Appendix N

Report - Growing the 1993 Base Case Inventory for the August 31, 993 - September 2, 1993 COAST Episode to the Year 2007

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Growing the 1993 Base Case Inventory for the August 31-September 2, 1993 COAST Episode to the Year 2007

Prepared for:

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1. INTRODUCTION

In the recent past, a limitation in air quality modeling studies has been the time to process emissions inventories to produce data to be used in photochemical modeling. A prototype, emissions modeling system has been created to significantly reduce the time required to perform emissions preprocessing. The Sparse Matrix Operator Kernel Emissions (SMOKE) model was developed to demonstrate using matrix-vector multiplication for efficient emissions processing. It reproduces the core functions of emissions processing (i.e., spatial allocation, temporal allocation, chemical speciation, and growth and control of inventory emissions). For a five-day test case for a regional scale application, SMOKE has previously been shown to be 27 times faster than Emissions Modeling System '95 (EMS-95) for point sources and 38 times faster for area sources (MCNC 1998). A test case comparison was made with the Emissions Preprocessing System version 2 (EPS2) versus SMOKE for an urban scale domain. SMOKE produced significant reductions in computing time and disk space usage (MCNC, 1996).

This report will document the process of growing the Coastal Oxidant Assessment for Southeast Texas (COAST) emissions inventories from the year 1993 to 2007 using the SMOKE modeling system. The COAST inventory components that were grown were the point, area and non-road sources for the Beaumont-Port Arthur episode of August 31-September 2, 1993. The SMOKE generated emissions were then merged with the mobile and biogenic emissions components to create new emissions data for input into the Comprehensive Air Quality Model with Extensions (CAM_X).

2. GROWING BASE CASE EMISSIONS TO THE YEAR 2007

Growth packets for the point, area, and non-road source inventories were acquired from TNRCC. These packets were applied to the 1993 base case emissions using the SMOKE modeling system. Mobile factors were also acquired from TNRCC. These factors are geographical-based factors that take into account environmental, and growth and control changes. These mobile factors were applied using a MCNC pre-processor called *geocuts*. This section documents the process of applying the growth packets and mobile factors to generate a 2007 base case for the August 31-September 2, 1993 episode.

2.1 POINT SOURCE INVENTORY

MCNC acquired EPS2 packets to apply to the point, area and non-road source inventory data from TNRCC. The point source inventory sections were Texas, Louisiana and Offshore sources. The Texas and Louisiana sources were grown using the EPS2 style packets named the following:

1. growth.point.pendleton.93_07
2. control.fact.24%ROP.point.1993_99
3. control.fact.point.hg.ch117.07base
4. control.fact.point.bpa.ch117.07base

Electronic copies of these packets will be made available. Some of the growth packets acquired from TNRCC were in the Fast EPS2 format. In these cases, the Fast EPS2 format packets had to be reformatted to EPS2 format for use with the SMOKE modeling system. Packet 1 was applied to the Louisiana inventory and all of the packets were applied to the Texas inventory. The offshore point sources were not grown, thus the 1993 base case emissions were used for the offshore section of the point source inventory.

2.2 AREA AND NON-ROAD SOURCE INVENTORY

The area and non-road source inventory was also broken up into four sections. The sections consisted of a TNRCC generated inventory (TNRCC AMS), a Systems Applications International (SAI) generated inventory (SAI AMS), an offshore AMS inventory (OS AMS), and a section for the link-based non-road inventory components (LINK AMS) previously in the TNRCC AMS inventory. These area and non-road emission inventories were very similar to the inventories used for the Houston-Galveston episode (September 6-11, 1993). The only difference being the addition of Tyler county emissions. The Tyler county area source emissions were found to be missing in the Houston-Galveston episode. The EPS2 style packets used to grow the area and non-road sources were:

1. egas.grofac.96_07.tnrcc.plane
2. egas.grofac.96_07.tnrcc.marine
3. egas.grofac.96_07.sai.area
4. egas.grofac.96_07.tnrcc.area
5. control.fact.nonr.hg_bpa.1993_07.14Apr99
6. control.fact.nonr.att.1993_07.14Apr99
7. control.fact.nonr.la.1993_07
8. control.factors.area.loco
9. control.factors.area.marine.proposed
10. control.fact.24%ROP.area.1993_99

Electronic copies of these packets will be made available. Some of the growth packets acquired from TNRCC were in the Fast EPS2 format. In these cases, the Fast EPS2 format packets had to be reformatted to EPS2 format for use with the SMOKE modeling system. Packets 1, 2, 4-7, and 9 were applied to the TNRCC AMS inventory. Packets 3, 5-7 and 10 were applied to the SAI AMS. Packets 8 and 9 were applied to the LINK AMS section of the inventory. The offshore area source inventory was not grown, thus the 1993 base case emissions were used for this section of the 2007 base case inventory.

2.3 MOBILE SOURCE INVENTORY

The 2007 mobile source inventory was generated using geographical-based environmental, and growth and control factors. These factors were applied to gridded mobile inventories using a MCNC pre-processor (*geocuts_low.x*), and "mask" files provided by TNRCC. Changes in temperature effect mobile source emissions. The environmental-based factors shown in Table 1 were applied to the 2007 base case for the Houston-Galveston episode (September 6-11, 1993) to adjust for the temperature differences between the two episodes. For example, to generate August 31, 1993 NO_x mobile emissions for the grid cells comprising Harris County, a NO_x factor of 0.998 was applied to the September 7, 1993 gridded mobile emissions. The growth and controls factors were applied after the environmental factors. The growth and control factors also shown in Table 1 were applied to account for various controls not already implemented in previous 2007 mobile source modeling. These additional controls were TIER II, Low Sulfur, and NLEV related changes.

VOC (gram-moles per hour) environmental factors				
Conversion from HG to BPA	Temperature Zone			
	Houston-Harris	Houston-Non-I/M	Galveston	Beaumont
Apply to 9/07/93 to get 8/31/93	0.986	0.989	0.988	1.019
Apply to 9/08/93 to get 9/01/93	0.999	1.001	1.003	1.022
Apply to 9/09/93 to get 9/02/93	1.033	1.030	1.010	1.020
NOx (gram-moles per hour) environmental factors				
Conversion from HG to BPA	Temperature Zone			
	Houston-Harris	Houston-Non-I/M	Galveston	Beaumont
Apply to 9/07/93 to get 8/31/93	0.998	0.998	0.998	1.002
Apply to 9/08/93 to get 9/01/93	1.002	1.002	1.001	1.002
Apply to 9/09/93 to get 9/02/93	1.005	1.005	1.002	1.002
CO (grams-moles per hour) environmental factors				
Conversion from HG to BPA	Temperature Zone			
	Houston-Harris	Houston-Non-I/M	Galveston	Beaumont
Apply to 9/07/93 to get 8/31/93	1.000	1.000	0.999	1.000
Apply to 9/08/93 to get 9/01/93	1.000	1.001	1.000	1.001
Apply to 9/09/93 to get 9/02/93	1.001	1.001	1.000	1.000

Geographical-based control factors		
Region	NO_X	VOC
Houston-Galveston	0.945	0.930
Beaumont-Port Arthur	0.823	0.867
Louisiana	0.823	0.867
Texas Attainment Counties	0.823	0.867

Table 1: Environmental-based and geographical-based factors applied to the Houston-Galveston 2007 base case emissions to generate Beaumont-Port Arthur 2007 base case emissions.

3. QUALITY ASSURANCE AND RESULTS

Previous SMOKE applications using TNRCC inventories had made EPS2 versus SMOKE comparisons to understand if there are any differences in the emissions output data produced from these models. Not all of the growth packets were applied to the TNRCC inventories in a EPS2 modeling exercise. TNRCC and MCNC did do some comparisons with selective parts of the 2007 base case inventory to make sure SMOKE was applying the EPS2 packets in the correct manner. MCNC performed additional tests to validate the SMOKE modeling system while using the growth packets.

The tools used to validate the processing included:

- Package for Analysis and Visualization of Environmental data (PAVE)
- State and county totals
- SCC or ASC totals
- Other SMOKE quality assessment reporting tools.

PAVE and state and county totals were used to confirm growth and control occurred only in the geographical areas desired. In some cases, PAVE and state and county totals could also be used to confirm the magnitude of growth and control desired. Also in some cases, Source Category Code (SCC) and Area Source Code (ASC) totals were examined to confirm that certain sectors (e.g. construction equipment) received the correct changes. An example PAVE plot is shown in Figure 1. This PAVE plot indicates that NO_x TNRCC AMS (non-road) emissions increased up to 163% when grown to the year 2007. The largest increase occurs in Jefferson County. Absolute difference (2007 minus 1993 emissions) plots reveal the NO_x emissions increase in gram-moles per hour. For example, the large percent increases in Harris County are where 1993 emissions were below 100 gram-moles per hour. Percent difference and absolute difference plots were generated and examined for each inventory sector for each day.

(2007 NOx – 1993 NOx) *100 / 1993 NOx

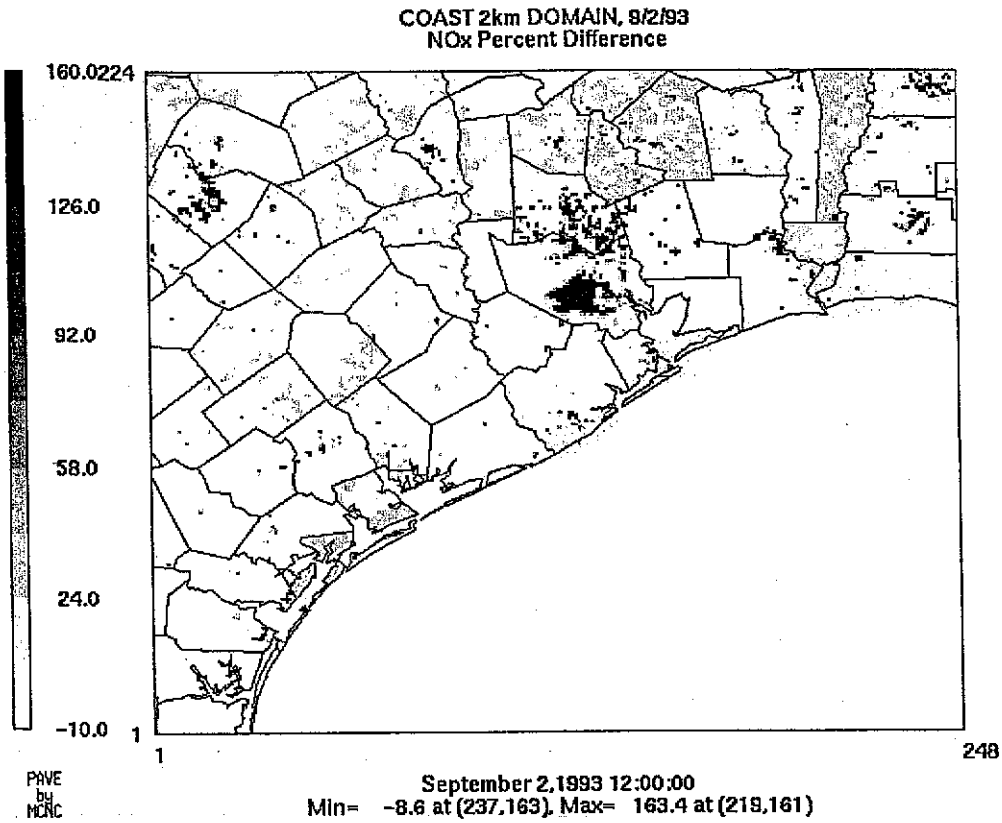

Figure 1: Percent difference emissions plot of the TNRCC AMS gridded inventory for September 2.

PAVE was used to confirm the appropriate mobile factors were applied to the correct geographical areas. Figure 2 illustrates the factor differences between the September 2 and September 7, 2007 mobile emissions. In this example, a factor of 1.005 was applied in Harris County and in the non-Inspection/Maintenance counties (northern half of the eight county Houston-Galveston (HG) region). The southern half of the HG region (Galveston in Table 1) and the three county Beaumont-Port Arthur region were multiplied by 1.002 to obtain September 9, 2007 emissions. The Figure 3 is used to ensure that the growth and control factors have been applied correctly to the September 2, 2007 mobile emissions. The date on the bottom of the PAVE plots is September 9, 2007 because the date was not changed when generating September 2 emissions from the September 9 emissions. The date stamps will not effect processing when the different components of the inventory are merged to produce a comprehensive low-level emissions file for input into CAM_x.

(Sept 2, 2007 NOx) / (Sept 9, 2007 NOx)

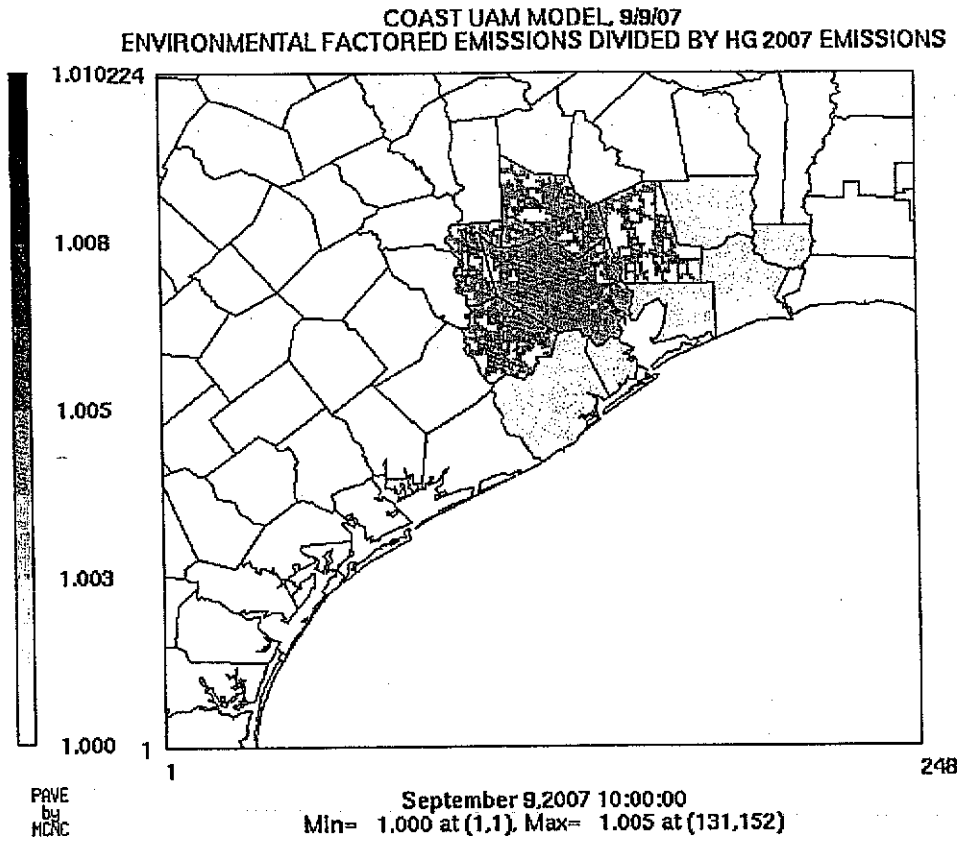

Figure 2: Factor difference, mobile emissions plot for September 2, 2007 after environmental factors have been applied to the September 9, 2007 emissions.

(Sept 2 NOx after control) / (Sept 2 NOx before control)

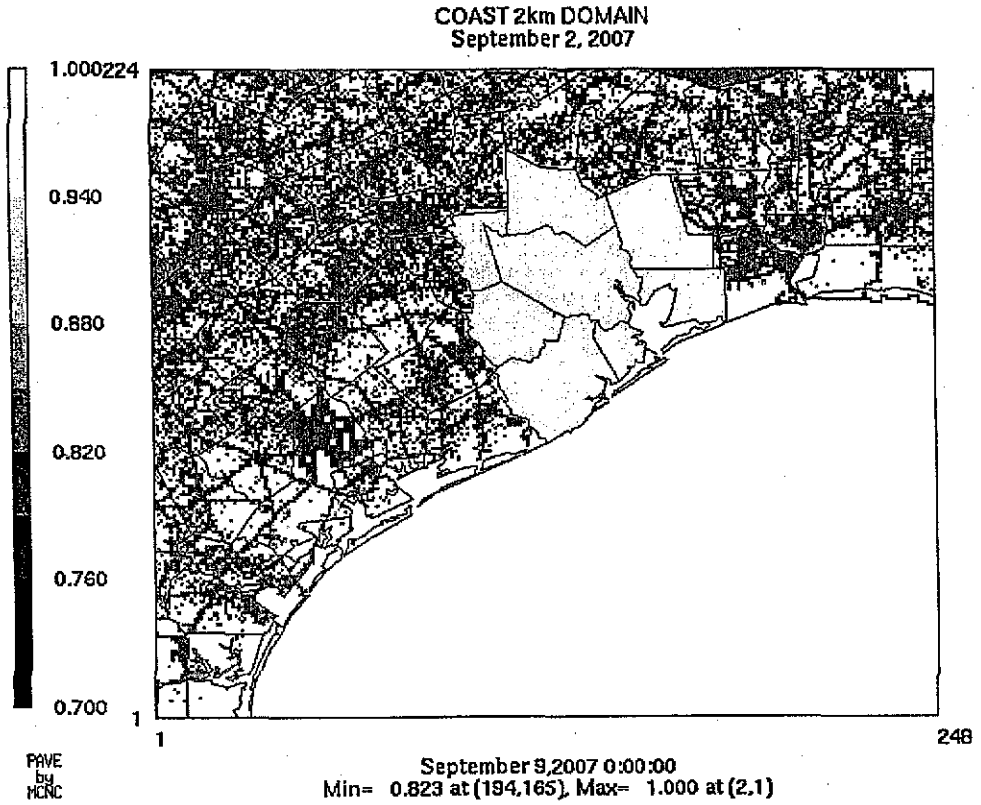

Figure 3: Factor difference, mobile emissions plot for September 2, 2007 after control factors have been applied to the environmentally factored September 2, 2007 emissions.

The state and county emissions totals for point, area and non-road sources for September 2, 1993 are contained in the Appendix. The pollutants included in the Appendix are NO_x, Volatile Organic Compounds (VOC), and Carbon Monoxide (CO). Since the biogenic and mobile source emissions provided by TNRCC were gridded inventories, state and county totals could not be readily generated.

4. SUMMARY AND CONCLUSIONS

EPS2 growth and control packets were applied to the August 31-September 2, 1993 base emissions to generate year 2007 base case emissions. These packets were applied to the point, area and non-road source inventories using the SMOKE modeling system. Geographical-based factors were applied to a gridded mobile inventory to simulate environmental conditions and additional controls for the August 31-September 2, 1993 episode. These factors were applied using a MCNC pre-processor called *geocuts*.

Validation procedures were performed on all inventory components that were grown and controlled to the year 2007. After a review of these emissions, it can be concluded that the base case emissions for the August 31-September 2, 1993 episode received the desired growth and control to the year 2007.

5. REFERENCES

Coats, C. J., Jr.; Houyoux, M. R. "Fast Emissions Modeling with the Sparse Matrix Operator Kernel Emissions Modeling System," Presented at *The Emissions Inventory: Key to Planning, Permits, Compliance, and Reporting,* Air & Waste Mgt. Assoc., New Orleans, LA, September 1996.

Houyoux, M.; Vukovich, J. "Emissions Inventory Development and Processing for the Seasonal Model for Regional Air Quality" Presented at *The Emission Inventory: Living in a Global Environment,* Air & Waste Mgt. Assoc., New Orleans, LA, December 1998.

6. APPENDIX

	2007 Area Link			1993 Area Link			Percent Difference			
FIPS	CO	NOX	VOC	CO	NOX	VOC	CO	NOX	VOC	COUNTY
22003	0.13	0.25	0.09	0.13	0.38	0.10	0.0	-34.2	-10.0	AllenPar
22011	0.18	0.34	0.12	0.18	0.51	0.13	0.0	-33.3	-7.7	BeauregardPar
22019	1.37	4.71	0.85	1.32	5.43	0.89	3.8	-13.3	-4.5	CalcasieuPar
22023	0.34	2.64	0.17	0.30	2.44	0.15	13.3	8.2	13.3	CameronPar
22053	0.03	0.19	0.01	0.02	0.18	0.01	50.0	5.6	0.0	JeffersonDavisPar
22115	0.34	0.65	0.23	0.34	0.97	0.25	0.0	-33.0	-8.0	VernonPar
22000	**2.39**	**8.78**	**1.47**	**2.29**	**9.91**	**1.53**	**4.4**	**-11.4**	**-3.9**	**Louisiana**
FIPS	CO	NOX	VOC	CO	NOX	VOC	CO	NOX	VOC	COUNTY
48005	0.11	0.60	0.04	0.11	0.90	0.04	0.0	-33.3	0.0	AngelinaCo
48007	0.05	0.24	0.02	0.05	0.33	0.02	0.0	-27.3	0.0	AransasCo
48015	0.03	0.17	0.01	0.03	0.25	0.01	0.0	-32.0	0.0	AustinCo
48021	0.02	0.08	0.00	0.02	0.12	0.01	0.0	-33.3	-100.0	BastropCo
48025	0.04	0.21	0.01	0.04	0.31	0.01	0.0	-32.3	0.0	BeeCo
48027	0.30	1.60	0.09	0.30	2.39	0.10	0.0	-33.1	-10.0	BellCo
48039	0.90	5.67	0.37	0.81	5.95	0.34	11.1	-4.7	8.8	BrazoriaCo
48041	0.19	1.02	0.06	0.19	1.52	0.07	0.0	-32.9	-14.3	BrazosCo
48051	0.02	0.11	0.01	0.02	0.17	0.01	0.0	-35.3	0.0	BurlesonCo
48053	0.04	0.19	0.01	0.04	0.28	0.01	0.0	-32.1	0.0	BurnetCo
48055	0.01	0.05	0.00	0.01	0.08	0.00	0.0	-37.5	NA	CaldwellCo
48057	0.05	0.25	0.03	0.05	0.29	0.03	0.0	-13.8	0.0	CalhounCo
48071	1.51	12.27	0.71	1.32	11.54	0.64	14.4	6.3	10.9	ChambersCo
48089	0.03	0.15	0.01	0.03	0.23	0.01	0.0	-34.8	0.0	ColoradoCo
48091	0.09	0.46	0.03	0.09	0.69	0.03	0.0	-33.3	0.0	ComalCo
48123	0.03	0.16	0.01	0.03	0.24	0.01	0.0	-33.3	0.0	DeWittCo
48149	0.03	0.17	0.01	0.03	0.25	0.01	0.0	-32.0	0.0	FayetteCo
48157	0.28	1.47	0.09	0.28	2.20	0.09	0.0	-33.2	0.0	FortBendCo
48167	2.36	19.92	1.70	2.02	18.54	1.50	16.8	7.4	13.3	GalvestonCo
48175	0.01	0.05	0.00	0.01	0.07	0.00	0.0	-28.6	NA	GoliadCo
48177	0.03	0.14	0.01	0.03	0.21	0.01	0.0	-33.3	0.0	GonzalesCo
48185	0.03	0.16	0.01	0.03	0.24	0.01	0.0	-33.3	0.0	GrimesCo
48187	0.03	0.13	0.01	0.03	0.20	0.01	0.0	-35.0	0.0	GuadalupeCo
48199	0.17	0.90	0.05	0.17	1.35	0.06	0.0	-33.3	-16.7	HardinCo
48201	2.61	17.79	1.42	2.49	20.26	1.42	4.8	-12.2	0.0	HarrisCo
48209	0.03	0.14	0.01	0.03	0.20	0.01	0.0	-30.0	0.0	HaysCo
48225	0.03	0.18	0.01	0.03	0.27	0.01	0.0	-33.3	0.0	HoustonCo
48239	0.02	0.11	0.01	0.02	0.16	0.01	0.0	-31.3	0.0	JacksonCo
48241	0.05	0.26	0.02	0.05	0.39	0.02	0.0	-33.3	0.0	JasperCo
48245	0.62	4.02	0.37	0.58	4.60	0.35	6.9	-12.6	5.7	JeffersonCo
48249	0.06	0.32	0.02	0.06	0.47	0.02	0.0	-31.9	0.0	JimWellsCo
48255	0.02	0.10	0.01	0.02	0.16	0.01	0.0	-37.5	0.0	KarnesCo
48261	0.06	0.30	0.02	0.06	0.33	0.02	0.0	-9.1	0.0	KenedyCo
48273	0.08	0.44	0.03	0.08	0.58	0.03	0.0	-24.1	0.0	KlebergCo
48281	0.02	0.09	0.01	0.02	0.13	0.01	0.0	-30.8	0.0	LampasasCo
48285	0.03	0.16	0.01	0.03	0.23	0.01	0.0	-30.4	0.0	LavacaCo
48287	0.02	0.11	0.01	0.02	0.16	0.01	0.0	-31.3	0.0	LeeCo
48289	0.02	0.11	0.01	0.02	0.16	0.01	0.0	-31.3	0.0	LeonCo

Table A-1: Non-road Link source emissions totals for 1993 and 2007 base cases for September 2, 1993.

48291	0.21	1.09	0.06	0.21	1.61	0.07	0.0	-32.3	-14.3	LibertyCo
48297	0.02	0.08	0.00	0.02	0.12	0.01	0.0	-33.3	-100.0	LiveOakCo
48313	0.02	0.09	0.01	0.02	0.14	0.01	0.0	-35.7	0.0	MadisonCo
48321	0.08	0.38	0.02	0.07	0.54	0.02	14.3	-29.6	0.0	MatagordaCo
48331	0.04	0.19	0.01	0.04	0.29	0.01	0.0	-34.5	0.0	MilamCo
48339	0.29	1.52	0.09	0.29	2.28	0.10	0.0	-33.3	-10.0	MontgomeryCo
48351	0.02	0.11	0.01	0.02	0.17	0.01	0.0	-35.3	0.0	NewtonCo
48355	0.52	3.55	0.33	0.47	3.66	0.30	10.6	-3.0	10.0	NuecesCo
48361	0.47	3.41	0.27	0.42	3.71	0.25	11.9	-8.1	8.0	OrangeCo
48373	0.05	0.26	0.02	0.05	0.38	0.02	0.0	-31.6	0.0	PolkCo
48391	0.01	0.07	0.00	0.01	0.10	0.00	0.0	-30.0	NA	RefugioCo
48395	0.02	0.13	0.01	0.02	0.19	0.01	0.0	-31.6	0.0	RobertsonCo
48407	0.03	0.14	0.01	0.03	0.20	0.01	0.0	-30.0	0.0	SanJacintoCo
48409	0.02	0.13	0.01	0.02	0.19	0.01	0.0	-31.6	0.0	SanPatricioCo
48453	0.22	0.64	0.04	0.22	0.96	0.04	0.0	-33.3	0.0	TravisCo
48455	0.02	0.10	0.01	0.02	0.14	0.01	0.0	-28.6	0.0	TrinityCo
48457	0.03	0.14	0.01	0.03	0.21	0.01	0.0	-33.3	0.0	TylerCo
48469	0.03	0.15	0.01	0.03	0.23	0.01	0.0	-34.8	0.0	VictoriaCo
48471	0.08	0.43	0.03	0.08	0.64	0.03	0.0	-32.8	0.0	WalkerCo
48477	0.04	0.22	0.01	0.04	0.33	0.01	0.0	-33.3	0.0	WashingtonCo
48481	0.06	0.33	0.02	0.06	0.50	0.02	0.0	-34.0	0.0	WhartonCo
48491	0.06	0.30	0.02	0.06	0.44	0.02	0.0	-31.8	0.0	WilliamsonCo
48493	0.01	0.05	0.00	0.01	0.07	0.00	0.0	-28.6	NA	WilsonCo
48000	**12.38**	**83.81**	**6.25**	**11.49**	**93.55**	**5.95**	**7.7**	**-10.4**	**5.0**	**Texas**
Total	**14.77**	**92.59**	**7.72**	**13.78**	**103.46**	**7.48**	**7.2**	**-10.5**	**3.2**	**TX and LA**

Table A-1: Non-road Link source emissions totals for 1993 and 2007 base cases for September 2, 1993.

	2007 SAI area			1993 SAI area			Percent Difference			
FIPS	CO	NOX	VOC	CO	NOX	VOC	CO	NOX	VOC	COUNTY
22003	0.26	0.12	0.12	0.32	0.13	0.13	-18.75	-7.69	-7.69	AllenPar
22011	8.27	1.97	1.75	8.80	2.13	2.04	-6.02	-7.51	-14.22	BeauregardPar
22019	41.87	11.01	8.48	44.81	11.86	10.11	-6.56	-7.17	-16.12	CalcasieuPar
22023	2.00	0.51	0.43	2.14	0.55	0.50	-6.54	-7.27	-14.00	CameronPar
22053	0.03	0.01	0.02	0.04	0.01	0.02	-25.00	0.00	0.00	JeffersonDavisPar
22115	10.98	2.79	2.62	11.78	3.01	3.01	-6.79	-7.31	-12.96	VernonPar
22000	**63.41**	**16.41**	**13.42**	**67.89**	**17.69**	**15.81**	**-6.60**	**-7.24**	**-15.12**	**Louisiana**
FIPS	CO	NOX	VOC	CO	NOX	VOC	CO	NOX	VOC	COUNTY
48005	7.14	0.31	1.69	6.90	0.33	1.87	3.48	-6.06	-9.63	AngelinaCo
48007	6.70	0.22	1.16	6.43	0.23	1.37	4.20	-4.35	-15.33	AransasCo
48015	7.62	0.26	1.89	7.37	0.27	2.10	3.39	-3.70	-10.00	AustinCo
48021	14.45	0.50	3.56	14.02	0.53	3.84	3.07	-5.66	-7.29	BastropCo
48025	9.49	0.33	1.92	9.21	0.35	2.14	3.04	-5.71	-10.28	BeeCo
48027	32.33	1.03	7.43	31.36	1.09	7.95	3.09	-5.50	-6.54	BellCo
48031	0.01	0.00	0.00	0.01	0.00	0.00	0.00	NA	NA	BlancoCo
48039	36.70	6.80	11.71	37.37	7.07	14.00	-1.79	-3.82	-16.36	BrazoriaCo
48041	46.19	1.60	10.94	44.65	1.68	11.91	3.45	-4.76	-8.14	BrazosCo
48047	0.01	0.00	0.00	0.01	0.00	0.00	0.00	NA	NA	BrooksCo
48051	5.24	0.18	1.28	5.07	0.19	1.36	3.35	-5.26	-5.88	BurlesonCo
48053	0.98	0.02	0.41	0.98	0.02	0.41	0.00	0.00	0.00	BurnetCo
48055	9.96	0.35	2.45	9.66	0.36	2.67	3.11	-2.78	-8.24	CaldwellCo
48057	7.20	0.25	1.72	6.98	0.26	1.95	3.15	-3.85	-11.79	CalhounCo
48071	5.53	0.21	2.03	5.28	0.22	2.88	4.73	-4.55	-29.51	ChambersCo
48089	7.03	0.24	1.80	6.79	0.25	1.97	3.53	-4.00	-8.63	ColoradoCo
48091	3.10	0.11	0.75	3.00	0.11	0.81	3.33	0.00	-7.41	ComalCo
48123	7.11	0.25	1.71	6.90	0.26	1.87	3.04	-3.85	-8.56	DeWittCo
48145	1.01	0.04	0.34	0.98	0.04	0.35	3.06	0.00	-2.86	FallsCo
48149	7.59	0.26	1.88	7.36	0.28	2.00	3.12	-7.14	-6.00	FayetteCo
48157	30.27	2.86	10.56	29.07	2.94	12.36	4.13	-2.72	-14.56	FortBendCo
48167	30.11	3.99	10.44	29.08	4.12	13.84	3.54	-3.16	-24.57	GalvestonCo
48175	2.26	0.08	0.46	2.19	0.08	0.51	3.20	0.00	-9.80	GoliadCo
48177	6.52	0.23	1.32	6.30	0.24	1.46	3.49	-4.17	-9.59	GonzalesCo
48185	7.20	0.25	1.76	6.97	0.26	1.87	3.30	-3.85	-5.88	GrimesCo
48187	20.69	0.77	4.82	20.03	0.81	5.22	3.30	-4.94	-7.66	GuadalupeCo
48199	14.48	0.61	4.49	14.29	0.69	4.94	1.33	-11.59	-9.11	HardinCo
48201	606.19	109.26	133.75	586.82	111.84	174.77	3.30	-2.31	-23.47	HarrisCo
48209	24.26	0.84	5.86	23.44	0.88	6.38	3.50	-4.55	-8.15	HaysCo
48225	0.77	0.02	0.13	0.74	0.02	0.16	4.05	0.00	-18.75	HoustonCo
48239	4.95	0.17	1.19	4.77	0.18	1.30	3.77	-5.56	-8.46	JacksonCo
48241	11.74	0.50	2.78	11.39	0.54	3.18	3.07	-7.41	-12.58	JasperCo
48245	61.90	16.58	13.57	63.83	16.91	17.05	-3.02	-1.95	-20.41	JeffersonCo
48249	2.30	0.07	0.52	2.30	0.07	0.53	0.00	0.00	-1.89	JimWellsCo
48255	4.70	0.16	1.09	4.54	0.17	1.19	3.52	-5.88	-8.40	KarnesCo
48261	0.06	0.00	0.02	0.06	0.00	0.02	0.00	NA	0.00	KenedyCo
48273	11.09	0.42	3.04	11.09	0.42	3.01	0.00	0.00	1.00	KlebergCo
48281	0.29	0.01	0.08	0.29	0.01	0.08	0.00	0.00	0.00	LampasasCo

Table A-2: SAI area/non-road source emissions total for 1993 and 2007 base cases for September 2, 1993

48285	7.06	0.25	1.70	6.85	0.26	1.86	3.07	-3.85	-8.60	LavacaCo
48287	4.85	0.17	1.20	4.71	0.18	1.28	2.97	-5.56	-6.25	LeeCo
48289	0.21	0.01	0.21	0.20	0.01	0.21	5.00	0.00	0.00	LeonCo
48291	12.76	0.96	4.32	12.18	1.11	4.79	4.76	-13.51	-9.81	LibertyCo
48297	1.39	0.04	0.17	1.35	0.04	0.21	2.96	0.00	-19.05	LiveOakCo
48313	4.13	0.14	0.81	4.00	0.15	0.88	3.25	-6.67	-7.95	MadisonCo
48321	13.99	0.48	3.26	13.53	0.51	3.64	3.40	-5.88	-10.44	MatagordaCo
48331	8.69	0.30	2.15	8.40	0.32	2.28	3.45	-6.25	-5.70	MilamCo
48339	66.08	2.80	13.10	62.88	2.85	16.02	5.09	-1.75	-18.23	MontgomeryCo
48351	5.12	0.17	1.21	4.97	0.19	1.33	3.02	-10.53	-9.02	NewtonCo
48355	107.02	4.02	27.80	107.01	4.02	29.12	0.01	0.00	-4.53	NuecesCo
48361	12.99	2.46	4.12	13.24	2.57	5.02	-1.89	-4.28	-17.93	OrangeCo
48373	11.62	0.39	2.75	11.24	0.42	3.19	3.38	-7.14	-13.79	PolkCo
48391	3.02	0.10	0.61	2.92	0.11	0.68	3.42	-9.09	-10.29	RefugioCo
48395	5.19	0.18	1.25	5.03	0.19	1.34	3.18	-5.26	-6.72	RobertsonCo
48405	0.16	0.01	0.04	0.16	0.01	0.04	0.00	0.00	0.00	SanAugustineCo
48407	6.25	0.22	1.54	6.02	0.23	1.70	3.82	-4.35	-9.41	SanJacintoCo
48409	22.26	0.77	5.34	21.52	0.81	5.90	3.44	-4.94	-9.49	SanPatricioCo
48453	216.65	7.41	46.54	211.75	7.95	54.41	2.31	-6.79	-14.46	TravisCo
48455	3.79	0.13	0.74	3.67	0.14	0.83	3.27	-7.14	-10.84	TrinityCo
48457	6.31	0.27	1.49	6.10	0.29	1.70	3.44	-6.90	-12.35	TylerCo
48469	28.18	0.98	6.47	27.33	1.03	7.23	3.11	-4.85	-10.51	VictoriaCo
48471	19.28	0.65	2.72	18.64	0.70	3.18	3.43	-7.14	-14.47	WalkerCo
48473	5.12	0.19	1.83	4.77	0.19	2.02	7.34	0.00	-9.41	WallerCo
48477	10.07	0.34	2.76	9.71	0.36	2.95	3.71	-5.56	-6.44	WashingtonCo
48481	15.15	0.70	3.50	14.64	0.74	3.86	3.48	-5.41	-9.33	WhartonCo
48491	52.33	1.83	12.93	51.11	1.93	14.00	2.39	-5.18	-7.64	WilliamsonCo
48493	2.85	0.10	0.70	2.77	0.11	0.75	2.89	-9.09	-6.67	WilsonCo
48000	**1707.69**	**175.85**	**401.81**	**1664.23**	**181.14**	**479.74**	**2.61**	**-2.92**	**-16.24**	**Texas**
Total	**1771.10**	**192.26**	**415.23**	**1732.12**	**198.83**	**495.55**	**2.25**	**-3.30**	**-16.21**	**TX and LA**

Table A-2: SAI area/non-road source emissions total for 1993 and 2007 base cases for September 2, 1993

	2007 TNRCC area/non-road			1993 TNRCC area/nonroad			Percent Difference			
FIPS	CO	NOX	VOC	CO	NOX	VOC	CO	NOX	VOC	COUNTY
22003	0.19	0.01	0.04	0.17	0.01	0.04	11.76	0.00	0.00	AllenPar
22011	6.07	0.18	1.57	5.22	0.18	1.63	16.28	0.00	-3.68	BeauregardPar
22019	33.98	1.11	6.18	29.24	1.11	6.72	16.21	0.00	-8.04	CalcasieuPar
22023	5.86	2.80	4.55	5.03	2.59	4.10	16.50	8.11	10.98	CameronPar
22053	0.03	0.00	0.00	0.03	0.01	0.00	0.00	-100.00	NA	JeffersonDavisPar
22115	6.54	0.17	2.44	5.53	0.18	2.44	18.26	-5.56	0.00	VernonPar
22000	**52.67**	**4.27**	**14.78**	**45.22**	**4.08**	**14.93**	**16.48**	**4.66**	**-1.00**	**Louisiana**
FIPS	CO	NOX	VOC	CO	NOX	VOC	CO	NOX	VOC	COUNTY
48005	2.54	0.06	0.84	2.39	0.06	0.86	6.28	0.00	-2.33	AngelinaCo
48007	5.68	0.81	2.27	5.00	0.87	2.37	13.60	-6.90	-4.22	AransasCo
48015	5.02	0.14	1.54	4.26	0.15	1.55	17.84	-6.67	-0.65	AustinCo
48021	8.34	0.26	1.58	6.95	0.27	1.80	20.00	-3.70	-12.22	BastropCo
48025	6.32	0.18	2.19	5.45	0.19	2.24	15.96	-5.26	-2.23	BeeCo
48027	21.99	0.85	3.62	18.45	0.90	4.13	19.19	-5.56	-12.35	BellCo
48039	34.72	2.95	8.07	28.94	2.96	7.83	19.97	-0.34	3.07	BrazoriaCo
48041	30.87	0.89	6.26	26.19	0.92	6.87	17.87	-3.26	-8.88	BrazosCo
48047	0.03	0.00	0.01	0.03	0.00	0.01	0.00	NA	0.00	BrooksCo
48051	3.45	0.10	1.88	2.93	0.10	1.93	17.75	0.00	-2.59	BurlesonCo
48053	0.64	0.10	0.16	0.62	0.10	0.15	3.23	0.00	6.67	BurnetCo
48055	5.48	0.32	2.87	4.27	0.29	3.03	28.34	10.34	-5.28	CaldwellCo
48057	21.30	1.41	8.86	19.66	1.37	8.86	8.34	2.92	0.00	CalhounCo
48071	33.98	2.27	10.25	32.49	2.23	9.97	4.59	1.79	2.81	ChambersCo
48089	4.65	0.13	2.98	3.95	0.14	2.87	17.72	-7.14	3.83	ColoradoCo
48091	0.20	0.11	0.06	0.23	0.12	0.07	-13.04	-8.33	-14.29	ComalCo
48123	4.81	0.14	1.92	4.09	0.14	1.96	17.60	0.00	-2.04	DeWittCo
48145	0.52	0.01	0.08	0.43	0.01	0.09	20.93	0.00	-11.11	FallsCo
48149	5.13	0.15	2.50	4.36	0.15	2.72	17.66	0.00	-8.09	FayetteCo
48157	22.28	2.59	3.69	18.54	2.64	3.62	20.17	-1.89	1.93	FortBendCo
48167	64.65	3.91	10.98	55.05	3.61	10.93	17.44	8.31	0.46	GalvestonCo
48175	1.53	0.04	1.91	1.30	0.05	1.84	17.69	-20.00	3.80	GoliadCo
48177	4.39	0.13	1.07	3.73	0.13	1.15	17.69	0.00	-6.96	GonzalesCo
48185	4.82	0.14	1.22	4.10	0.14	1.26	17.56	0.00	-3.17	GrimesCo
48187	10.66	0.34	2.83	8.66	0.36	3.00	23.09	-5.56	-5.67	GuadalupeCo
48199	7.31	0.39	1.53	6.74	0.40	1.52	8.46	-2.50	0.66	HardinCo
48201	349.96	19.28	27.53	267.06	16.79	28.95	31.04	14.83	-4.91	HarrisCo
48209	10.04	0.36	0.92	7.93	0.38	1.22	26.61	-5.26	-24.59	HaysCo
48225	0.85	0.03	0.50	0.75	0.03	0.49	13.33	0.00	2.04	HoustonCo
48239	3.34	0.10	2.48	2.84	0.11	2.43	17.61	-9.09	2.06	JacksonCo
48241	7.98	0.23	1.80	6.74	0.24	1.94	18.40	-4.17	-7.22	JasperCo
48245	30.62	2.79	12.31	26.74	2.66	12.25	14.51	4.89	0.49	JeffersonCo
48249	3.82	0.13	1.68	3.75	0.13	1.64	1.87	0.00	2.44	JimWellsCo
48255	2.88	0.08	1.15	2.41	0.09	1.17	19.50	-11.11	-1.71	KarnesCo
48261	0.37	0.20	1.00	0.37	0.21	0.96	0.00	-4.76	4.17	KenedyCo
48273	7.34	0.67	4.48	7.29	0.70	4.35	0.69	-4.29	2.99	KlebergCo
48281	0.01	0.00	0.00	0.01	0.00	0.00	0.00	NA	NA	LampasasCo
48285	4.77	0.14	3.21	4.05	0.14	3.15	17.78	0.00	1.90	LavacaCo

Table A-3: TNRCC area/non-road emissions totals for the 1993 and 2007 base cases for September 2, 1993

48287	3.28	0.09	0.84	2.79	0.10	0.93	17.56	-10.00	-9.68	LeeCo
48289	0.32	0.01	0.27	0.29	0.02	0.29	10.34	-50.00	-6.90	LeonCo
48291	41.46	1.81	4.89	39.22	1.84	4.75	5.71	-1.63	2.95	LibertyCo
48297	1.48	0.03	1.27	1.29	0.03	1.24	14.73	0.00	2.42	LiveOakCo
48313	2.77	0.08	1.07	2.35	0.08	1.11	17.87	0.00	-3.60	MadisonCo
48321	10.24	0.80	6.63	8.77	0.82	6.48	16.76	-2.44	2.31	MatagordaCo
48331	5.86	0.17	1.73	4.97	0.17	1.90	17.91	0.00	-8.95	MilamCo
48339	35.21	1.45	6.21	30.11	1.45	6.57	16.94	0.00	-5.48	MontgomeryCo
48351	3.24	0.10	0.62	2.71	0.10	0.69	19.56	0.00	-10.14	NewtonCo
48355	69.01	7.21	29.73	64.69	6.04	25.95	6.68	19.37	14.57	NuecesCo
48361	17.55	0.55	2.87	16.11	0.54	2.89	8.94	1.85	-0.69	OrangeCo
48373	7.87	0.22	2.04	6.65	0.23	2.16	18.35	-4.35	-5.56	PolkCo
48391	2.30	0.22	2.45	1.99	0.23	2.38	15.58	-4.35	2.94	RefugioCo
48395	3.57	0.08	0.75	3.03	0.09	0.83	17.82	-11.11	-9.64	RobertsonCo
48405	0.23	0.00	0.08	0.22	0.00	0.08	4.55	NA	0.00	SanAugustineCo
48407	4.51	0.12	1.14	3.88	0.12	1.20	16.24	0.00	-5.00	SanJacintoCo
48409	25.73	0.60	7.86	22.97	0.61	8.21	12.02	-1.64	-4.26	SanPatricioCo
48453	132.07	5.51	23.01	109.02	5.27	25.34	21.14	4.55	-9.19	TravisCo
48455	2.66	0.05	0.54	2.26	0.05	0.59	17.70	0.00	-8.47	TrinityCo
48457	4.27	0.12	0.91	3.61	0.13	0.99	18.28	-7.69	-8.08	TylerCo
48469	15.50	0.71	5.06	12.67	0.68	4.90	22.34	4.41	3.27	VictoriaCo
48471	13.31	0.37	2.50	11.30	0.39	2.77	17.79	-5.13	-9.75	WalkerCo
48473	6.35	1.32	2.32	5.82	1.36	2.22	9.11	-2.94	4.50	WallerCo
48477	6.63	0.19	1.76	5.62	0.20	1.81	17.97	-5.00	-2.76	WashingtonCo
48481	10.11	0.29	8.06	8.58	0.30	7.63	17.83	-3.33	5.64	WhartonCo
48491	35.52	1.00	6.59	30.19	1.04	7.36	17.65	-3.85	-10.46	WilliamsonCo
48493	1.12	0.07	0.48	0.91	0.07	0.49	23.08	0.00	-2.04	WilsonCo
48000	**1195.46**	**65.60**	**259.91**	**1000.77**	**61.74**	**262.94**	**19.45**	**6.25**	**-1.15**	**Texas**
Total	**1248.13**	**69.87**	**274.69**	**1045.99**	**65.82**	**277.87**	**19.33**	**6.15**	**-1.14**	**TX and LA**

Table A-3: TNRCC area/non-road emissions totals for the 1993 and 2007 base cases for September 2, 1993

	2007 Elevated point src			1993 Elevated point src			2007 Low point src			1993 Low point src			2007 Total point src			1993 Total point src			Percent difference of Total			
FIPS	CO	NOX	VOC	CO	NOX	VOC	CO	NOX	VOC	CO	NOX	VOC	CO	NOX	VOC	CO	NOX	VOC	CO	NOX	VOC	COUNTY
48005	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.00	0.00	0.03	0.00	0.00	0.03	0.00	0.00	0.03	NA	NA	0.00	AngelinaCo
48007	80.42	0.18	2.63	87.37	0.19	2.99	0.00	0.00	0.00	0.00	0.00	0.00	80.42	0.18	2.63	87.37	0.19	2.99	-7.95	-5.26	-12.04	AransasCo
48021	1.13	4.14	0.06	1.23	4.50	0.07	0.00	0.00	0.07	0.00	0.00	0.08	1.13	4.14	0.13	1.23	4.50	0.15	-8.13	-8.00	-13.33	BastropCo
48025	0.38	1.00	0.10	0.41	1.09	0.12	0.09	0.67	0.43	0.10	0.73	0.49	0.47	1.67	0.53	0.51	1.82	0.61	-7.84	-8.24	-13.11	BeeCo
48027	12.71	0.15	0.00	13.81	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	12.71	0.15	0.00	13.81	0.16	0.00	-7.97	-6.25	NA	BellCo
48039	17.73	76.23	9.91	19.23	95.02	13.44	7.08	9.67	26.14	7.68	12.08	42.83	24.81	85.90	36.05	26.91	107.10	56.27	-7.80	-19.79	-35.93	BrazoriaCo
48055	0.32	4.47	0.18	0.35	4.86	0.20	0.00	0.03	0.64	0.00	0.03	0.72	0.32	4.50	0.82	0.35	4.89	0.92	-8.57	-7.98	-10.87	CaldwellCo
48057	9.88	19.30	2.51	10.73	20.97	2.86	0.21	2.70	1.53	0.23	2.93	1.75	10.09	22.00	4.04	10.96	23.90	4.61	-7.94	-7.95	-12.36	CalhounCo
48071	13.38	33.37	1.33	14.51	43.02	2.28	1.29	0.57	5.86	1.40	0.84	15.17	14.67	33.94	7.19	15.91	43.86	17.45	-7.79	-22.62	-58.80	ChambrsCo
48089	1.60	2.95	0.15	1.74	3.20	0.17	0.04	0.05	2.33	0.05	0.05	2.66	1.64	3.00	2.48	1.79	3.25	2.83	-8.38	-7.69	-12.37	ColoradoCo
48123	0.63	1.46	0.02	0.68	1.58	0.02	0.00	0.00	0.00	0.00	0.00	0.00	0.63	1.46	0.02	0.68	1.58	0.02	-7.35	-7.59	0.00	DeWittCo
48149	9.41	65.76	1.60	10.22	71.43	1.82	0.13	0.13	0.67	0.14	0.14	0.77	9.54	65.89	2.27	10.36	71.57	2.59	-7.92	-7.94	-12.36	FayetteCo
48157	12.03	80.91	1.28	13.05	90.86	1.48	0.17	0.36	1.59	0.18	0.53	2.60	12.20	81.27	2.87	13.23	91.39	4.08	-7.79	-11.07	-29.66	FortBendCo
48167	32.07	94.93	10.13	34.79	117.30	15.26	2.12	3.48	29.03	2.29	4.15	54.13	34.19	98.41	39.16	37.08	121.45	69.39	-7.79	-18.97	-43.57	GalvestonCo
48175	1.85	41.19	0.21	2.01	44.75	0.24	0.00	0.00	0.01	0.00	0.00	0.01	1.85	41.19	0.22	2.01	44.75	0.25	-7.96	-7.96	-12.00	GoliadCo
48177	0.00	0.01	0.00	0.00	0.01	0.00	0.23	0.12	0.22	0.25	0.13	0.25	0.23	0.13	0.22	0.25	0.14	0.25	-8.00	-7.14	-12.00	GonzalesCo
48187	0.83	0.26	0.22	0.90	0.28	0.25	0.00	0.00	0.12	0.00	0.00	0.14	0.83	0.26	0.34	0.90	0.28	0.39	-7.78	-7.14	-12.82	GuadalupCo
48199	1.10	3.28	4.44	1.40	5.70	6.00	0.04	0.03	0.84	0.05	0.04	1.94	1.14	3.31	5.28	1.45	5.74	7.94	-21.38	-42.33	-33.50	HardinCo
48201	162.62	247.69	57.30	176.41	303.76	83.53	5.83	6.64	96.31	6.32	9.38	169.51	168.45	254.33	153.61	182.73	313.14	253.04	-7.81	-18.78	-39.29	HarrisCo
48209	4.06	3.71	0.32	4.41	4.04	0.37	0.00	0.00	0.00	0.00	0.00	0.00	4.06	3.71	0.32	4.41	4.04	0.37	-7.94	-8.17	-13.51	HaysCo
48225	0.01	0.09	0.03	0.01	0.09	0.04	0.00	0.00	0.06	0.00	0.00	0.07	0.01	0.09	0.09	0.01	0.09	0.11	0.00	0.00	-18.18	HoustonCo
48239	1.70	11.95	1.30	1.84	12.98	1.48	0.01	0.06	1.06	0.01	0.07	1.21	1.71	12.01	2.36	1.85	13.05	2.69	-7.57	-7.97	-12.27	JacksonCo
48241	10.98	14.98	1.32	11.93	16.27	1.51	0.22	0.05	1.06	0.24	0.06	1.21	11.20	15.03	2.38	12.17	16.33	2.72	-7.97	-7.96	-12.50	JasperCo
48245	32.12	71.20	16.99	40.94	99.13	29.53	1.05	2.71	56.93	1.34	4.00	112.58	33.17	73.91	73.92	42.28	103.13	142.11	-21.55	-28.33	-47.98	JeffersonCo
48255	0.23	1.55	0.02	0.25	1.68	0.02	0.05	0.34	0.48	0.05	0.37	0.55	0.28	1.89	0.50	0.30	2.05	0.57	-6.67	-7.80	-12.28	KarnesCo
48261	0.15	1.14	0.02	0.17	1.23	0.03	0.10	0.21	0.17	0.10	0.23	0.19	0.25	1.35	0.19	0.27	1.46	0.22	-7.41	-7.53	-13.64	KenedyCo
48273	0.33	1.95	0.10	0.36	2.12	0.11	0.06	0.09	1.24	0.06	0.10	1.41	0.39	2.04	1.34	0.42	2.22	1.52	-7.14	-8.11	-11.84	KlebergCo
48285	1.76	2.19	2.13	1.91	2.37	2.42	0.18	0.63	2.22	0.20	0.68	2.54	1.94	2.82	4.35	2.11	3.05	4.96	-8.06	-7.54	-12.30	LavacaCo
48287	2.21	4.95	0.24	2.40	5.37	0.27	0.26	0.26	0.83	0.28	0.29	0.94	2.47	5.21	1.07	2.68	5.66	1.21	-7.84	-7.95	-11.57	LeeCo
48291	1.51	2.41	1.18	1.64	3.66	2.36	0.32	0.48	0.95	0.34	0.73	2.00	1.83	2.89	2.13	1.98	4.39	4.36	-7.58	-34.17	-51.15	LibertyCo
48297	0.09	0.32	0.03	0.09	0.35	0.03	0.00	0.00	0.10	0.00	0.00	0.12	0.09	0.32	0.13	0.09	0.35	0.15	0.00	-8.57	-13.33	LiveOakCo

Table A 4: Texas point source emissions for the 1993 and 2007 base cases for September 2, 1993

48321	2.66	7.53	3.24	2.89	8.18	3.70	0.29	0.20	3.95	0.31	0.22	4.50	2.95	7.73	7.19	3.20	8.40	8.20	-7.81	-7.98	-12.32	MatagordaCo
48331	109.24	80.58	5.86	118.68	87.54	6.68	3.94	0.06	0.12	4.28	0.06	0.14	113.18	80.64	5.98	122.96	87.60	6.82	-7.95	-7.95	-12.32	MilamCo
48339	5.53	14.71	0.56	6.00	20.56	0.64	0.10	0.07	2.04	0.10	0.09	3.17	5.63	14.78	2.60	6.10	20.65	3.81	-7.70	-28.43	-31.76	MontgomryCo
48351	0.13	0.38	1.45	0.14	0.41	1.65	0.01	0.05	0.15	0.01	0.06	0.18	0.14	0.43	1.60	0.15	0.47	1.83	-6.67	-8.51	-12.57	NewtonCo
48355	16.54	73.94	10.23	17.97	80.32	11.66	0.22	1.25	36.46	0.24	1.36	41.55	16.76	75.19	46.69	18.21	81.68	53.21	-7.96	-7.95	-12.25	NuecesCo
48361	42.83	47.36	8.83	54.60	65.80	15.43	0.11	0.19	7.74	0.14	0.30	13.59	42.94	47.55	16.57	54.74	66.10	29.02	-21.56	-28.06	-42.90	OrangeCo
48373	4.59	3.58	3.55	4.98	3.89	4.04	0.00	0.00	0.39	0.00	0.00	0.45	4.59	3.58	3.94	4.98	3.89	4.49	-7.83	-7.97	-12.25	PolkCo
48391	3.02	14.54	0.38	3.28	15.79	0.43	0.54	1.67	2.26	0.58	1.82	2.57	3.56	16.21	2.64	3.86	17.61	3.00	-7.77	-7.95	-12.00	RefugioCo
48395	2.07	4.99	2.20	2.25	5.42	2.50	0.00	0.00	1.34	0.00	0.00	1.52	2.07	4.99	3.54	2.25	5.42	4.02	-8.00	-7.93	-11.94	RobertsonCo
48409	3.98	16.77	0.62	4.32	18.22	0.71	0.23	0.25	0.97	0.25	0.27	1.11	4.21	17.02	1.59	4.57	18.49	1.82	-7.88	-7.95	-12.64	SanPatricoCo
48453	3.90	10.69	0.70	4.24	11.61	0.80	0.15	0.29	1.59	0.16	0.32	1.82	4.05	10.98	2.29	4.40	11.93	2.62	-7.95	-7.96	-12.60	TravisCo
48469	5.49	17.01	1.52	5.96	18.48	1.73	5.62	0.53	3.96	6.10	0.57	4.51	11.11	17.54	5.48	12.06	19.05	6.24	-7.88	-7.93	-12.18	VictoriaCo
48473	1.71	3.92	0.07	1.85	5.93	0.09	0.01	0.00	1.09	0.01	0.00	2.61	1.72	3.92	1.16	1.86	5.93	2.70	-7.53	-33.90	-57.04	WallerCo
48491	0.00	0.00	0.00	0.00	0.00	0.01	0.00	0.00	0.02	0.00	0.00	0.02	0.00	0.00	0.02	0.00	0.00	0.03	NA	NA	-33.33	WilliamsonCo
48000	**614.93**	**1089.72**	**154.96**	**681.95**	**1300.12**	**218.97**	**30.70**	**33.84**	**293.00**	**33.49**	**42.63**	**493.64**	**645.63**	**1123.56**	**447.96**	**715.44**	**1342.75**	**712.61**	**-9.76**	**-16.32**	**-37.14**	**Texas**

Table A-4: Texas point source emissions for the 1993 and 2007 base cases for September 2, 1993

	2007 Elevated point src			1993 Elevated point src			2007 Low Point src			1993 Low point src			2007 Total Point src			1993 Total point src			Percent Difference: Total			
FIPS	CO	NOX	VOC	CO	NOX	VOC	CO	NOX	VOC	CO	NOX	VOC	CO	NOX	VOC	CO	NOX	VOC	CO	NOX	VOC	COUNTY
22011	48.56	16.98	3.08	52.76	18.45	3.52	0.00	0.00	0.64	0.00	0.00	0.72	48.56	16.98	3.72	52.76	18.45	4.24	-7.96	-7.97	-12.26	BeauregardPar
22019	22.33	92.14	10.41	28.47	117.47	14.01	0.33	1.05	25.87	0.42	1.34	34.82	22.66	93.19	36.28	28.89	118.81	48.83	-21.56	-21.56	-25.70	CalcasieuPar
22023	2.70	8.11	1.01	2.93	8.81	1.15	0.96	4.20	3.18	1.05	4.56	3.62	3.66	12.31	4.19	3.98	13.37	4.77	-8.04	-7.93	-12.16	CameronPar
22053	0.31	0.84	0.02	0.33	0.91	0.02	0.00	0.00	0.79	0.00	0.00	0.90	0.31	0.84	0.81	0.33	0.91	0.92	-6.06	-7.69	-11.96	JeffDavisPar
22115	0.01	0.04	0.00	0.01	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.01	0.04	0.00	0.01	0.04	0.00	0.00	0.00	NA	VernonPar
22000	**73.91**	**118.11**	**14.52**	**84.50**	**145.68**	**18.70**	**1.29**	**5.25**	**30.48**	**1.47**	**5.90**	**40.06**	**75.20**	**123.36**	**45.00**	**85.97**	**151.58**	**58.76**	**-12.53**	**-18.62**	**-23.42**	**Louisiana**

Table A-5: Louisiana point source emissions for the 1993 and 2007 base cases for September 2, 1993

	SMOKE Elevated pt src			SMOKE Low point src			SMOKE Total point src			
FIPS	CO	NOX	TVC	CO	NOX	TVC	CO	NOX	TVC	COUNTY
99007	0.50	2.20	0.98	0.16	0.72	1.89	0.66	2.92	2.87	BrazosOS
99009	0.00	0.00	0.00	0.12	0.55	0.61	0.12	0.55	0.61	BrazosSouthAddn
99023	0.16	0.54	2.31	0.09	0.41	0.49	0.25	0.95	2.80	EastBreaksOS
99025	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	EastCameronOS
99037	0.15	0.71	0.32	0.15	0.69	1.03	0.30	1.40	1.35	GalvestonOS
99041	0.10	0.48	0.24	0.13	0.60	0.35	0.23	1.08	0.59	GardenBanksOS
99049	0.76	3.50	1.71	0.59	2.46	4.38	1.35	5.96	6.09	HighIslandOS
99051	0.21	0.94	0.42	0.08	0.27	1.13	0.29	1.21	1.55	HighIslandEast
99053	1.06	4.79	2.82	0.84	3.25	7.68	1.90	8.04	10.50	HIEastSouthExt
99055	2.03	9.29	4.40	1.73	7.46	8.47	3.76	16.75	12.87	HISouthAdd
99067	0.51	2.18	1.19	1.37	6.15	12.08	1.88	8.33	13.27	MatagordaIsland
99073	0.14	0.62	0.28	0.24	0.97	6.73	0.38	1.59	7.01	MustnagIsland
99075	0.00	0.00	0.00	0.10	0.44	0.25	0.10	0.44	0.25	MustnagIslandEast
99087	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	NorthPadreIsl
99089	0.00	0.00	0.00	0.00	0.00	0.05	0.00	0.00	0.05	NPadreIslEAdd
99097	0.00	0.00	0.00	0.04	0.16	0.14	0.04	0.16	0.14	SabinePass
99137	0.62	2.82	1.36	1.33	5.58	27.66	1.95	8.40	29.02	WestCameronOS
99139	0.64	2.42	1.05	1.23	4.79	5.14	1.87	7.21	6.19	WCameronSAddn
99141	0.25	1.16	0.83	0.23	1.07	15.35	0.48	2.23	16.18	WCameronWAddn
99000	**7.13**	**31.65**	**17.91**	**8.43**	**35.57**	**93.43**	**15.56**	**67.22**	**111.34**	**Offshore**

Table A-6 : Offshore point source totals for all days of the 1993 and 2007 base cases

	SMOKE area source			EPS2 area source			
FIPS	CO	NOX	TVC	CO	NOX	VOC	COUNTY NAME
72023	1.99	2.34	0.74	2.00	2.34	0.71	CameronParishOS
72000	**1.99**	**2.34**	**0.74**	**2.00**	**2.34**	**0.71**	**OffshoreParishes**
	SMOKE area source			EPS2 area source			
FIPS	CO	NOX	TVC	CO	NOX	VOC	COUNTY NAME
98007	0.88	0.38	0.43	0.88	0.38	0.39	AransasOS
98039	4.23	1.37	2.16	4.25	1.37	1.94	BrazoriaOS
98057	0.83	0.59	0.42	0.83	0.59	0.39	CalhounOS
98071	0.59	0.46	0.34	0.59	0.46	0.31	ChambersOS
98167	4.34	0.83	2.21	4.36	0.83	1.98	GalvestonOS
98245	5.44	0.91	2.79	5.45	0.91	2.50	JeffersonOS
98261	0.11	0.32	0.06	0.11	0.32	0.06	KenedyOS
98273	0.38	0.43	0.20	0.38	0.43	0.18	KlebergOS
98321	1.19	1.27	0.59	1.20	1.27	0.54	MatagordaOS
98355	4.55	0.91	2.41	4.56	0.91	2.16	NuecesOS
98000	**22.54**	**7.47**	**11.61**	**22.61**	**7.47**	**10.45**	**Offshore**
	SMOKE area source			EPS2 area source			
FIPS	CO	NOX	TVC	CO	NOX	VOC	COUNTY NAME
99007	2.04	3.32	1.14	2.04	3.32	1.04	BrazosOS
99009	0.45	1.70	0.27	0.45	1.70	0.26	BrazosSouthAddn
99017	0.05	0.47	0.02	0.05	0.47	0.02	CorpusChristiOS
99023	0.98	7.73	0.38	0.97	7.73	0.37	EastBreaksOS
99025	0.03	0.13	0.02	0.03	0.13	0.02	EastCameronOS
99037	11.39	22.10	5.79	11.41	22.12	5.28	GalvestonOS
99039	0.30	2.33	0.21	0.30	2.33	0.21	GalvestonSAdd
99041	1.36	11.66	0.51	1.36	11.67	0.51	GardenBanksOS
99049	2.49	21.38	1.17	2.48	21.39	1.17	HighIslandOS
99051	0.82	7.08	0.39	0.82	7.08	0.39	HighIslandEast
99053	0.41	1.78	0.26	0.41	1.78	0.25	HIEastSouthExt
99055	0.89	3.33	0.53	0.89	3.33	0.50	HISouthAdd
99067	1.16	4.83	0.62	1.16	4.83	0.58	MatagordaIsland
99073	0.99	4.06	0.55	0.99	4.06	0.52	MustnagIsland
99075	0.57	3.35	0.35	0.57	3.35	0.34	MustnagIslandEast
99087	0.11	0.20	0.07	0.11	0.20	0.07	NorthPadreIsl
99089	0.05	0.34	0.04	0.05	0.34	0.04	NPadreIslEAdd
99097	0.20	1.72	0.09	0.20	1.72	0.09	SabinePass
99137	0.99	5.82	0.50	0.98	5.82	0.50	WestCameronOS
99139	2.86	14.79	1.38	2.87	14.78	1.32	WCameronSAddn
99141	1.09	8.79	0.52	1.09	8.79	0.52	WCameronWAddn
99000	**29.23**	**126.91**	**14.81**	**29.23**	**126.94**	**14.00**	**Offshore**
Total	**66.53**	**51.81**	**54.35**	**66.61**	**51.81**	**53.16**	**All Offshore**

Table A-7 : Offshore area sources for all days of the 1993 and 2007 base cases