NH	Schiller	2367	4	53.76	32.83	-20.92
MANE-VU	NH	Schiller	2367	6	63.00	41.68	-21.33
MANE-VU	NJ	B L England	2378	1	0.00	0.00	0
MANE-VU	NJ	B L England	2378	2	0.00	0.00	0
MANE-VU	NJ	Carneys Point	10566	1001	247.22	247.22	0
MANE-VU	NJ	Carneys Point	10566	1002	251.41	251.41	0
MANE-VU	NJ	Deepwater	2384	8	0.00	0.00	0
MANE-VU	NJ	Hudson Generating Station	2403	2	0.00	0.00	0
MANE-VU	NJ	Logan Generating Plant	10043	1001	235.74	235.74	0
MANE-VU	NJ	Mercer Generating Station	2408	1	0.00	0.00	0
MANE-VU	NJ	Mercer Generating Station	2408	2	0.00	0.00	0
MANE-VU	NY	AES Cayuga, LLC	2535	1	135.83	135.83	0
MANE-VU	NY	AES Cayuga, LLC	2535	2	129.12	129.12	0
MANE-VU	NY	AES Greenidge	2527	6	0.00	0.00	0
MANE-VU	NY	AES Somerset (Kintigh)	6082	1	816.12	816.12	0
MANE-VU	NY	AES Westover (Goudey)	2526	13	0.00	0.00	0
MANE-VU	NY	Black River Generation, LLC	10464	E0001	0.00	0.00	0
MANE-VU	NY	Black River Generation, LLC	10464	E0002	0.00	0.00	0
MANE-VU	NY	Black River Generation, LLC	10464	E0003	0.00	0.00	0
MANE-VU	NY	Dunkirk	2554	1	51.57	51.57	0
MANE-VU	NY	Dunkirk	2554	2	62.46	62.46	0
MANE-VU	NY	Dunkirk	2554	3	166.83	166.83	0
MANE-VU	NY	Dunkirk	2554	4	134.83	134.83	0
MANE-VU	NY	Dynegy Danskammer	2480	3	0.00	0.00	0
MANE-VU	NY	Dynegy Danskammer	2480	4	0.00	0.00	0

Impact of Wintertime SCR/SNRC Optimization on Visibility Impairing Nitrate Precursor Emissions

RPO	St.	Facility Name	Orispl	Unit ID	Base	BOR	Difference
MANE-VU	NY	Huntley Power	2549	67	148.99	148.99	0
MANE-VU	NY	Huntley Power	2549	68	142.64	142.64	0
MANE-VU	NY	Niagara Generation, LLC	50202	1	0.00	0.00	0
MANE-VU	NY	S A Carlson	2682	10	0.00	0.00	0
MANE-VU	NY	S A Carlson	2682	12	0.00	0.00	0
MANE-VU	NY	S A Carlson	2682	9	0.00	0.00	0
MANE-VU	NY	Syracuse Energy Corporation	50651	BLR1	0.00	0.00	0
MANE-VU	PA	AES Beaver Valley LLC	10676	032	0.00	0.00	0
MANE-VU	PA	AES Beaver Valley LLC	10676	033	0.00	0.00	0
MANE-VU	PA	AES Beaver Valley LLC	10676	034	0.00	0.00	0
MANE-VU	PA	AES Beaver Valley LLC	10676	035	0.00	0.00	0
MANE-VU	PA	Armstrong Power Station	3178	1	0.00	0.00	0
MANE-VU	PA	Armstrong Power Station	3178	2	0.00	0.00	0
MANE-VU	PA	Bruce Mansfield	6094	1	2,223.60	2,223.60	0
MANE-VU	PA	Bruce Mansfield	6094	2	1,992.25	1,992.25	0
MANE-VU	PA	Bruce Mansfield	6094	3	3,888.10	3,888.10	0
MANE-VU	PA	Brunner Island	3140	1	477.43	477.43	0
MANE-VU	PA	Brunner Island	3140	2	441.12	441.12	0
MANE-VU	PA	Brunner Island	3140	3	1,001.39	1,001.39	0
MANE-VU	PA	Cambria Cogen	10641	1	222.21	222.21	0
MANE-VU	PA	Cambria Cogen	10641	2	241.91	241.91	0
MANE-VU	PA	Cheswick	8226	1	1,865.18	809.38	-1055.8
MANE-VU	PA	Colver Power Project	10143	AAB01	432.08	432.08	0
MANE-VU	PA	Conemaugh	3118	1	1,948.41	1,948.41	0
MANE-VU	PA	Conemaugh	3118	2	2,441.54	2,441.54	0
MANE-VU	PA	Cromby	3159	1	0.00	0.00	0
MANE-VU	PA	Ebensburg Power Company	10603	031	192.64	192.64	0
MANE-VU	PA	Eddystone Generating Station	3161	1	0.00	0.00	0
MANE-VU	PA	Eddystone Generating Station	3161	2	0.00	0.00	0
MANE-VU	PA	Elrama	3098	1	0.00	0.00	0
MANE-VU	PA	Elrama	3098	2	0.00	0.00	0
MANE-VU	PA	Elrama	3098	3	0.00	0.00	0
MANE-VU	PA	Elrama	3098	4	0.00	0.00	0
MANE-VU	PA	Gilberton Power Company	10113	031	57.72	57.72	0
MANE-VU	PA	Gilberton Power Company	10113	032	56.80	56.80	0
MANE-VU	PA	Hatfields Ferry Power Station	3179	1	0.00	0.00	0
MANE-VU	PA	Hatfields Ferry Power Station	3179	2	0.00	0.00	0
MANE-VU	PA	Hatfields Ferry Power Station	3179	3	0.00	0.00	0
MANE-VU	PA	Homer City	3122	1	961.99	679.48	-282.52
MANE-VU	PA	Homer City	3122	2	960.13	763.43	-196.7
MANE-VU	PA	Homer City	3122	3	1,633.78	1,253.56	-380.22
MANE-VU	PA	Keystone	3136	1	2,301.35	1,305.16	-996.2
MANE-VU	PA	Keystone	3136	2	2,405.67	1,339.26	-1066.4
MANE-VU	PA	Mitchell Power Station	3181	33	0.00	0.00	0
MANE-VU	PA	Montour	3149	1	1,581.95	1,028.22	-553.73
MANE-VU	PA	Montour	3149	2	1,892.79	1,200.83	-691.96
MANE-VU	PA	Mt. Carmel Cogeneration	10343	SG-101	238.76	238.76	0
MANE-VU	PA	New Castle	3138	3	42.51	42.51	0
MANE-VU	PA	New Castle	3138	4	68.66	68.66	0
MANE-VU	PA	New Castle	3138	5	48.74	48.74	0
MANE-VU	PA	Northampton Generating Plant	50888	NGC01	267.72	267.72	0
MANE-VU	PA	Northeastern Power Company	50039	031	83.74	83.74	0
MANE-VU	PA	Panther Creek Energy Facility	50776	1	171.66	171.66	0
MANE-VU	PA	Panther Creek Energy Facility	50776	2	158.60	158.60	0
MANE-VU	PA	Piney Creek Power Plant	54144	031	0.00	0.00	0
MANE-VU	PA	Portland	3113	1	0.00	0.00	0
MANE-VU	PA	Portland	3113	2	0.00	0.00	0
MANE-VU	PA	Scrubgrass Generating Plant	50974	1	226.34	226.34	0
MANE-VU	PA	Scrubgrass Generating Plant	50974	2	242.52	242.52	0
MANE-VU	PA	Seward	3130	1	739.24	739.24	0

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RPO	St.	Facility Name	Orispl	Unit ID	Base	BOR	Difference
MANE-VU	PA	Seward	3130	2	673.06	673.06	0
MANE-VU	PA	Shawville	3131	1	126.85	126.85	0
MANE-VU	PA	Shawville	3131	2	126.09	126.09	0
MANE-VU	PA	Shawville	3131	3	198.67	198.67	0
MANE-VU	PA	Shawville	3131	4	227.60	227.60	0
MANE-VU	PA	St. Nicholas Cogeneration Project	54634	1	131.46	131.46	0
MANE-VU	PA	Sunbury	3152	1A	0.00	0.00	0
MANE-VU	PA	Sunbury	3152	1B	0.00	0.00	0
MANE-VU	PA	Sunbury	3152	2A	0.00	0.00	0
MANE-VU	PA	Sunbury	3152	2B	0.00	0.00	0
MANE-VU	PA	Sunbury	3152	3	0.00	0.00	0
MANE-VU	PA	Sunbury	3152	4	0.00	0.00	0
MANE-VU	PA	Titus	3115	1	0.00	0.00	0
MANE-VU	PA	Titus	3115	2	0.00	0.00	0
MANE-VU	PA	Titus	3115	3	0.00	0.00	0
MANE-VU	PA	Wheelabrator - Frackville	50879	GEN1	266.12	266.12	0
MANE-VU	PA	WPS Westwood Generation, LLC	50611	031	158.44	158.44	0
LADCO	IL	Baldwin Energy Complex	889	1	0.00	0.00	0
LADCO	IL	Baldwin Energy Complex	889	2	737.62	653.32	-84.3
LADCO	IL	Baldwin Energy Complex	889	3	0.00	0.00	0
LADCO	IL	Coffeen	861	01	321.14	321.14	0
LADCO	IL	Coffeen	861	02	451.35	451.35	0
LADCO	IL	Crawford	867	7	0.00	0.00	0
LADCO	IL	Crawford	867	8	0.00	0.00	0
LADCO	IL	Dallman	963	31	136.06	136.06	0
LADCO	IL	Dallman	963	32	102.69	102.69	0
LADCO	IL	Dallman	963	33	177.83	177.83	0
LADCO	IL	Dallman	963	4	137.19	137.19	0
LADCO	IL	Duck Creek	6016	1	611.44	611.44	0
LADCO	IL	E D Edwards	856	1	0.00	0.00	0
LADCO	IL	E D Edwards	856	2	1,180.33	1,180.33	0
LADCO	IL	E D Edwards	856	3	347.71	347.71	0
LADCO	IL	Fisk	886	19	0.00	0.00	0
LADCO	IL	Havana	891	9	619.47	619.47	0
LADCO	IL	Hennepin Power Station	892	1	225.82	225.82	0
LADCO	IL	Hennepin Power Station	892	2	731.62	731.62	0
LADCO	IL	Hutsonville	863	05	0.00	0.00	0
LADCO	IL	Hutsonville	863	06	0.00	0.00	0
LADCO	IL	Joppa Steam	887	1	507.48	507.48	0
LADCO	IL	Joppa Steam	887	2	374.69	374.69	0
LADCO	IL	Joppa Steam	887	3	444.14	444.14	0
LADCO	IL	Joppa Steam	887	4	454.62	454.62	0
LADCO	IL	Joppa Steam	887	5	469.43	469.43	0
LADCO	IL	Joppa Steam	887	6	471.17	471.17	0
LADCO	IL	Kincaid Station	876	1	648.72	565.41	-83.31
LADCO	IL	Kincaid Station	876	2	558.30	502.55	-55.75
LADCO	IL	Marion	976	123	259.12	259.12	0
LADCO	IL	Marion	976	4	751.29	427.70	-323.59
LADCO	IL	Meredosia	864	01	0.00	0.00	0
LADCO	IL	Meredosia	864	02	0.00	0.00	0
LADCO	IL	Meredosia	864	03	0.00	0.00	0
LADCO	IL	Meredosia	864	04	0.00	0.00	0
LADCO	IL	Meredosia	864	05	0.00	0.00	0
LADCO	IL	Newton	6017	1	1,080.51	1,080.51	0
LADCO	IL	Newton	6017	2	0.00	0.00	0
LADCO	IL	Powerton	879	51	993.41	980.85	-12.56
LADCO	IL	Powerton	879	52	982.20	971.35	-10.86
LADCO	IL	Powerton	879	61	1,117.32	1,082.17	-35.15
LADCO	IL	Powerton	879	62	1,137.40	1,017.11	-120.3
LADCO	IL	Prairie State Generating Company	55856	01	666.89	666.89	0

Impact of Wintertime SCR/SNRC Optimization on Visibility Impairing Nitrate Precursor Emissions

RPO	St.	Facility Name	Orispl	Unit ID	Base	BOR	Difference
LADCO	IL	Prairie State Generating Company	55856	02	648.72	648.72	0
LADCO	IL	Vermilion Power Station	897	1	0.00	0.00	0
LADCO	IL	Vermilion Power Station	897	2	0.00	0.00	0
LADCO	IL	Waukegan	883	7	583.21	583.21	0
LADCO	IL	Waukegan	883	8	1,004.16	1,004.16	0
LADCO	IL	Will County	884	4	533.73	533.73	0
LADCO	IL	Wood River Power Station	898	4	0.00	0.00	0
LADCO	IL	Wood River Power Station	898	5	0.00	0.00	0
LADCO	IN	A B Brown Generating Station	6137	1	462.13	462.13	0
LADCO	IN	A B Brown Generating Station	6137	2	667.26	667.26	0
LADCO	IN	Alcoa Allowance Management Inc	6705	4	1,129.40	832.93	-296.47
LADCO	IN	Bailly Generating Station	995	7	0.00	0.00	0
LADCO	IN	Bailly Generating Station	995	8	0.00	0.00	0
LADCO	IN	Cayuga	1001	1	2,173.73	2,173.73	0
LADCO	IN	Cayuga	1001	2	2,598.35	2,598.35	0
LADCO	IN	Clifty Creek	983	1	459.99	366.47	-93.52
LADCO	IN	Clifty Creek	983	2	456.71	366.73	-89.98
LADCO	IN	Clifty Creek	983	3	463.41	371.46	-91.96
LADCO	IN	Clifty Creek	983	4	490.57	490.57	0
LADCO	IN	Clifty Creek	983	5	319.32	319.32	0
LADCO	IN	Clifty Creek	983	6	1,765.98	1,765.98	0
LADCO	IN	Edwardsport	1004	7-1	0.00	0.00	0
LADCO	IN	Edwardsport	1004	7-2	0.00	0.00	0
LADCO	IN	Edwardsport	1004	8-1	0.00	0.00	0
LADCO	IN	Edwardsport	1004	CTG1	530.82	530.82	0
LADCO	IN	Edwardsport	1004	CTG2	534.98	534.98	0
LADCO	IN	F B Culley Generating Station	1012	2	61.39	61.39	0
LADCO	IN	F B Culley Generating Station	1012	3	527.25	527.25	0
LADCO	IN	Frank E Ratts	1043	1SG1	0.00	0.00	0
LADCO	IN	Frank E Ratts	1043	2SG1	0.00	0.00	0
LADCO	IN	Gibson	6113	1	1,472.87	844.98	-627.89
LADCO	IN	Gibson	6113	2	1,207.84	739.41	-468.43
LADCO	IN	Gibson	6113	3	1,032.98	584.10	-448.88
LADCO	IN	Gibson	6113	4	1,876.50	1,193.31	-683.19
LADCO	IN	Gibson	6113	5	3,707.17	1,538.64	-2168.53
LADCO	IN	IPL Eagle Valley Generating Station	991	3	0.00	0.00	0
LADCO	IN	IPL Eagle Valley Generating Station	991	4	0.00	0.00	0
LADCO	IN	IPL Eagle Valley Generating Station	991	5	0.00	0.00	0
LADCO	IN	IPL Eagle Valley Generating Station	991	6	0.00	0.00	0
LADCO	IN	Merom	6213	1SG1	1,194.38	1,194.38	0
LADCO	IN	Merom	6213	2SG1	1,278.50	919.54	-358.96
LADCO	IN	Michigan City Generating Station	997	12	1,080.74	974.13	-106.61
LADCO	IN	New Energy Corp	880087	U-4000	0.00	0.00	0
LADCO	IN	Petersburg	994	1	1,088.79	1,088.79	0
LADCO	IN	Petersburg	994	2	1,481.84	837.58	-644.26
LADCO	IN	Petersburg	994	3	1,856.94	1,008.22	-848.72
LADCO	IN	Petersburg	994	4	2,515.96	2,515.96	0
LADCO	IN	R Gallagher	1008	1	0.00	0.00	0
LADCO	IN	R Gallagher	1008	2	0.00	0.00	0
LADCO	IN	R Gallagher	1008	3	0.00	0.00	0
LADCO	IN	R Gallagher	1008	4	0.00	0.00	0
LADCO	IN	R M Schahfer Generating Station	6085	14	757.49	611.71	-145.78
LADCO	IN	R M Schahfer Generating Station	6085	15	1,500.69	1,500.69	0
LADCO	IN	R M Schahfer Generating Station	6085	17	0.00	0.00	0
LADCO	IN	R M Schahfer Generating Station	6085	18	0.00	0.00	0
LADCO	IN	Rockport	6166	MB1	2,684.10	2,684.10	0
LADCO	IN	Rockport	6166	MB2	3,604.33	3,604.33	0
LADCO	IN	State Line Generating Station (IN)	981	3	0.00	0.00	0
LADCO	IN	State Line Generating Station (IN)	981	4	0.00	0.00	0
LADCO	IN	Tanners Creek	988	U1	0.00	0.00	0

Impact of Wintertime SCR/SNRC Optimization on Visibility Impairing Nitrate Precursor Emissions

RPO	St.	Facility Name	Orispl	Unit ID	Base	BOR	Difference
LADCO	IN	Tanners Creek	988	U2	0.00	0.00	0
LADCO	IN	Tanners Creek	988	U3	0.00	0.00	0
LADCO	IN	Tanners Creek	988	U4	0.00	0.00	0
LADCO	IN	Wabash River	1010	2	0.00	0.00	0
LADCO	IN	Wabash River	1010	3	0.00	0.00	0
LADCO	IN	Wabash River	1010	4	0.00	0.00	0
LADCO	IN	Wabash River	1010	5	0.00	0.00	0
LADCO	IN	Wabash River	1010	6	0.00	0.00	0
LADCO	IN	Whitewater Valley	1040	1	84.75	84.75	0
LADCO	IN	Whitewater Valley	1040	2	168.58	168.58	0
LADCO	MI	B C Cobb	1695	4	0.00	0.00	0
LADCO	MI	B C Cobb	1695	5	0.00	0.00	0
LADCO	MI	Belle River	6034	1	1,722.52	1,722.52	0
LADCO	MI	Belle River	6034	2	3,564.30	3,564.30	0
LADCO	MI	Cadillac Renewable Energy	54415	EUBLR	135.04	135.04	0
LADCO	MI	Dan E Karn	1702	1	314.63	220.75	-93.89
LADCO	MI	Dan E Karn	1702	2	342.69	238.12	-104.57
LADCO	MI	Eckert Station	1831	1	0.00	0.00	0
LADCO	MI	Eckert Station	1831	2	0.00	0.00	0
LADCO	MI	Eckert Station	1831	3	0.00	0.00	0
LADCO	MI	Eckert Station	1831	4	0.00	0.00	0
LADCO	MI	Eckert Station	1831	5	0.00	0.00	0
LADCO	MI	Eckert Station	1831	6	0.00	0.00	0
LADCO	MI	Endicott Generating	4259	1	0.00	0.00	0
LADCO	MI	Erickson	1832	1	755.04	755.04	0
LADCO	MI	Genesee Power Station	54751	01	76.58	76.58	0
LADCO	MI	Grayling Generating Station	10822	1	137.56	137.56	0
LADCO	MI	Harbor Beach	1731	1	0.00	0.00	0
LADCO	MI	J B Sims	1825	3	235.09	235.09	0
LADCO	MI	J C Weadock	1720	7	0.00	0.00	0
LADCO	MI	J C Weadock	1720	8	0.00	0.00	0
LADCO	MI	J H Campbell	1710	1	636.33	636.33	0
LADCO	MI	J H Campbell	1710	2	331.71	151.76	-179.95
LADCO	MI	J H Campbell	1710	3	1,453.42	977.64	-475.78
LADCO	MI	J R Whiting	1723	1	0.00	0.00	0
LADCO	MI	J R Whiting	1723	2	0.00	0.00	0
LADCO	MI	J R Whiting	1723	3	0.00	0.00	0
LADCO	MI	James De Young	1830	5	0.00	0.00	0
LADCO	MI	Monroe	1733	1	1,174.93	768.33	-406.6
LADCO	MI	Monroe	1733	2	1,043.18	1,043.18	0
LADCO	MI	Monroe	1733	3	590.40	512.56	-77.84
LADCO	MI	Monroe	1733	4	1,194.84	737.58	-457.26
LADCO	MI	Presque Isle	1769	5	0.00	0.00	0
LADCO	MI	Presque Isle	1769	6	0.00	0.00	0
LADCO	MI	Presque Isle	1769	7	0.00	0.00	0
LADCO	MI	Presque Isle	1769	8	0.00	0.00	0
LADCO	MI	Presque Isle	1769	9	0.00	0.00	0
LADCO	MI	River Rouge	1740	2	0.00	0.00	0
LADCO	MI	River Rouge	1740	3	0.00	0.00	0
LADCO	MI	Shiras	1843	3	163.18	163.18	0
LADCO	MI	St. Clair	1743	1	0.00	0.00	0
LADCO	MI	St. Clair	1743	2	0.00	0.00	0
LADCO	MI	St. Clair	1743	3	0.00	0.00	0
LADCO	MI	St. Clair	1743	4	0.00	0.00	0
LADCO	MI	St. Clair	1743	6	0.00	0.00	0
LADCO	MI	St. Clair	1743	7	0.00	0.00	0
LADCO	MI	TES Filer City Station	50835	1	339.06	339.06	0
LADCO	MI	TES Filer City Station	50835	2	328.21	328.21	0
LADCO	MI	Trenton Channel	1745	16	0.00	0.00	0
LADCO	MI	Trenton Channel	1745	17	0.00	0.00	0

Impact of Wintertime SCR/SNRC Optimization on Visibility Impairing Nitrate Precursor Emissions

RPO	St.	Facility Name	Orispl	Unit ID	Base	BOR	Difference
LADCO	MI	Trenton Channel	1745	18	0.00	0.00	0
LADCO	MI	Trenton Channel	1745	19	0.00	0.00	0
LADCO	MI	Trenton Channel	1745	9A	0.00	0.00	0
LADCO	MI	Wyandotte	1866	7	90.20	90.20	0
LADCO	MI	Wyandotte	1866	8	123.15	123.15	0
LADCO	MN	Allen S King	1915	1	842.90	842.90	0
LADCO	MN	Black Dog	1904	3	0.00	0.00	0
LADCO	MN	Black Dog	1904	4	0.00	0.00	0
LADCO	MN	Boswell Energy Center	1893	1	0.00	0.00	0
LADCO	MN	Boswell Energy Center	1893	2	0.00	0.00	0
LADCO	MN	Boswell Energy Center	1893	3	446.71	446.71	0
LADCO	MN	Boswell Energy Center	1893	4	1,927.28	1,927.28	0
LADCO	MN	Hoot Lake	1943	2	0.00	0.00	0
LADCO	MN	Hoot Lake	1943	3	0.00	0.00	0
LADCO	MN	Northeast Station	1961	NEPP	0.00	0.00	0
LADCO	MN	Sherburne County	6090	1	0.00	0.00	0
LADCO	MN	Sherburne County	6090	2	0.00	0.00	0
LADCO	MN	Sherburne County	6090	3	1,490.50	1,490.50	0
LADCO	MN	Silver Lake	2008	4	0.00	0.00	0
LADCO	MN	Taconite Harbor Energy Center	10075	1	0.00	0.00	0
LADCO	MN	Taconite Harbor Energy Center	10075	2	0.00	0.00	0
LADCO	MN	Taconite Harbor Energy Center	10075	3	0.00	0.00	0
LADCO	OH	Ashtabula	2835	7	0.00	0.00	0
LADCO	OH	Avon Lake Power Plant	2836	10	6.48	6.48	0
LADCO	OH	Avon Lake Power Plant	2836	12	2,731.97	1,881.95	-850.02
LADCO	OH	Bay Shore	2878	1	566.74	566.74	0
LADCO	OH	Bay Shore	2878	2	0.00	0.00	0
LADCO	OH	Bay Shore	2878	3	0.00	0.00	0
LADCO	OH	Bay Shore	2878	4	0.00	0.00	0
LADCO	OH	Cardinal	2828	1	365.03	251.40	-113.63
LADCO	OH	Cardinal	2828	2	101.28	99.48	-1.81
LADCO	OH	Cardinal	2828	3	581.27	222.04	-359.23
LADCO	OH	Conesville	2840	3	0.00	0.00	0
LADCO	OH	Conesville	2840	4	676.83	540.88	-135.95
LADCO	OH	Conesville	2840	5	2,077.04	2,077.04	0
LADCO	OH	Conesville	2840	6	2,814.95	2,814.95	0
LADCO	OH	Eastlake	2837	1	0.00	0.00	0
LADCO	OH	Eastlake	2837	2	0.00	0.00	0
LADCO	OH	Eastlake	2837	3	0.00	0.00	0
LADCO	OH	Eastlake	2837	4	0.00	0.00	0
LADCO	OH	Eastlake	2837	5	0.00	0.00	0
LADCO	OH	Gen J M Gavin	8102	1	2,464.79	2,259.45	-205.34
LADCO	OH	Gen J M Gavin	8102	2	2,584.35	2,150.81	-433.53
LADCO	OH	Hamilton Municipal Power Plant	2917	9	3.90	3.90	0
LADCO	OH	J M Stuart	2850	1	0.00	0.00	0
LADCO	OH	J M Stuart	2850	2	0.00	0.00	0
LADCO	OH	J M Stuart	2850	3	0.00	0.00	0
LADCO	OH	J M Stuart	2850	4	0.00	0.00	0
LADCO	OH	Killen Station	6031	2	0.00	0.00	0
LADCO	OH	Kyger Creek	2876	1	831.43	497.83	-333.6
LADCO	OH	Kyger Creek	2876	2	821.61	493.75	-327.87
LADCO	OH	Kyger Creek	2876	3	2,734.85	969.08	-1765.77
LADCO	OH	Kyger Creek	2876	4	673.73	380.07	-293.66
LADCO	OH	Kyger Creek	2876	5	2,967.21	1,069.77	-1897.44
LADCO	OH	Lake Shore	2838	18	0.00	0.00	0
LADCO	OH	Miami Fort Generating Station	2832	6	0.00	0.00	0
LADCO	OH	Miami Fort Generating Station	2832	7	2,016.79	1,082.82	-933.97
LADCO	OH	Miami Fort Generating Station	2832	8	1,552.08	921.27	-630.81
LADCO	OH	Muskingum River	2872	1	0.00	0.00	0
LADCO	OH	Muskingum River	2872	2	0.00	0.00	0

Impact of Wintertime SCR/SNRC Optimization on Visibility Impairing Nitrate Precursor Emissions

RPO	St.	Facility Name	Orispl	Unit ID	Base	BOR	Difference
LADCO	OH	Muskingum River	2872	3	0.00	0.00	0
LADCO	OH	Muskingum River	2872	4	0.00	0.00	0
LADCO	OH	Muskingum River	2872	5	0.00	0.00	0
LADCO	OH	Niles	2861	1	0.00	0.00	0
LADCO	OH	Niles	2861	2	0.00	0.00	0
LADCO	OH	O H Hutchings	2848	H-1	0.00	0.00	0
LADCO	OH	O H Hutchings	2848	H-2	0.00	0.00	0
LADCO	OH	O H Hutchings	2848	H-3	0.00	0.00	0
LADCO	OH	O H Hutchings	2848	H-4	0.00	0.00	0
LADCO	OH	O H Hutchings	2848	H-5	0.00	0.00	0
LADCO	OH	O H Hutchings	2848	H-6	0.00	0.00	0
LADCO	OH	Picway	2843	9	0.00	0.00	0
LADCO	OH	R E Burger	2864	5	0.00	0.00	0
LADCO	OH	R E Burger	2864	6	0.00	0.00	0
LADCO	OH	W H Sammis	2866	1	0.00	0.00	0
LADCO	OH	W H Sammis	2866	2	0.00	0.00	0
LADCO	OH	W H Sammis	2866	3	0.00	0.00	0
LADCO	OH	W H Sammis	2866	4	0.00	0.00	0
LADCO	OH	W H Sammis	2866	5	515.73	393.68	-122.06
LADCO	OH	W H Sammis	2866	6	411.49	411.49	0
LADCO	OH	W H Sammis	2866	7	1,493.46	1,357.04	-136.43
LADCO	OH	W H Zimmer Generating Station	6019	1	5,798.18	2,060.79	-3737.39
LADCO	OH	Walter C Beckjord Generating Station	2830	1	0.00	0.00	0
LADCO	OH	Walter C Beckjord Generating Station	2830	2	0.00	0.00	0
LADCO	OH	Walter C Beckjord Generating Station	2830	3	0.00	0.00	0
LADCO	OH	Walter C Beckjord Generating Station	2830	4	0.00	0.00	0
LADCO	OH	Walter C Beckjord Generating Station	2830	5	0.00	0.00	0
LADCO	OH	Walter C Beckjord Generating Station	2830	6	0.00	0.00	0
LADCO	WI	Alma	4140	B4	0.00	0.00	0
LADCO	WI	Alma	4140	B5	0.00	0.00	0
LADCO	WI	Bay Front	3982	1	64.30	64.30	0
LADCO	WI	Bay Front	3982	2	66.57	66.57	0
LADCO	WI	Blount Street	3992	7	0.00	0.00	0
LADCO	WI	Columbia	8023	1	1,151.23	1,151.23	0
LADCO	WI	Columbia	8023	2	694.36	694.36	0
LADCO	WI	Edgewater (4050)	4050	3	0.00	0.00	0
LADCO	WI	Edgewater (4050)	4050	5	351.29	261.46	-89.83
LADCO	WI	Elm Road Generating Station	56068	1	298.11	298.11	0
LADCO	WI	Elm Road Generating Station	56068	2	482.73	482.73	0
LADCO	WI	Genoa	4143	1	336.69	336.69	0
LADCO	WI	J P Madgett	4271	B1	463.11	463.11	0
LADCO	WI	Manitowoc	4125	8	14.77	14.77	0
LADCO	WI	Manitowoc	4125	9	87.07	87.07	0
LADCO	WI	Nelson Dewey	4054	1	0.00	0.00	0
LADCO	WI	Nelson Dewey	4054	2	0.00	0.00	0
LADCO	WI	Pleasant Prairie	6170	1	1,084.01	1,084.01	0
LADCO	WI	Pleasant Prairie	6170	2	653.60	653.60	0
LADCO	WI	Pulliam	4072	5	0.00	0.00	0
LADCO	WI	Pulliam	4072	6	0.00	0.00	0
LADCO	WI	Pulliam	4072	7	170.88	170.88	0
LADCO	WI	Pulliam	4072	8	433.42	433.42	0
LADCO	WI	South Oak Creek	4041	5	309.21	309.21	0
LADCO	WI	South Oak Creek	4041	6	295.56	295.56	0
LADCO	WI	South Oak Creek	4041	7	351.32	343.58	-7.74
LADCO	WI	South Oak Creek	4041	8	440.28	432.99	-7.29
LADCO	WI	Weston	4078	1	0.00	0.00	0
LADCO	WI	Weston	4078	3	559.48	559.48	0
LADCO	WI	Weston	4078	4	527.84	527.84	0
SESARM	AL	Barry	3	3	0.00	0.00	0
SESARM	AL	Barry	3	4	548.04	548.04	0

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RPO	St.	Facility Name	Orispl	Unit ID	Base	BOR	Difference
SESARM	AL	Barry	3	5	389.58	389.58	0
SESARM	AL	Charles R Lowman	56	1	266.75	266.75	0
SESARM	AL	Charles R Lowman	56	2	1,560.89	1,560.89	0
SESARM	AL	Charles R Lowman	56	3	346.75	346.75	0
SESARM	AL	Colbert	47	1	0.00	0.00	0
SESARM	AL	Colbert	47	2	0.00	0.00	0
SESARM	AL	Colbert	47	3	0.00	0.00	0
SESARM	AL	Colbert	47	4	0.00	0.00	0
SESARM	AL	Colbert	47	5	0.00	0.00	0
SESARM	AL	E C Gaston	26	5	1,727.18	1,213.71	-513.47
SESARM	AL	Gorgas	8	10	1,892.99	1,892.99	0
SESARM	AL	Gorgas	8	6	0.00	0.00	0
SESARM	AL	Gorgas	8	7	0.00	0.00	0
SESARM	AL	Gorgas	8	8	379.03	379.03	0
SESARM	AL	Gorgas	8	9	518.57	518.57	0
SESARM	AL	James H Miller Jr	6002	1	1,620.08	1,620.08	0
SESARM	AL	James H Miller Jr	6002	2	2,362.07	2,362.07	0
SESARM	AL	James H Miller Jr	6002	3	2,513.13	2,513.13	0
SESARM	AL	James H Miller Jr	6002	4	1,372.00	1,372.00	0
SESARM	AL	Widows Creek	50	1	0.00	0.00	0
SESARM	AL	Widows Creek	50	2	0.00	0.00	0
SESARM	AL	Widows Creek	50	3	0.00	0.00	0
SESARM	AL	Widows Creek	50	4	0.00	0.00	0
SESARM	AL	Widows Creek	50	5	0.00	0.00	0
SESARM	AL	Widows Creek	50	6	0.00	0.00	0
SESARM	AL	Widows Creek	50	7	0.00	0.00	0
SESARM	AL	Widows Creek	50	8	0.00	0.00	0
SESARM	FL	Big Bend	645	BB01	729.03	729.03	0
SESARM	FL	Big Bend	645	BB02	315.63	315.63	0
SESARM	FL	Big Bend	645	BB03	736.65	736.65	0
SESARM	FL	Big Bend	645	BB04	731.36	731.36	0
SESARM	FL	C D McIntosh Jr Power Plant	676	3	593.71	593.71	0
SESARM	FL	Cedar Bay Generating Co.	10672	CBA	0.00	0.00	0
SESARM	FL	Cedar Bay Generating Co.	10672	CBB	0.00	0.00	0
SESARM	FL	Cedar Bay Generating Co.	10672	CBC	0.00	0.00	0
SESARM	FL	Crist Electric Generating Plant	641	4	0.00	0.00	0
SESARM	FL	Crist Electric Generating Plant	641	5	0.00	0.00	0
SESARM	FL	Crist Electric Generating Plant	641	6	192.60	192.60	0
SESARM	FL	Crist Electric Generating Plant	641	7	1,242.66	1,242.66	0
SESARM	FL	Crystal River	628	1	0.00	0.00	0
SESARM	FL	Crystal River	628	2	0.00	0.00	0
SESARM	FL	Crystal River	628	4	522.10	522.10	0
SESARM	FL	Crystal River	628	5	675.09	675.09	0
SESARM	FL	Curtis H. Stanton Energy Center	564	1	1,531.30	1,531.30	0
SESARM	FL	Curtis H. Stanton Energy Center	564	2	1,128.11	1,128.11	0
SESARM	FL	Deerhaven	663	B2	160.85	160.85	0
SESARM	FL	Indiantown Cogeneration Facility	50976	01	528.35	528.35	0
SESARM	FL	Lansing Smith Generating Plant	643	1	0.00	0.00	0
SESARM	FL	Lansing Smith Generating Plant	643	2	0.00	0.00	0
SESARM	FL	Northside	667	1A	120.73	120.73	0
SESARM	FL	Northside	667	2A	190.12	190.12	0
SESARM	FL	Polk	7242	**1	218.08	218.08	0
SESARM	FL	Scholz Electric Generating Plant	642	1	0.00	0.00	0
SESARM	FL	Scholz Electric Generating Plant	642	2	0.00	0.00	0
SESARM	FL	Seminole (136)	136	1	614.96	614.96	0
SESARM	FL	Seminole (136)	136	2	622.70	622.70	0
SESARM	FL	St. Johns River Power	207	1	0.00	0.00	0
SESARM	FL	St. Johns River Power	207	2	0.00	0.00	0
SESARM	GA	Bowen	703	1BLR	2,128.78	1,104.38	-1024.41
SESARM	GA	Bowen	703	2BLR	1,365.23	867.92	-497.32

Impact of Wintertime SCR/SNRC Optimization on Visibility Impairing Nitrate Precursor Emissions

RPO	St.	Facility Name	Orispl	Unit ID	Base	BOR	Difference
SESARM	GA	Bowen	703	3BLR	960.53	594.27	-366.26
SESARM	GA	Bowen	703	4BLR	1,301.04	671.24	-629.8
SESARM	GA	Hammond	708	1	142.46	142.46	0
SESARM	GA	Hammond	708	2	220.14	220.14	0
SESARM	GA	Hammond	708	3	143.18	143.18	0
SESARM	GA	Hammond	708	4	1,146.75	1,146.75	0
SESARM	GA	Harlee Branch	709	1	0.00	0.00	0
SESARM	GA	Harlee Branch	709	2	0.00	0.00	0
SESARM	GA	Harlee Branch	709	3	0.00	0.00	0
SESARM	GA	Harlee Branch	709	4	0.00	0.00	0
SESARM	GA	Jack McDonough	710	MB1	0.00	0.00	0
SESARM	GA	Jack McDonough	710	MB2	0.00	0.00	0
SESARM	GA	Kraft	733	1	0.00	0.00	0
SESARM	GA	Kraft	733	2	0.00	0.00	0
SESARM	GA	Kraft	733	3	0.00	0.00	0
SESARM	GA	McIntosh (6124)	6124	1	61.18	61.18	0
SESARM	GA	Mitchell (GA)	727	3	0.00	0.00	0
SESARM	GA	Scherer	6257	1	2,233.25	809.96	-1423.29
SESARM	GA	Scherer	6257	2	2,316.44	1,429.08	-887.37
SESARM	GA	Scherer	6257	3	4,010.14	4,010.14	0
SESARM	GA	Scherer	6257	4	3,743.59	1,842.06	-1901.54
SESARM	GA	Wansley (6052)	6052	1	779.43	779.43	0
SESARM	GA	Wansley (6052)	6052	2	457.62	457.62	0
SESARM	GA	Yates	728	Y1BR	0.00	0.00	0
SESARM	GA	Yates	728	Y2BR	0.00	0.00	0
SESARM	GA	Yates	728	Y3BR	0.00	0.00	0
SESARM	GA	Yates	728	Y4BR	0.00	0.00	0
SESARM	GA	Yates	728	Y5BR	0.00	0.00	0
SESARM	KY	Big Sandy	1353	BSU2	0.00	0.00	0
SESARM	KY	Cane Run	1363	4	0.00	0.00	0
SESARM	KY	Cane Run	1363	5	0.00	0.00	0
SESARM	KY	Cane Run	1363	6	0.00	0.00	0
SESARM	KY	Coleman	1381	C1	0.00	0.00	0
SESARM	KY	Coleman	1381	C2	0.00	0.00	0
SESARM	KY	Coleman	1381	C3	0.00	0.00	0
SESARM	KY	D B Wilson	6823	W1	730.79	576.71	-154.07
SESARM	KY	E W Brown	1355	1	404.86	404.86	0
SESARM	KY	E W Brown	1355	2	709.79	709.79	0
SESARM	KY	E W Brown	1355	3	336.91	336.91	0
SESARM	KY	East Bend	6018	2	1,900.01	1,168.54	-731.47
SESARM	KY	Elmer Smith	1374	1	0.00	0.00	0
SESARM	KY	Elmer Smith	1374	2	0.00	0.00	0
SESARM	KY	Ghent	1356	1	985.80	696.23	-289.57
SESARM	KY	Ghent	1356	2	2,078.51	2,078.51	0
SESARM	KY	Ghent	1356	3	1,362.77	685.59	-677.18
SESARM	KY	Ghent	1356	4	746.53	400.64	-345.9
SESARM	KY	Green River	1357	4	0.00	0.00	0
SESARM	KY	Green River	1357	5	0.00	0.00	0
SESARM	KY	H L Spurlock	6041	1	495.17	453.13	-42.04
SESARM	KY	H L Spurlock	6041	2	972.64	904.88	-67.76
SESARM	KY	H L Spurlock	6041	3	436.73	436.73	0
SESARM	KY	H L Spurlock	6041	4	440.94	440.94	0
SESARM	KY	HMP&L Station 2	1382	H1	307.74	307.74	0
SESARM	KY	HMP&L Station 2	1382	H2	303.49	303.49	0
SESARM	KY	John S. Cooper	1384	1	883.13	883.13	0
SESARM	KY	John S. Cooper	1384	2	173.66	173.66	0
SESARM	KY	Mill Creek	1364	1	2,059.20	2,059.20	0
SESARM	KY	Mill Creek	1364	2	2,189.94	2,189.94	0
SESARM	KY	Mill Creek	1364	3	374.33	337.71	-36.62
SESARM	KY	Mill Creek	1364	4	1,152.91	670.94	-481.96

Impact of Wintertime SCR/SNRC Optimization on Visibility Impairing Nitrate Precursor Emissions

RPO	St.	Facility Name	Orispl	Unit ID	Base	BOR	Difference
SESARM	KY	Paradise	1378	1	0.00	0.00	0
SESARM	KY	Paradise	1378	2	0.00	0.00	0
SESARM	KY	Paradise	1378	3	2,227.15	1,600.97	-626.17
SESARM	KY	R D Green	6639	G1	1,391.02	1,391.02	0
SESARM	KY	R D Green	6639	G2	1,224.61	1,224.61	0
SESARM	KY	Robert Reid	1383	R1	0.00	0.00	0
SESARM	KY	Shawnee	1379	1	116.82	116.82	0
SESARM	KY	Shawnee	1379	10	0.00	0.00	0
SESARM	KY	Shawnee	1379	2	1,181.67	1,181.67	0
SESARM	KY	Shawnee	1379	3	1,181.41	1,181.41	0
SESARM	KY	Shawnee	1379	4	115.42	115.42	0
SESARM	KY	Shawnee	1379	5	1,313.23	1,313.23	0
SESARM	KY	Shawnee	1379	6	931.73	931.73	0
SESARM	KY	Shawnee	1379	7	1,007.34	1,007.34	0
SESARM	KY	Shawnee	1379	8	987.06	987.06	0
SESARM	KY	Shawnee	1379	9	882.42	882.42	0
SESARM	KY	Trimble County	6071	1	725.31	725.31	0
SESARM	KY	Trimble County	6071	2	633.49	633.49	0
SESARM	KY	Tyrone	1361	5	0.00	0.00	0
SESARM	KY	William C. Dale	1385	1	0.00	0.00	0
SESARM	KY	William C. Dale	1385	2	0.00	0.00	0
SESARM	KY	William C. Dale	1385	3	0.00	0.00	0
SESARM	KY	William C. Dale	1385	4	0.00	0.00	0
SESARM	MS	Daniel Electric Generating Plant	6073	1	984.49	984.49	0
SESARM	MS	Daniel Electric Generating Plant	6073	2	377.10	377.10	0
SESARM	MS	R D Morrow Senior Generating Plant	6061	1	848.49	848.49	0
SESARM	MS	R D Morrow Senior Generating Plant	6061	2	1,170.65	1,170.65	0
SESARM	MS	Red Hills Generation Facility	55076	AA001	560.95	560.95	0
SESARM	MS	Red Hills Generation Facility	55076	AA002	738.52	738.52	0
SESARM	NC	Asheville	2706	1	0.00	0.00	0
SESARM	NC	Asheville	2706	2	0.00	0.00	0
SESARM	NC	Belews Creek	8042	1	1,343.74	1,343.74	0
SESARM	NC	Belews Creek	8042	2	1,380.02	770.66	-609.36
SESARM	NC	Buck	2720	5	0.00	0.00	0
SESARM	NC	Buck	2720	6	0.00	0.00	0
SESARM	NC	Buck	2720	7	0.00	0.00	0
SESARM	NC	Buck	2720	8	0.00	0.00	0
SESARM	NC	Buck	2720	9	0.00	0.00	0
SESARM	NC	Cape Fear	2708	5	0.00	0.00	0
SESARM	NC	Cape Fear	2708	6	0.00	0.00	0
SESARM	NC	Cliffside	2721	1	0.00	0.00	0
SESARM	NC	Cliffside	2721	2	0.00	0.00	0
SESARM	NC	Cliffside	2721	3	0.00	0.00	0
SESARM	NC	Cliffside	2721	4	0.00	0.00	0
SESARM	NC	Cliffside	2721	5	249.50	90.73	-158.77
SESARM	NC	Cliffside	2721	6	698.96	698.96	0
SESARM	NC	Dan River	2723	1	0.00	0.00	0
SESARM	NC	Dan River	2723	2	0.00	0.00	0
SESARM	NC	Dan River	2723	3	0.00	0.00	0
SESARM	NC	Elizabethtown Power	10380	UNIT1	0.00	0.00	0
SESARM	NC	Elizabethtown Power	10380	UNIT2	0.00	0.00	0
SESARM	NC	G G Allen	2718	1	0.00	0.00	0
SESARM	NC	G G Allen	2718	2	0.00	0.00	0
SESARM	NC	G G Allen	2718	3	0.00	0.00	0
SESARM	NC	G G Allen	2718	4	176.36	176.36	0
SESARM	NC	G G Allen	2718	5	157.85	157.85	0
SESARM	NC	H F Lee Steam Electric Plant	2709	1	0.00	0.00	0
SESARM	NC	H F Lee Steam Electric Plant	2709	2	0.00	0.00	0
SESARM	NC	H F Lee Steam Electric Plant	2709	3	0.00	0.00	0
SESARM	NC	L V Sutton	2713	1	0.00	0.00	0

Impact of Wintertime SCR/SNRC Optimization on Visibility Impairing Nitrate Precursor Emissions

RPO	St.	Facility Name	Orispl	Unit ID	Base	BOR	Difference
SESARM	NC	L V Sutton	2713	2	0.00	0.00	0
SESARM	NC	L V Sutton	2713	3	0.00	0.00	0
SESARM	NC	Lumberton Power	10382	UNIT1	0.00	0.00	0
SESARM	NC	Lumberton Power	10382	UNIT2	0.00	0.00	0
SESARM	NC	Marshall	2727	1	426.84	327.46	-99.38
SESARM	NC	Marshall	2727	2	662.70	530.22	-132.49
SESARM	NC	Marshall	2727	3	834.09	546.09	-288
SESARM	NC	Marshall	2727	4	1,707.68	1,366.79	-340.89
SESARM	NC	Mayo	6250	1A	357.36	186.40	-170.95
SESARM	NC	Mayo	6250	1B	323.74	167.64	-156.1
SESARM	NC	Riverbend	2732	10	0.00	0.00	0
SESARM	NC	Riverbend	2732	7	0.00	0.00	0
SESARM	NC	Riverbend	2732	8	0.00	0.00	0
SESARM	NC	Riverbend	2732	9	0.00	0.00	0
SESARM	NC	Roxboro	2712	1	398.83	235.36	-163.48
SESARM	NC	Roxboro	2712	2	570.97	416.97	-154
SESARM	NC	Roxboro	2712	3A	393.88	211.22	-182.67
SESARM	NC	Roxboro	2712	3B	368.67	195.42	-173.24
SESARM	NC	Roxboro	2712	4A	309.60	211.16	-98.44
SESARM	NC	Roxboro	2712	4B	279.95	189.31	-90.64
SESARM	NC	W H Weatherspoon	2716	1	0.00	0.00	0
SESARM	NC	W H Weatherspoon	2716	2	0.00	0.00	0
SESARM	NC	W H Weatherspoon	2716	3	0.00	0.00	0
SESARM	NC	Westmoreland Partners Roanoke Valley II	54755	2	45.55	45.55	0
SESARM	NC	Westmoreland-LG&E Roanoke Valley I	54035	1	217.14	217.14	0
SESARM	SC	Canadys Steam	3280	CAN1	0.00	0.00	0
SESARM	SC	Canadys Steam	3280	CAN2	0.00	0.00	0
SESARM	SC	Canadys Steam	3280	CAN3	0.00	0.00	0
SESARM	SC	Cope Station	7210	COP1	295.14	295.14	0
SESARM	SC	Cross	130	1	868.88	868.88	0
SESARM	SC	Cross	130	2	0.00	0.00	0
SESARM	SC	Cross	130	3	390.09	390.09	0
SESARM	SC	Cross	130	4	367.77	367.77	0
SESARM	SC	Dolphus M Grainger	3317	1	0.00	0.00	0
SESARM	SC	Dolphus M Grainger	3317	2	0.00	0.00	0
SESARM	SC	H B Robinson	3251	1	0.00	0.00	0
SESARM	SC	Jefferies	3319	3	0.00	0.00	0
SESARM	SC	Jefferies	3319	4	0.00	0.00	0
SESARM	SC	W S Lee	3264	1	0.00	0.00	0
SESARM	SC	W S Lee	3264	2	0.00	0.00	0
SESARM	SC	Wateree	3297	WAT1	306.91	184.37	-122.54
SESARM	SC	Wateree	3297	WAT2	297.80	190.26	-107.54
SESARM	SC	Williams	3298	WIL1	418.33	205.25	-213.09
SESARM	SC	Winyah	6249	1	215.45	155.75	-59.69
SESARM	SC	Winyah	6249	2	185.63	129.88	-55.75
SESARM	SC	Winyah	6249	3	181.78	156.98	-24.8
SESARM	SC	Winyah	6249	4	224.99	190.11	-34.88
SESARM	TN	Allen	3393	1	0.00	0.00	0
SESARM	TN	Allen	3393	2	0.00	0.00	0
SESARM	TN	Allen	3393	3	0.00	0.00	0
SESARM	TN	Bull Run	3396	1	174.44	174.44	0
SESARM	TN	Cumberland	3399	1	977.10	931.44	-45.66
SESARM	TN	Cumberland	3399	2	1,802.96	1,802.96	0
SESARM	TN	Gallatin	3403	1	166.83	166.83	0
SESARM	TN	Gallatin	3403	2	163.78	163.78	0
SESARM	TN	Gallatin	3403	3	199.77	199.77	0
SESARM	TN	Gallatin	3403	4	201.21	201.21	0
SESARM	TN	John Sevier	3405	1	0.00	0.00	0
SESARM	TN	John Sevier	3405	2	0.00	0.00	0
SESARM	TN	John Sevier	3405	3	0.00	0.00	0

Impact of Wintertime SCR/SNRC Optimization on Visibility Impairing Nitrate Precursor Emissions

RPO	St.	Facility Name	Orispl	Unit ID	Base	BOR	Difference
SESARM	TN	John Sevier	3405	4	0.00	0.00	0
SESARM	TN	Johnsonville	3406	1	0.00	0.00	0
SESARM	TN	Johnsonville	3406	10	0.00	0.00	0
SESARM	TN	Johnsonville	3406	2	0.00	0.00	0
SESARM	TN	Johnsonville	3406	3	0.00	0.00	0
SESARM	TN	Johnsonville	3406	4	0.00	0.00	0
SESARM	TN	Johnsonville	3406	5	0.00	0.00	0
SESARM	TN	Johnsonville	3406	6	0.00	0.00	0
SESARM	TN	Johnsonville	3406	7	0.00	0.00	0
SESARM	TN	Johnsonville	3406	8	0.00	0.00	0
SESARM	TN	Johnsonville	3406	9	0.00	0.00	0
SESARM	TN	Kingston	3407	1	118.81	86.41	-32.4
SESARM	TN	Kingston	3407	2	50.75	41.21	-9.54
SESARM	TN	Kingston	3407	3	114.09	84.22	-29.86
SESARM	TN	Kingston	3407	4	112.40	88.25	-24.15
SESARM	TN	Kingston	3407	5	103.17	81.74	-21.43
SESARM	TN	Kingston	3407	6	46.43	37.19	-9.24
SESARM	TN	Kingston	3407	7	89.64	67.50	-22.14
SESARM	TN	Kingston	3407	8	45.47	36.96	-8.52
SESARM	TN	Kingston	3407	9	79.33	60.48	-18.85
SESARM	VA	Altavista Power Station	10773	1	0.00	0.00	0
SESARM	VA	Altavista Power Station	10773	2	0.00	0.00	0
SESARM	VA	Birchwood Power Facility	54304	001	79.66	79.66	0
SESARM	VA	Chesapeake Energy Center	3803	1	0.00	0.00	0
SESARM	VA	Chesapeake Energy Center	3803	2	0.00	0.00	0
SESARM	VA	Chesapeake Energy Center	3803	3	0.00	0.00	0
SESARM	VA	Chesapeake Energy Center	3803	4	0.00	0.00	0
SESARM	VA	Chesterfield Power Station	3797	3	95.37	95.37	0
SESARM	VA	Chesterfield Power Station	3797	4	87.54	44.17	-43.37
SESARM	VA	Chesterfield Power Station	3797	5	135.42	68.75	-66.67
SESARM	VA	Chesterfield Power Station	3797	6	253.58	155.69	-97.9
SESARM	VA	Clinch River	3775	3	0.00	0.00	0
SESARM	VA	Clover Power Station	7213	1	1,322.05	1,322.05	0
SESARM	VA	Clover Power Station	7213	2	1,401.33	1,401.33	0
SESARM	VA	Cogentrix-Hopewell	10377	BLR01A	75.41	75.41	0
SESARM	VA	Cogentrix-Hopewell	10377	BLR01B	57.17	57.17	0
SESARM	VA	Cogentrix-Hopewell	10377	BLR01C	74.40	74.40	0
SESARM	VA	Cogentrix-Hopewell	10377	BLR02A	65.68	65.68	0
SESARM	VA	Cogentrix-Hopewell	10377	BLR02B	45.00	45.00	0
SESARM	VA	Cogentrix-Hopewell	10377	BLR02C	44.80	44.80	0
SESARM	VA	Cogentrix-Portsmouth	10071	BLR01A	0.00	0.00	0
SESARM	VA	Cogentrix-Portsmouth	10071	BLR01B	0.00	0.00	0
SESARM	VA	Cogentrix-Portsmouth	10071	BLR01C	0.00	0.00	0
SESARM	VA	Cogentrix-Portsmouth	10071	BLR02A	0.00	0.00	0
SESARM	VA	Cogentrix-Portsmouth	10071	BLR02B	0.00	0.00	0
SESARM	VA	Cogentrix-Portsmouth	10071	BLR02C	0.00	0.00	0
SESARM	VA	Glen Lyn	3776	51	0.00	0.00	0
SESARM	VA	Glen Lyn	3776	52	0.00	0.00	0
SESARM	VA	Glen Lyn	3776	6	0.00	0.00	0
SESARM	VA	Hopewell Power Station	10771	1	0.00	0.00	0
SESARM	VA	Hopewell Power Station	10771	2	0.00	0.00	0
SESARM	VA	Mecklenburg Power Station	52007	1	52.71	52.71	0
SESARM	VA	Mecklenburg Power Station	52007	2	55.98	55.98	0
SESARM	VA	Mirant Potomac River	3788	1	0.00	0.00	0
SESARM	VA	Mirant Potomac River	3788	2	0.00	0.00	0
SESARM	VA	Mirant Potomac River	3788	3	0.00	0.00	0
SESARM	VA	Mirant Potomac River	3788	4	0.00	0.00	0
SESARM	VA	Mirant Potomac River	3788	5	0.00	0.00	0
SESARM	VA	Southampton Power Station	10774	1	0.00	0.00	0
SESARM	VA	Southampton Power Station	10774	2	0.00	0.00	0

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RPO	St.	Facility Name	Orispl	Unit ID	Base	BOR	Difference
SESARM	VA	Spruance Genco, LLC	54081	BLR01A	109.61	109.61	0
SESARM	VA	Spruance Genco, LLC	54081	BLR01B	118.07	118.07	0
SESARM	VA	Spruance Genco, LLC	54081	BLR02A	119.63	119.63	0
SESARM	VA	Spruance Genco, LLC	54081	BLR02B	118.16	118.16	0
SESARM	VA	Spruance Genco, LLC	54081	BLR03A	116.16	116.16	0
SESARM	VA	Spruance Genco, LLC	54081	BLR03B	118.66	118.66	0
SESARM	VA	Spruance Genco, LLC	54081	BLR04A	98.24	98.24	0
SESARM	VA	Spruance Genco, LLC	54081	BLR04B	93.34	93.34	0
SESARM	VA	Virginia City Hybrid Energy Center	56808	1	453.23	453.23	0
SESARM	VA	Virginia City Hybrid Energy Center	56808	2	419.44	419.44	0
SESARM	VA	Yorktown Power Station	3809	1	0.00	0.00	0
SESARM	VA	Yorktown Power Station	3809	2	0.00	0.00	0
SESARM	WV	Albright Power Station	3942	1	0.00	0.00	0
SESARM	WV	Albright Power Station	3942	2	0.00	0.00	0
SESARM	WV	Albright Power Station	3942	3	0.00	0.00	0
SESARM	WV	Fort Martin Power Station	3943	1	3,856.71	3,856.71	0
SESARM	WV	Fort Martin Power Station	3943	2	3,964.71	3,964.71	0
SESARM	WV	Grant Town Power Plant	10151	1A	497.46	497.46	0
SESARM	WV	Grant Town Power Plant	10151	1B	488.67	488.67	0
SESARM	WV	Harrison Power Station	3944	1	3,275.75	1,438.23	-1837.52
SESARM	WV	Harrison Power Station	3944	2	3,299.07	1,272.83	-2026.23
SESARM	WV	Harrison Power Station	3944	3	3,266.44	3,266.44	0
SESARM	WV	John E Amos	3935	1	750.57	564.25	-186.32
SESARM	WV	John E Amos	3935	2	856.52	584.34	-272.18
SESARM	WV	John E Amos	3935	3	1,022.68	1,022.68	0
SESARM	WV	Kammer	3947	1	0.00	0.00	0
SESARM	WV	Kammer	3947	2	0.00	0.00	0
SESARM	WV	Kammer	3947	3	0.00	0.00	0
SESARM	WV	Kanawha River	3936	1	0.00	0.00	0
SESARM	WV	Kanawha River	3936	2	0.00	0.00	0
SESARM	WV	Longview Power	56671	001	915.48	915.48	0
SESARM	WV	Mitchell (WV)	3948	1	632.15	632.15	0
SESARM	WV	Mitchell (WV)	3948	2	925.19	925.19	0
SESARM	WV	Mount Storm Power Station	3954	1	391.08	315.83	-75.25
SESARM	WV	Mount Storm Power Station	3954	2	324.99	249.11	-75.87
SESARM	WV	Mount Storm Power Station	3954	3	334.85	334.85	0
SESARM	WV	Mountaineer (1301)	6264	1	1,421.90	1,052.13	-369.77
SESARM	WV	Phil Sporn	3938	11	0.00	0.00	0
SESARM	WV	Phil Sporn	3938	21	0.00	0.00	0
SESARM	WV	Phil Sporn	3938	31	0.00	0.00	0
SESARM	WV	Phil Sporn	3938	41	0.00	0.00	0
SESARM	WV	Phil Sporn	3938	51	0.00	0.00	0
SESARM	WV	Pleasants Power Station	6004	1	2,311.41	1,131.08	-1180.33
SESARM	WV	Pleasants Power Station	6004	2	1,795.10	935.11	-859.99
SESARM	WV	Rivesville Power Station	3945	7	0.00	0.00	0
SESARM	WV	Rivesville Power Station	3945	8	0.00	0.00	0
SESARM	WV	Willow Island Power Station	3946	1	0.00	0.00	0
SESARM	WV	Willow Island Power Station	3946	2	0.00	0.00	0
SESARM	WV	Morgantown Energy Associates	10743	CFB1	212.05	212.05	0
SESARM	WV	Morgantown Energy Associates	10743	CFB2	211.03	211.03	0
CENSARA	AR	Flint Creek Power Plant	6138	1	2,943.88	2,943.88	0
CENSARA	AR	Independence	6641	1	4,282.36	4,282.36	0
CENSARA	AR	Independence	6641	2	4,038.27	4,038.27	0
CENSARA	AR	John W. Turk Jr. Power Plant	56564	SN-01	547.45	547.45	0
CENSARA	AR	Plum Point Energy Station	56456	1	924.01	924.01	0
CENSARA	AR	White Bluff	6009	1	3,416.40	3,416.40	0
CENSARA	AR	White Bluff	6009	2	5,072.31	5,072.31	0
CENSARA	IA	Dubuque	1046	1	0.00	0.00	0
CENSARA	IA	Dubuque	1046	5	0.00	0.00	0
CENSARA	IA	Dubuque	1046	6	0.00	0.00	0

Impact of Wintertime SCR/SNRC Optimization on Visibility Impairing Nitrate Precursor Emissions

RPO	St.	Facility Name	Orispl	Unit ID	Base	BOR	Difference
CENSARA	IA	Fair Station	1218	2	0.00	0.00	0
CENSARA	IA	George Neal North	1091	1	0.00	0.00	0
CENSARA	IA	George Neal North	1091	2	0.00	0.00	0
CENSARA	IA	George Neal North	1091	3	1,798.19	1,798.19	0
CENSARA	IA	George Neal South	7343	4	2,601.58	2,390.56	-211.02
CENSARA	IA	Lansing	1047	3	0.00	0.00	0
CENSARA	IA	Lansing	1047	4	261.82	261.82	0
CENSARA	IA	Louisa	6664	101	1,800.13	1,800.13	0
CENSARA	IA	Muscatine	1167	8	1,581.79	1,581.79	0
CENSARA	IA	Muscatine	1167	9	297.99	297.99	0
CENSARA	IA	Ottumwa	6254	1	744.55	744.55	0
CENSARA	IA	Pella	1175	6	0.00	0.00	0
CENSARA	IA	Pella	1175	7	0.00	0.00	0
CENSARA	IA	Sutherland	1077	1	0.00	0.00	0
CENSARA	IA	Sutherland	1077	3	0.00	0.00	0
CENSARA	IA	Walter Scott Jr. Energy Center	1082	1	0.00	0.00	0
CENSARA	IA	Walter Scott Jr. Energy Center	1082	2	0.00	0.00	0
CENSARA	IA	Walter Scott Jr. Energy Center	1082	3	3,252.00	3,252.00	0
CENSARA	IA	Walter Scott Jr. Energy Center	1082	4	782.32	782.32	0
CENSARA	KS	Holcomb	108	SGU1	1,321.80	1,321.80	0
CENSARA	KS	Jeffrey Energy Center	6068	1	1,271.87	1,271.87	0
CENSARA	KS	Jeffrey Energy Center	6068	2	1,345.42	1,345.42	0
CENSARA	KS	Jeffrey Energy Center	6068	3	2,001.34	2,001.34	0
CENSARA	KS	La Cygne	1241	1	978.56	863.75	-114.81
CENSARA	KS	La Cygne	1241	2	3,729.42	1,955.61	-1773.81
CENSARA	KS	Lawrence Energy Center	1250	3	0.00	0.00	0
CENSARA	KS	Lawrence Energy Center	1250	4	417.12	417.12	0
CENSARA	KS	Lawrence Energy Center	1250	5	1,242.41	1,242.41	0
CENSARA	KS	Nearman Creek	6064	N1	1,527.45	1,527.45	0
CENSARA	KS	Riverton	1239	39	0.00	0.00	0
CENSARA	KS	Riverton	1239	40	0.00	0.00	0
CENSARA	KS	Tecumseh Energy Center	1252	10	0.00	0.00	0
CENSARA	KS	Tecumseh Energy Center	1252	9	237.74	237.74	0
CENSARA	LA	Big Cajun 2	6055	2B1	688.93	688.93	0
CENSARA	LA	Dolet Hills Power Station	51	1	2,775.43	2,775.43	0
CENSARA	LA	Nelson Industrial Steam Company	50030	1A	439.98	439.98	0
CENSARA	LA	Nelson Industrial Steam Company	50030	2A	438.61	438.61	0
CENSARA	LA	R S Nelson	1393	6	1,976.99	1,976.99	0
CENSARA	LA	Rodemacher Power Station (6190)	6190	2	1,302.62	1,302.62	0
CENSARA	LA	Rodemacher Power Station (6190)	6190	3-1	196.84	196.84	0
CENSARA	LA	Rodemacher Power Station (6190)	6190	3-2	256.72	256.72	0
CENSARA	MO	Asbury	2076	1	1,503.01	1,503.01	0
CENSARA	MO	Chamois Power Plant	2169	2	0.00	0.00	0
CENSARA	MO	Columbia	2123	6	60.53	60.53	0
CENSARA	MO	Columbia	2123	7	76.89	76.89	0
CENSARA	MO	Hawthorn	2079	5A	782.88	782.88	0
CENSARA	MO	Iatan	6065	1	836.76	836.76	0
CENSARA	MO	Iatan	6065	2	674.93	674.93	0
CENSARA	MO	John Twitty Energy Center	6195	1	333.36	333.36	0
CENSARA	MO	John Twitty Energy Center	6195	2	407.37	407.37	0
CENSARA	MO	Labadie	2103	1	1,334.89	1,334.89	0
CENSARA	MO	Labadie	2103	2	1,464.99	1,464.99	0
CENSARA	MO	Labadie	2103	3	1,386.43	1,386.43	0
CENSARA	MO	Labadie	2103	4	1,495.00	1,495.00	0
CENSARA	MO	Lake Road	2098	6	0.00	0.00	0
CENSARA	MO	Meramec	2104	1	0.00	0.00	0
CENSARA	MO	Meramec	2104	2	0.00	0.00	0
CENSARA	MO	Meramec	2104	3	0.00	0.00	0
CENSARA	MO	Meramec	2104	4	0.00	0.00	0
CENSARA	MO	Montrose	2080	1	0.00	0.00	0

Impact of Wintertime SCR/SNRC Optimization on Visibility Impairing Nitrate Precursor Emissions

RPO	St.	Facility Name	Orispl	Unit ID	Base	BOR	Difference
CENSARA	MO	New Madrid Power Plant	2167	1	1,852.79	1,302.74	-550.04
CENSARA	MO	New Madrid Power Plant	2167	2	1,412.25	831.80	-580.45
CENSARA	MO	Rush Island	6155	1	913.29	913.29	0
CENSARA	MO	Rush Island	6155	2	1,063.91	1,063.91	0
CENSARA	MO	Sibley	2094	3	0.00	0.00	0
CENSARA	MO	Sikeston	6768	1	1,283.04	831.71	-451.33
CENSARA	MO	Sioux	2107	1	1,347.62	1,347.62	0
CENSARA	MO	Sioux	2107	2	1,943.83	1,943.83	0
CENSARA	MO	Thomas Hill Energy Center	2168	MB1	595.07	595.07	0
CENSARA	MO	Thomas Hill Energy Center	2168	MB2	685.26	685.26	0
CENSARA	MO	Thomas Hill Energy Center	2168	MB3	2,238.46	1,842.51	-395.95
CENSARA	NE	Gerald Gentleman Station	6077	1	3,058.78	3,058.78	0
CENSARA	NE	Gerald Gentleman Station	6077	2	5,487.51	5,487.51	0
CENSARA	NE	Gerald Whelan Energy Center	60	1	561.32	561.32	0
CENSARA	NE	Gerald Whelan Energy Center	60	2	137.36	137.36	0
CENSARA	NE	Lon D Wright Power Plant	2240	8	268.93	268.93	0
CENSARA	NE	Nebraska City Station	6096	1	2,879.47	2,879.47	0
CENSARA	NE	Nebraska City Station	6096	2	867.72	867.72	0
CENSARA	NE	North Omaha Station	2291	1	515.34	515.34	0
CENSARA	NE	North Omaha Station	2291	2	560.14	560.14	0
CENSARA	NE	North Omaha Station	2291	3	594.70	594.70	0
CENSARA	NE	North Omaha Station	2291	4	718.39	718.39	0
CENSARA	NE	North Omaha Station	2291	5	1,359.35	1,359.35	0
CENSARA	NE	Platte	59	1	676.03	676.03	0
CENSARA	NE	Sheldon	2277	1	2,282.38	2,282.38	0
CENSARA	NE	Sheldon	2277	2	1,580.65	1,580.65	0
CENSARA	OK	AES Shady Point	10671	1A	246.32	246.32	0
CENSARA	OK	AES Shady Point	10671	1B	203.90	203.90	0
CENSARA	OK	AES Shady Point	10671	2A	222.77	222.77	0
CENSARA	OK	AES Shady Point	10671	2B	228.02	228.02	0
CENSARA	OK	Grand River Dam Authority	165	1	0.00	0.00	0
CENSARA	OK	Grand River Dam Authority	165	2	1,938.26	1,938.26	0
CENSARA	OK	Hugo	6772	1	1,464.79	1,464.79	0
CENSARA	OK	Muskogee	2952	6	2,731.91	2,731.91	0
CENSARA	OK	Northeastern	2963	3313	0.00	0.00	0
CENSARA	OK	Northeastern	2963	3314	0.00	0.00	0
CENSARA	OK	Sooner	6095	1	1,249.20	1,249.20	0
CENSARA	OK	Sooner	6095	2	1,328.20	1,328.20	0
CENSARA	TX	AES Deepwater, Inc.	10670	01001	0.00	0.00	0
CENSARA	TX	Big Brown	3497	1	1,130.75	1,092.26	-38.48
CENSARA	TX	Big Brown	3497	2	1,364.12	1,328.36	-35.76
CENSARA	TX	Coletto Creek	6178	1	974.29	974.29	0
CENSARA	TX	Gibbons Creek Steam Electric Station	6136	1	869.62	869.62	0
CENSARA	TX	H W Pirkey Power Plant	7902	1	2,310.08	2,310.08	0
CENSARA	TX	Harrington Station	6193	061B	815.91	815.91	0
CENSARA	TX	Harrington Station	6193	062B	794.94	794.94	0
CENSARA	TX	Harrington Station	6193	063B	780.59	780.59	0
CENSARA	TX	J K Spruce	7097	**1	1,218.22	1,218.22	0
CENSARA	TX	J K Spruce	7097	**2	563.83	563.83	0
CENSARA	TX	J T Deely	6181	1	0.00	0.00	0
CENSARA	TX	J T Deely	6181	2	0.00	0.00	0
CENSARA	TX	Limestone	298	LIM1	2,964.96	2,964.96	0
CENSARA	TX	Limestone	298	LIM2	3,358.46	3,358.46	0
CENSARA	TX	Martin Lake	6146	1	2,482.70	2,482.70	0
CENSARA	TX	Martin Lake	6146	2	2,289.96	2,289.96	0
CENSARA	TX	Martin Lake	6146	3	2,227.89	2,227.89	0
CENSARA	TX	Monticello	6147	1	1,220.42	1,220.42	0
CENSARA	TX	Monticello	6147	2	894.12	872.34	-21.78
CENSARA	TX	Monticello	6147	3	1,941.96	1,728.21	-213.75
CENSARA	TX	Oak Grove 1	6180	1	1,039.17	1,039.17	0

Impact of Wintertime SCR/SNRC Optimization on Visibility Impairing Nitrate Precursor Emissions

RPO	St.	Facility Name	Orispl	Unit ID	Base	BOR	Difference
CENSARA	TX	Oak Grove 2	6180	2	810.30	810.30	0
CENSARA	TX	Oklunion Power Station	127	1	2,447.23	2,447.23	0
CENSARA	TX	Sam Seymour	6179	1	1,102.92	1,102.92	0
CENSARA	TX	Sam Seymour	6179	2	1,108.58	1,108.58	0
CENSARA	TX	Sam Seymour	6179	3	763.06	763.06	0
CENSARA	TX	San Miguel	6183	SM-1	1,393.96	1,393.96	0
CENSARA	TX	Sadow	6648	4	584.65	584.65	0
CENSARA	TX	Sadow 5	52071	5A	309.52	309.52	0
CENSARA	TX	Sadow 5	52071	5B	235.03	235.03	0
CENSARA	TX	Sandy Creek	56611	S01	440.75	440.75	0
CENSARA	TX	Tolk Station	6194	171B	2,307.83	2,307.83	0
CENSARA	TX	Tolk Station	6194	172B	1,333.66	1,333.66	0
CENSARA	TX	Twin Oaks Power, LP	7030	U1	428.13	428.13	0
CENSARA	TX	Twin Oaks Power, LP	7030	U2	600.46	600.46	0
CENSARA	TX	W A Parish	3470	WAP5	455.85	455.85	0
CENSARA	TX	W A Parish	3470	WAP6	626.05	626.05	0
CENSARA	TX	W A Parish	3470	WAP7	344.63	344.63	0
CENSARA	TX	W A Parish	3470	WAP8	457.92	457.92	0
CENSARA	TX	Welsh Power Plant	6139	1	2,397.10	2,397.10	0
CENSARA	TX	Welsh Power Plant	6139	2	0.00	0.00	0
CENSARA	TX	Welsh Power Plant	6139	3	2,132.07	2,132.07	0